CCR COMPLIANCE
GROUNDWATER MONITORING AND CORRECTIVE ACTION
ANNUAL REPORT
DUNKIRK LANDFILL

Prepared for:

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Dunkirk, New York

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Executive Summary

In response to the newly adopted Part A elements (effective September 28, 2020) of the Coal Combustion Residuals (CCR) Rule (or Rule), this Executive Summary has been incorporated into the annual report per the specific provisions as codified in Title 40 Code of Federal Regulations (CFR) §257.90(e)(6). These provisions require that an up-front overview of the current status (covering the immediately preceding calendar year) of groundwater monitoring and corrective action programs be provided in a concise and focused manner for each CCR unit at the facility. Accordingly, the following paragraphs document the respective groundwater monitoring status (for Calendar Year 2020) of the Dunkirk Landfill at the Dunkirk Generating Station, owned by Dunkirk Power LLC. Tables, figures and/or appendices referenced in the discussions below are included at the end of the report and further support the text (Section 2.0) in the main body of the report.

As shown on Figure 1, the Landfill maintains a CCR groundwater monitoring network comprised of five wells, including one upgradient location (Well BR-14-UG) and four downgradient locations (Wells BR-3-DG, BR-12-DG, BR-13-DG, and BR-20-DG). For Calendar Year 2020, the Landfill entered and ended the period in the Assessment Monitoring Program. The Landfill has remained in Assessment Monitoring since being transitioned in early-2018 following confirmed statistically significant increases (SSIs) for several CCR Appendix III constituents, including boron, calcium, chloride, fluoride, and total dissolved solids (TDS) in the downgradient wells (see Table 1).

Assessment Monitoring events for the current period were conducted in February, May, and October 2020 (see Table 2). During the February event, lithium in downgradient Well BR-20-DG was measured at an elevated concentration, actually marking the first detectable level of lithium in this well since the inception of the CCR monitoring program. This result was subsequently identified as a statistically significant level (SSL) above the corresponding CCR groundwater protection standard (GWPS), and required notification provided to the New York State Department of Environmental Conservation (NYSDEC) in early-April 2020. A second consecutive elevated lithium concentration in Well BR-20-DG was reported during the May 2020 monitoring event, and shortly thereafter, notification was provided to the NYSDEC in early-July 2020 that an Assessment of Corrective Measures (ACM) had been initiated. Data and information gathered prior to and post-initiation of the ACM was continually evaluated and ultimately provided sufficient evidence to support development of an Alternate Source Demonstration (ASD).

The ASD was completed in early-December 2020, in lieu of the ACM, and showed that damming (caused by beaver activity) of the permitted receiving stream (Van Buren Bay Creek) had caused transient alterations in the flowpath of effluent (landfill leachate containing lithium) from the Sedimentation Basins at Outfall 002. The alterations resulted in ponding of the discharged effluent

and subsequent percolation of this accumulated backwater into the groundwater proximate to Well BR-20-DG. Corrective actions taken to circumvent the dammed area alleviated the ponding conditions, and the October 2020 Assessment Monitoring event showed a return to non-detect levels for lithium in Well BR-20-DG. Moving into 2021, and based on successful completion of the ASD, Assessment Monitoring at the Landfill will continue. Aside from lithium, other CCR Appendix IV constituents, including barium, fluoride, and radium remain elevated in several of the downgradient wells (see Table 2). A copy of the noted ASD is provided in Appendix A.

Summarizing the above discussion with specific regard to the new criteria established in §257.90(e)(6), the following elements are noted:

- §257.90(e)(6)(i) – At the beginning of the current annual reporting period, the Dunkirk Landfill was operating under the CCR Assessment Monitoring Program.
- §257.90(e)(6)(ii) – At the conclusion of the current annual reporting period, the Dunkirk Landfill remained in the CCR Assessment Monitoring Program.
- §257.90(e)(6)(iii) – The following SSIs for Appendix III constituents were observed in the downgradient wells during the current annual reporting period:
  - Well BR-3-DG – calcium and chloride
  - Well BR-12-DG – calcium, chloride, and TDS
  - Well BR-13-DG – boron, chloride, and fluoride
  - Well BR-20-DG – boron, chloride, and fluoride.

  This same general subset of Appendix III constituents triggered the Dunkirk Landfill into the CCR Assessment Monitoring Program in early-2018, wherein it has since remained.
- §257.90(e)(6)(iv) – Lithium was measured at an SSL in downgradient Well BR-20-DG during the February and May 2020 monitoring events. This SSL was subsequently attributed to another source per the ASD completed in December 2020.
- §257.90(e)(6)(v) – The Dunkirk Landfill is not currently subject to corrective action or any associated remedy selection under §257.97.
- §257.90(e)(6)(vi) – The Dunkirk Landfill is not currently subject to corrective action or any associated remedy implementation under §257.98.

1.0 Introduction

Title 40 Code of Federal Regulations (CFR) §257.90 mandates that existing Coal Combustion Residuals (CCR) landfills and surface impoundments, also known as CCR units, be subject to groundwater monitoring and corrective action requirements as further detailed in §257.91 through §257.98. These requirements are part of the overall CCR Rule (or Rule) which was published in the Federal Register on April 17, 2015 and which became effective on October 19, 2015. Specific obligations for Owners and Operators of existing CCR units regarding the preparation of "Annual Groundwater Monitoring and Corrective Action Reports (Annual Report)" are outlined in §257.90(e)(1-5). The first Annual Report was completed on January 31, 2018, and provided information, per the Rule, to address the following aspects for the preceding calendar year:

- Document the status of the groundwater monitoring and corrective action program for the respective CCR units;
- Summarize key actions completed;
- Describe any problems encountered and actions taken to resolve the problems; and
- Offer a projection of key activities for the upcoming year.

At a minimum, the Annual Report must contain the following information to the extent applicable and available, and beginning with the current report, must also address the items contained in §257.90(e)(6) in the form of an Executive Summary:

- A map, aerial image, or diagram showing the CCR unit and all background/upgradient and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program;
- Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- In addition to all the monitoring data obtained under §257.90 through §257.98, a summary including the number of groundwater samples that were collected for analysis for each background/upgradient and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- Any other information required to be included as specified in §257.90 through §257.98.

The Dunkirk Generating Station, owned by Dunkirk Power LLC, is a coal-fired power plant located in Dunkirk, New York. The facility was mothballed and ceased electric generating operations in early-2016, subsequent to the effective date of the Rule. The Rule applies to this facility due to the management/disposal of CCR materials resulting from the previous coal combustion activities. Accordingly, the Station's captive disposal site, located in Pomfret, New York and identified as the Dunkirk Landfill, has been designated as an existing CCR unit. This unit has a dedicated groundwater monitoring well network that meets the requirements of §257.91 with regard to number and appropriate locations of wells (certification previously provided under separate cover).

In summary, this fourth Annual Report has been prepared to comply with the requirements of §257.90(e) with respect to documenting the groundwater monitoring and corrective actions undertaken during Calendar Year 2020 for the Dunkirk Landfill CCR unit. This Annual Report and all subsequent reports thereto will be placed in the Station's operating record per §257.105(h)(1), noticed to the State Director per §257.106(h)(1), and posted to the publicly accessible internet site per §257.107(h)(1).

The previously prepared third Annual Report (covering the 2019 Calendar Year reporting period) was completed on January 31, 2020 and placed into the facility operating record on this same date. Subsequent notification to the State Director and posting to the publicly accessible website was completed on March 1, 2020.

2.0 Dunkirk Landfill

2.1 Groundwater Monitoring Network

The CCR groundwater monitoring system for the Dunkirk Landfill is comprised of five wells, including Well BR-14-UG (upgradient), and Wells BR-3-DG, BR-12-DG, BR-13-DG, and BR-20-DG (downgradient). The locations of the wells are shown on the attached Figure 1, along with depiction of the generalized groundwater flow direction in the area of the landfill. Each of these wells was already existing, and no new wells were added nor were any existing wells abandoned/replaced during the 2020 reporting period.

2.2 2020 Data Collection

Following its transition in early-2018, the Dunkirk Landfill continued in the CCR Assessment Monitoring Program during the 2020 reporting period. Accordingly, samples were collected and analyzed for Appendix III and Appendix IV constituents as required, during the February, May, and October monitoring events. Results from the 2020 sampling events are summarized in Tables 1 and 2, covering Appendix III and Appendix IV constituents, respectively. As shown in Table 2, lithium in downgradient Well BR-20-DG was measured at an elevated level (0.139 milligrams per liter [mg/L]) during the February event, leading to determination that the result represented a statistically significant level (SSL) above the site-specific groundwater protection standard (GWPS) of 0.05 mg/L. Specific notification of this finding was provided to the New York State Department of Environmental Conservation (NYSDEC) in early-April 2020. Lithium was again detected at an elevated level (0.266 mg/L) above the GWPS during the May 2020 event, and subsequent notification provided to the NYSDEC in early-July 2020 that an Assessment of Corrective Measures (ACM) was being initiated.

Information gathered prior to and post-initiation of the ACM ultimately provided ample evidence to support the development of an Alternate Source Demonstration (ASD). This ASD was successfully completed in early-December 2020, and identified beaver dam activity along Van Buren Bay Creek (the NPDES-permitted receiving stream for Outfall 002 effluent, containing landfill leachate) as being responsible for impeding flow and creating backwater areas that ultimately percolated into localized groundwater near Well BR-20-DG. With placement of temporary piping to circumvent the beaver dam to alleviate the ponded conditions, lithium in Well BR-20-DG returned to non-detect levels during the October 2020 monitoring event (see Table 2). Based on the successful ASD, and with several other Appendix IV constituents (barium, fluoride, and radium) remaining above background levels, the Dunkirk Landfill will remain in the CCR Assessment Monitoring Program in 2021.

2.3 Alternate Source Demonstration

As noted above, an ASD was successfully completed and resolved the observed SSL for lithium in downgradient Well BR-20-DG. This ASD, which was completed in early December 2020 and certified by APTIM's qualified professional engineer, provided the necessary documentation to confirm that the Dunkirk Landfill is not creating unacceptable impacts to groundwater in the context of the CCR Rule. A complete copy of the ASD is included in Appendix A.

2.4 2020 Monitoring Program Transitions

During 2020, there were no transitions between monitoring programs, with the Dunkirk Landfill remaining in the CCR Assessment Monitoring Program.

2.5 2020 Corrective Actions

During 2020, there were no corrective actions undertaken as specifically defined by the CCR Rule. However, measures were taken by Huntley Station personnel to address the ponded conditions in Van Buren Bay Creek created by the aforementioned beaver dam activities. This principally included installation of a temporary piping to circumvent the dammed area of the stream and restore the flowpath for effluent discharged from NPDES-permitted Outfall 002. Moving forward and as documented in the ASD, best management practices will be established to include monthly visual inspections of the relevant reaches of Van Buren Bay Creek to proactively identify and address potential beaver-related issues.

2.6 2021 Projected Activities

As noted, it is anticipated that Assessment Monitoring activities will continue for the Dunkirk Landfill during 2021, with continued review of Appendix III/Appendix IV constituent concentrations and comparison against calculated background and established groundwater protection standards.

Tables

Table 1
Dunkirk Power LLC
Dunkirk Landfill – Groundwater Analytical Data
CCR Appendix III Constituents

Monitoring Well	Date Sampled	Total Boron (mg/L)	Total Calcium (mg/L)	Total Chloride (mg/L)	Total Fluoride (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	pH (S.U.)
		Calculated Background						
		0.270	135	5.1	0.22	699	254	5.79-8.38
BR-14-UG (Upgradient)	17-Nov-15	0.183	100	3.6	< 0.20	370	82	7.53
	9-Feb-16	0.200	89	3.4	< 0.20	435	78	6.56
	11-May-16	0.164	86	3.1	0.22	430	73	7.24
	30-Aug-16	0.185	87	3.6	< 0.20	470	87	6.98
	9-Nov-16	0.160	92	4.1	< 0.20	575	159	7.33
	14-Feb-17	0.175	108	4.3	< 0.20	480	133	7.17
	16-May-17	0.157	81	3.5	< 0.20	460	91	7.42
	15-Aug-17	0.228	111	3.4	0.21	505	128	6.42
	2-Oct-17	0.154	103	4.0	< 0.20	570	147	7.10
	9-May-18	0.121	80	2.5	< 0.20	385	51	7.29
	9-Oct-18	0.199	81	3.4	0.22	440	78	7.29
	11-Mar-19	0.254	97	3.0	< 0.20	465	62	7.37
	15-May-19	0.170	89	2.9	< 0.20	425	52	7.30
	1-Oct-19	0.190	91	3.5	0.23	500	95	7.31
	11-Feb-20	0.195	90	2.9	< 0.20	355	58	7.21
	13-May-20	0.164	92	2.8	< 0.20	420	67	7.38
	20-Oct-20	0.181	106	3.4	< 0.20	610	155	7.31
BR-3-DG (Downgradient)	17-Nov-15	0.098	141	45.9	< 0.20	545	159	7.23
	9-Feb-16	0.078	119	32.8	< 0.20	590	155	7.50
	11-May-16	0.098	111	23.0	< 0.20	560	137	7.16
	30-Aug-16	0.096	114	28.8	< 0.20	585	159	7.01
	9-Nov-16	0.088	115	84.9	< 0.20	705	152	7.13
	14-Feb-17	0.092	151	99.7	< 0.20	590	161	7.19
	16-May-17	0.062	113	58.1	< 0.20	580	150	6.55
	15-Aug-17	0.135	139	69.4	0.27	600	158	6.98
	2-Oct-17	0.095	134	77.4	0.38	700	165	7.32
	9-May-18	0.068	145	34.9	< 0.20	585	147	7.12
	8-Oct-18	0.109	106	33.5	0.22	565	155	7.24
	11-Mar-19	0.097	157	24.3	< 0.20	600	166	7.48
	15-May-19	0.125	125	19.0	< 0.20	500	153	7.03
	1-Oct-19	0.150	140	26.2	0.25	635	153	6.99
	11-Feb-20	0.137	129	19.9	< 0.20	520	163	6.93
	12-May-20	0.097	140	21.5	< 0.20	625	230	7.52
	20-Oct-20	0.091	132	25.5	< 0.20	665	191	7.32
BR-12-DG (Downgradient)	17-Nov-15	0.163	197	319	< 0.20	825	66	6.94
	9-Feb-16	0.104	177	263	< 0.20	920	151	7.00
	11-May-16	0.083	156	158	< 0.20	780	168	7.29
	30-Aug-16	0.173	166	329	< 0.20	1040	70	7.04
	9-Nov-16	0.179	222	375	< 0.20	1260	62	7.00
	14-Feb-17	0.117	241	422	< 0.20	1030	109	7.07
	16-May-17	0.068	160	299	< 0.20	1100	139	6.54
	15-Aug-17	0.181	174	299	< 0.20	1030	83	6.99
	2-Oct-17	0.163	196	421	1.04	1250	70	6.94
	9-May-18	0.061	205	260	< 0.20	950	147	6.69
	8-Oct-18	0.169	171	382	< 0.20	1120	71	6.91
	11-Mar-19	0.073	244	213	< 0.20	920	154	7.16
	15-May-19	0.066	175	188	< 0.20	945	156	6.91
	1-Oct-19	0.142	241	323	0.29	1340	85	6.91
	11-Feb-20	0.092	181	224	< 0.20	785	147	6.78
	12-May-20	0.079	179	183	< 0.20	815	194	7.05
	20-Oct-20	0.176	196	395	< 0.20	1470	67	7.09

See notes at end of table.

Table 1 (cont'd)
Dunkirk Power LLC
Dunkirk Landfill – Groundwater Analytical Data
CCR Appendix III Constituents

Monitoring Well	Date Sampled	Total Boron (mg/L)	Total Calcium (mg/L)	Total Chloride (mg/L)	Total Fluoride (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	pH (S.U.)
		Calculated Background						
		0.270	135	5.1	0.22	699	254	5.79-8.38
BR-13-DG (Downgradient)	17-Nov-15	0.223	109	8.8	< 0.20	495	67	7.23
	9-Feb-16	0.162	109	7.9	< 0.20	560	129	7.25
	11-May-16	0.151	115	7.1	< 0.20	620	161	7.23
	30-Aug-16	0.304	118	8.6	< 0.20	560	59	7.09
	9-Nov-16	0.164	85	7.3	< 0.20	560	127	7.20
	14-Feb-17	0.144	113	7.6	< 0.20	545	140	7.21
	16-May-17	0.103	97	7.1	< 0.20	585	142	6.79
	15-Aug-17	0.274	103	8.4	0.21	500	60	7.03
	2-Oct-17	0.240	96	8.4	< 0.20	565	41	7.19
	9-May-18	0.109	131	6.7	< 0.20	540	108	7.05
	8-Oct-18	0.252	89	8.9	< 0.20	555	72	7.09
	11-Mar-19	0.172	126	8.2	< 0.20	545	122	7.07
	15-May-19	0.134	123	7.8	< 0.20	585	137	7.11
	1-Oct-19	0.278	94	8.7	0.26	615	29	7.13
	11-Feb-20	0.173	115	8.5	< 0.20	470	99	6.78
	12-May-20	0.153	125	7.9	< 0.20	545	159	7.21
	20-Oct-20	0.322	102	9.0	0.27	500	32	7.56
BR-20-DG (Downgradient)	17-Nov-15	1.42	26	2.8	< 0.20	670	102	7.61
	9-Feb-16	1.40	24	12.2	0.35	725	< 2.0	7.74
	11-May-16	1.44	22	33.0	0.35	720	< 2.0	7.85
	30-Aug-16	1.39	24	25.4	0.36	685	< 4.0	6.97
	9-Nov-16	1.35	19	15.5	0.22	675	< 2.0	7.69
	14-Feb-17	1.56	25	16.5	0.39	635	< 2.0	7.69
	16-May-17	1.37	21	15.5	< 0.20	675	< 2.0	7.71
	15-Aug-17	1.42	25	38.3	0.41	655	< 2.0	7.58
	2-Oct-17	1.24	22	21.6	0.42	720	< 4.0	7.32
	9-May-18	1.09	21	21.3	0.40	650	< 4.0	7.49
	8-Oct-18	1.41	21	14.9	0.39	640	< 2.0	7.58
	12-Mar-19	1.35	22	19.8	0.42	725	< 4.0	7.54
	15-May-19	1.27	24	23.7	0.33	765	< 4.0	7.71
	1-Oct-19	1.45	22	17.7	0.42	575	< 4.0	7.73
	11-Feb-20	1.47	25	28.3	< 0.20	630	< 4.0	7.73
	12-May-20	1.47	26	18.1	0.31	635	< 4.0	7.52
	20-Oct-20	1.42	25	31.0	0.44	650	< 2.0	7.92

Notes:

1. Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
2. Background values based on statistical evaluation of initial eight rounds (Nov. 2015 through Aug. 2017) of groundwater sampling data for Well BR-14-UG.

Table 2
Dunkirk Power LLC
Dunkirk Landfill – Groundwater Analytical Data
CCR Appendix IV Constituents

Monitoring Well	Date Sampled	Total Antimony (mg/L)	Total Arsenic (mg/L)	Total Barium (mg/L)	Total Beryllium (mg/L)	Total Cadmium (mg/L)	Total Chromium (mg/L)	Total Cobalt (mg/L)	Total Fluoride (mg/L)	Total Lead (mg/L)	Total Lithium (mg/L)	Total Mercury (mg/L)	Total Molybdenum (mg/L)	Total Selenium (mg/L)	Total Thallium (mg/L)	Total Radium-226 and 228 (pCi/L)
		Calculated Background														
		0.0025	0.009	0.68	0.004	0.005	0.005	0.05	0.22	0.005	0.05	0.000001	0.01	0.005	0.0007	1.25
		Groundwater Protection Standard														
		MCL	MCL	MCL	Background	MCL	MCL	Background	MCL	RSL	Background	MCL	RSL	MCL	MCL	MCL
		0.006	0.01	2	0.004	0.005	0.1	0.05	4.0	0.015	0.05	0.002	0.10	0.05	0.002	5
BR-14-UG (Upgradient)	17-Nov-15	< 0.060	0.009	0.21	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.23
	9-Feb-16	< 0.060	< 0.005	0.33	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.24
	11-May-16	< 0.060	< 0.005	0.20	< 0.005	< 0.005	< 0.005	< 0.050	0.22	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.18
	30-Aug-16	< 0.060	0.008	0.24	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	0.0000005	< 0.010	< 0.005	< 0.010	1.25
	9-Nov-16	< 0.060	< 0.005	0.05	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.23
	14-Feb-17	< 0.060	< 0.005	0.09	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.22
	16-May-17	0.0010	< 0.005	0.11	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0007	0.33
	15-Aug-17	0.0025	< 0.005	0.10	< 0.004	< 0.005	< 0.005	< 0.050	0.21	< 0.005	< 0.050	< 0.0000010	< 0.010	< 0.005	< 0.0007	< 1.22
	29-Mar-18	< 0.0004	< 0.005	0.13	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.00
	9-May-18	Not Analyzed	Not Analyzed	0.12	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.29
	9-Oct-18	Not Analyzed	Not Analyzed	0.14	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.22	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.29
	11-Mar-19	< 0.0004	0.005	0.20	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.63
	15-May-19	Not Analyzed	< 0.01	0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	< 0.003	Not Analyzed	0.0000016	Not Analyzed	Not Analyzed	Not Analyzed	0.77
	1-Oct-19	Not Analyzed	< 0.005	0.12	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.23	< 0.005	Not Analyzed	0.0000007	Not Analyzed	Not Analyzed	Not Analyzed	0.43
	11-Feb-20	< 0.0004	< 0.005	0.17	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.87
	13-May-20	< 0.0004	Not Analyzed	0.18	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	0.0000008	Not Analyzed	Not Analyzed	Not Analyzed	1.23
	20-Oct-20	< 0.0004	Not Analyzed	0.12	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	0.0000006	Not Analyzed	Not Analyzed	Not Analyzed	0.76
BR-3-DG (Downgradient)	17-Nov-15	< 0.060	0.008	0.05	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	0.006	< 0.050	< 0.0000005	< 0.010	< 0.005	0.012	0.22
	9-Feb-16	< 0.060	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.22
	11-May-16	< 0.060	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.76
	30-Aug-16	< 0.060	0.008	0.04	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.23
	9-Nov-16	< 0.060	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.28
	14-Feb-17	< 0.060	0.006	0.04	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.31
	16-May-17	0.0016	< 0.005	0.03	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0007	1.28
	15-Aug-17	0.0040	< 0.005	0.05	< 0.004	< 0.005	< 0.005	< 0.050	0.27	< 0.005	< 0.050	< 0.0000010	< 0.010	< 0.005	< 0.0007	1.23
	29-Mar-18	< 0.0004	< 0.005	0.04	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.00
	9-May-18	Not Analyzed	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.20
	8-Oct-18	Not Analyzed	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.22	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.58
	11-Mar-19	< 0.0004	< 0.005	0.03	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	0.006	< 0.050	0.0000030	< 0.010	< 0.005	< 0.0003	0.54
	15-May-19	Not Analyzed	< 0.01	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	< 0.003	Not Analyzed	0.0000028	Not Analyzed	Not Analyzed	Not Analyzed	3.48
	1-Oct-19	Not Analyzed	< 0.005	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.25	< 0.005	Not Analyzed	0.0000016	Not Analyzed	Not Analyzed	Not Analyzed	0.81
	11-Feb-20	< 0.0004	< 0.005	0.03	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	0.0000014	< 0.010	< 0.005	< 0.0003	1.19
	12-May-20	< 0.0004	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	0.0000009	Not Analyzed	Not Analyzed	Not Analyzed	0.89
	20-Oct-20	0.0007	Not Analyzed	0.03	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	0.0000006	Not Analyzed	Not Analyzed	Not Analyzed	0.03
BR-12-DG (Downgradient)	17-Nov-15	< 0.060	0.006	0.07	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	0.014	0.35
	9-Feb-16	< 0.060	< 0.005	0.06	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.16
	11-May-16	< 0.060	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.31
	30-Aug-16	< 0.060	0.009	0.09	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.61
	9-Nov-16	< 0.060	< 0.005	0.08	< 0.005	< 0.005	0.045	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.45
	14-Feb-17	< 0.060	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.22
	16-May-17	0.0022	< 0.005	0.04	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0007	0.22
	15-Aug-17	0.0045	< 0.005	0.08	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000010	< 0.010	< 0.005	< 0.0007	0.32
	29-Mar-18	< 0.0004	< 0.005	0.05	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.00
	9-May-18	Not Analyzed	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.32
	8-Oct-18	Not Analyzed	Not Analyzed	0.07	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.67
	11-Mar-19	< 0.0004	< 0.005	0.03	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	1.16
	15-May-19	Not Analyzed	< 0.01	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	< 0.003	Not Analyzed	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.49
	1-Oct-19	Not Analyzed	< 0.005	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.29	< 0.005	Not Analyzed	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	0.89
	11-Feb-20	< 0.0004	< 0.005	0.05	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	1.34
	12-May-20	< 0.0004	Not Analyzed	0.04	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	0.47
	20-Oct-20	< 0.0004	Not Analyzed	0.09	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.77

See notes at end of table.

Table 2 (cont'd)
Dunkirk Power LLC
Dunkirk Landfill – Groundwater Analytical Data
CCR Appendix IV Constituents

Monitoring Well	Date Sampled	Total Antimony (mg/L)	Total Arsenic (mg/L)	Total Barium (mg/L)	Total Beryllium (mg/L)	Total Cadmium (mg/L)	Total Chromium (mg/L)	Total Cobalt (mg/L)	Total Fluoride (mg/L)	Total Lead (mg/L)	Total Lithium (mg/L)	Total Mercury (mg/L)	Total Molybdenum (mg/L)	Total Selenium (mg/L)	Total Thallium (mg/L)	Total Radium-226 and 228 (pCi/L)
		Calculated Background														
		0.0025	0.009	0.68	0.004	0.005	0.005	0.05	0.22	0.005	0.05	0.000001	0.01	0.005	0.0007	1.25
		Groundwater Protection Standard														
		MCL	MCL	MCL	Background	MCL	MCL	Background	MCL	RSL	Background	MCL	RSL	MCL	MCL	MCL
		0.006	0.01	2	0.004	0.005	0.1	0.05	4.0	0.015	0.05	0.002	0.10	0.05	0.002	5
BR-13-DG (Downgradient)	17-Nov-15	< 0.060	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	0.012	0.36
	9-Feb-16	< 0.060	< 0.005	0.08	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.45
	11-May-16	< 0.060	< 0.005	0.07	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.44
	30-Aug-16	< 0.060	0.008	0.11	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.39
	9-Nov-16	< 0.060	< 0.005	0.05	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.33
	14-Feb-17	< 0.060	< 0.005	0.06	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.17
	16-May-17	0.0015	< 0.005	0.05	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0007	0.24
	15-Aug-17	0.0030	< 0.005	0.09	< 0.004	< 0.005	< 0.005	< 0.050	0.21	< 0.005	< 0.050	< 0.0000010	< 0.010	< 0.005	< 0.0007	0.34
	29-Mar-18	< 0.0004	< 0.005	0.07	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.00
	9-May-18	Not Analyzed	Not Analyzed	0.06	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.37
	8-Oct-18	Not Analyzed	Not Analyzed	0.09	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	1.87
	11-Mar-19	< 0.0004	0.006	0.07	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	1.12
	15-May-19	Not Analyzed	< 0.01	< 0.20	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	< 0.003	Not Analyzed	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.09
	1-Oct-19	Not Analyzed	< 0.005	0.09	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.26	< 0.005	Not Analyzed	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.13
	11-Feb-20	< 0.0004	< 0.005	0.08	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	0.65
	12-May-20	< 0.0004	Not Analyzed	0.08	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	< 0.20	Not Analyzed	< 0.050	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.18
	20-Oct-20	< 0.0004	Not Analyzed	0.10	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.27	Not Analyzed	< 0.050	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	1.21
BR-20-DG (Downgradient)	17-Nov-15	< 0.060	0.006	1.50	< 0.005	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.53
	9-Feb-16	< 0.060	< 0.005	1.83	< 0.005	< 0.005	< 0.005	< 0.050	0.35	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	1.71
	11-May-16	< 0.060	< 0.005	1.57	< 0.005	< 0.005	0.006	< 0.050	0.35	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	2.13
	30-Aug-16	< 0.060	0.006	1.93	< 0.005	< 0.005	< 0.005	< 0.050	0.36	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	2.04
	9-Nov-16	< 0.060	< 0.005	1.25	< 0.005	< 0.005	< 0.005	< 0.050	0.22	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	0.61
	14-Feb-17	< 0.060	< 0.005	1.88	< 0.005	< 0.005	< 0.005	< 0.050	0.39	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.010	2.20
	16-May-17	0.0014	< 0.005	1.53	< 0.004	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0007	0.99
	15-Aug-17	0.0016	< 0.005	1.84	< 0.004	< 0.005	< 0.005	< 0.050	0.41	< 0.005	< 0.050	< 0.0000010	< 0.010	< 0.005	< 0.0007	0.77
	29-Mar-18	< 0.0004	< 0.005	2.00	< 0.0003	< 0.005	< 0.005	< 0.050	0.36	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	2.01
	9-May-18	Not Analyzed	Not Analyzed	1.51	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.40	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	2.02
	8-Oct-18	Not Analyzed	Not Analyzed	1.58	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.39	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.87
	12-Mar-19	< 0.0004	< 0.005	1.51	< 0.0003	< 0.005	< 0.005	< 0.050	0.42	< 0.005	< 0.050	< 0.0000005	< 0.010	< 0.005	< 0.0003	1.24
	15-May-19	Not Analyzed	< 0.01	1.60	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.33	< 0.003	Not Analyzed	0.0000008	Not Analyzed	Not Analyzed	Not Analyzed	1.89
	1-Oct-19	Not Analyzed	< 0.005	1.38	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.42	< 0.005	Not Analyzed	0.0000008	Not Analyzed	Not Analyzed	Not Analyzed	1.22
	11-Feb-20	0.0004	< 0.005	1.84	< 0.0003	< 0.005	< 0.005	< 0.050	< 0.20	< 0.005	0.139	< 0.0000005	< 0.010	< 0.005	< 0.0003	1.43
	12-May-20	0.0005	Not Analyzed	1.95	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.31	Not Analyzed	0.266	0.0000024	Not Analyzed	Not Analyzed	Not Analyzed	1.07
	20-Oct-20	< 0.0004	Not Analyzed	1.99	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	0.44	Not Analyzed	< 0.050	< 0.0000005	Not Analyzed	Not Analyzed	Not Analyzed	2.33

= Result from April 10, 2019 re-analysis; prior result from March 11, 2019 sample considered an atypical value (0.339 mg/L). April 2019 re-analysis result (< 0.050 mg/L) deemed representative and consistent with historical values for this well.

Notes:

1. Cells with "<" are represented as non-detects. Values shown correspond to the laboratory reporting limit.
2. Background values based on statistical evaluation of initial eight rounds (Nov. 2015 through Aug. 2017) of groundwater sampling data for Well BR-14-UG.
3. As indicated, Groundwater Protection Standards are either published MCLs or risk-based Regional Screening Levels (RSLs). For constituents where calculated background exceeds either the MCL or RSL, the background value is used.

Figures

OFFICE	DATE
Pittsburgh, PA	1/11/21

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
--	E. Schlegel	D. Shott	--	631016538-B1

LEGEND:

BR-20-DG (610.59) — CCR GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED ON OCTOBER 20, 2020

ACTIVE AREAS

GROUNDWATER GENERALIZED FLOW DIRECTION

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/8/2019.

SCALE

0 400 800 FEET

APTIM
500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

DUNKIRK POWER LLC

FIGURE 1
CCR COMPLIANCE GROUNDWATER MONITORING WELL LOCATION MAP
DUNKIRK LANDFILL
DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

File: O:\PROJECT\NRG DUNKIRK\631016538\631016538-B1.dwg
Plot Date/Time: Jan 11, 2021 - 1:59pm
Plotted By: Evan.Schlegel
Xref:
Image

Appendix A

Lithium Alternate Source Demonstration (Dec. 2020)

CCR COMPLIANCE
ALTERNATE SOURCE DEMONSTRATION
DUNKIRK FLY ASH LANDFILL

Prepared for:

Dunkirk Power LLC
Dunkirk Generating Station
Dunkirk, New York

Prepared by:

Aptim Environmental & Infrastructure, LLC
St. Charles, Illinois

December 2020

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List of Acronyms & Abbreviations

ACM	Assessment of Corrective Measures
APTIM	Aptim Environmental & Infrastructure, LLC
ASD	Alternate Source Demonstration
bgs	below ground surface
CCR	coal combustion residuals
CCR Rule or Rule	Disposal of Coal Combustion Residuals from Electric Utilities Final Rule
CFR	Code of Federal Regulations
COPC	constituent of potential concern
Dunkirk	Dunkirk Power LLC
Frontier	Frontier Technical Associates, Inc.
GWPS	groundwater protection standard
GZA	GZA GeoEnvironmental of New York
mg/L	milligram per liter
msl	mean sea level
MW	megawatt
NRG	NRG Energy, Inc.
NYSDEC	New York State Department of Environmental Conservation
PPE	personal protective equipment
ppm	parts per million
PVC	polyvinyl chloride
SPDES	State Pollutant Discharge Elimination System
SPLP	synthetic precipitation leaching procedure
SSI	statistically significant increase
SSL	statistically significant level
Station	Dunkirk Generating Station
USGS	United States Geological Survey

1.0 Introduction

Title 40 Code of Federal Regulations (CFR) mandates that existing Coal Combustion Residuals (CCR) landfills and surface impoundments, also known as CCR units, be subject to groundwater monitoring and corrective action requirements as further detailed in §257.91 through §257.98. These requirements are part of the overall CCR Rule (or Rule) which was published in the Federal Register on April 17, 2015 and became effective on October 19, 2015. The Dunkirk Generating Station's (Station) Landfill, owned and maintained by Dunkirk Power LLC (Dunkirk), a subsidiary of NRG Energy, Inc. (NRG), is subject to the aforementioned groundwater monitoring and corrective action requirements. The Station ceased electric generating operations in early-2016, subsequent to the effective date of the Rule.

Groundwater samples have been routinely collected at the Dunkirk Fly Ash Landfill, in accordance with the obligations for Detection Monitoring and Assessment Monitoring outlined in §257.94 and §257.95, respectively. Based on data generated from the first round of Detection Monitoring (October 2017), it was determined that one or more CCR Appendix III constituents were present in each of the downgradient monitoring wells at levels representing a statistically significant increase (SSI) above corresponding background concentrations. As a result, the Landfill transitioned into the CCR Assessment Monitoring program in early-2018.

Subsequent rounds of groundwater monitoring in 2018 and 2019 showed several CCR Appendix IV constituents to be at levels above background, but still below the corresponding groundwater protection standards (GWPS). However, the 1st Quarter 2020 CCR Assessment Monitoring Event, conducted on February 11, 2020, revealed an elevated lithium concentration in downgradient well BR-20-DG. Following a limited evaluation to rule out possible laboratory influence or other anomalies, this detection was tentatively deemed to represent a statistically significant level above the calculated site-specific Lithium GWPS of 0.05 milligram per liter (mg/L). Notification of this determination was provided to the New York State Department of Environmental Conservation (NYSDEC) on April 6, 2020. A copy of the notification is included in Appendix A.

Additional investigative activities and data gathering pursuant to §257.95(g)(1-3) were undertaken during April thru June 2020, and eventually led to the decision to initiate an Assessment of Corrective Measures (ACM) per §257.96. As required, notification of the ACM initiation was provided to the NYSDEC on July 6, 2020, and which included mention of continuing data collection that could still possibly support the development of an Alternate Source Demonstration. A copy of the notification is included in Appendix A. Per the provisions of §257.96(a), correspondence was prepared shortly thereafter to document the need for a 60-Day extension relative to completion of the ACM (extending the completion date to December 6, 2020), with justification tied to ongoing parallel efforts again in consideration of potential ASD development.

A copy of this extension request was entered into the Dunkirk operating record on August 3, 2020, and is also included in Appendix A.

In support of the ACM, continued data collection/evaluation and supplemental field sampling/ investigation proceeded over the course of August thru October 2020. This work ultimately yielded sufficient evidence to determine that a source other than the Landfill was responsible for the elevated Lithium concentrations in Well BR-20-DG. Accordingly, the information compiled during the nature and extent characterization and supplement field efforts has been assemble into the ASD as presented herein and completed in accordance with §257.95(g)(3)(ii), which includes provisions such that:

> "The owner or operator may demonstrate that a source other than the CCR unit caused the contamination, or that statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality."

This ASD has been certified by a qualified professional engineer, and will be included as part of the forthcoming Annual Groundwater Monitoring and Corrective Action Report to be completed no later than January 31, 2021, documenting CCR activities for the 2020 Calendar Year. Per the further provisions of §257.95(g)(3)(ii), preparation of a successful ASD will allow the Dunkirk Fly Ash Landfill to remain in the CCR Assessment Monitoring Program.

2.0 Facility Overview

2.1 Location and Setting

The Station is a coal-fired power plant located in Dunkirk, New York. The facility ceased electric generating operations in-early 2016, subsequent to the effective date of the Rule. The Rule applies to this facility due to the management/disposal of CCR materials resulting from the previous coal combustion activities. Accordingly, the Station's captive disposal site, located in Pomfret, New York and identified as the Dunkirk Fly Ash Landfill, has been designated as an existing CCR unit. The Landfill is situated on a 339.6-acre tract located at 5145 Van Buren Road in Pomfret, New York.

Currently observable site features within the property limits of the Landfill area include the following and are shown on Figure 1:

- CCR Landfill (approximately 53.8 acres): The landfill was constructed for acceptance of CCR materials resulting from coal combustion activities at the Station. The Landfill includes one active filling area, several inactive cells, and one additional constructed cell for which there is no planned use (See Section 2.2).
- Sedimentation Basins (approximately 1.7 acres): Two sedimentation basins (designated as 1A and 1B) have been constructed and are used to manage leachate collected from the Landfill. Effluent flows from Basin 1B discharge into a mixing zone and ultimately a receiving stream via SPDES-permitted Outfall 002 (Permit No. NY-0202711).
- Hydraulic Basin (approximately 11.7 acres): A hydraulic basin containing fresh surface water has been constructed and provides additional flows for transport and mixing with the landfill leachate exiting the sedimentation basins.
- Groundwater Monitoring Network: A groundwater monitoring network has been constructed around the perimeter of the landfill in order to monitor and ensure that the landfill is performing as intended and is not impacting localized groundwater.
- Leachate Detection and Collection Network: A leachate detection and collection network has been constructed throughout the landfill footprint. This network allows for the potential detection of leachate leaks in the landfill liner and for the collection of leachate, which is routed to the sedimentation basins.

The remaining acreage surrounding these features consists of site access roads and generally undeveloped areas with wooded and vegetative cover.

2.2 Description of CCR Unit

Although the Station is idled, the Dunkirk Fly Ash Landfill is permitted by the NYSDEC to accept CCR materials generated by the Station through May 22, 2021 (Permit ID No. 9-0658-

00021/00008). As shown on Figure 1, there is an active area of the landfill that principally includes Phase 2 Cell B-1 and the western portion of Phase 2 Cell A. Inactive landfill areas include Phase 1 Cells A and B and the eastern portion of Phase 2 Cell A. Phase 2 Cell B-2 is constructed, but no ash has been received to date. GZA GeoEnvironmental of New York's (GZA) most recent annual inspection of the landfill indicates that at the end of 2019, the landfill had 278,921 cubic yards of remaining available volume. The landfill did not accept any CCR waste in 2019 nor thus far in 2020.

2.2.1 Environmental Sampling

Ongoing groundwater monitoring is performed at the Site based on two regulatory programs:

- Part 360 Permit Monitoring: The facility's NYSDEC Part 360 Permit requires regular monitoring of five on-site groundwater monitoring wells, including one upgradient location (Well OB-2-UG) and four downgradient locations (Wells OB-4-DG, OB-7-DG, OB-19-DG, and OB-20-DG). This monitoring program does not require lithium analysis, nor does it include Well BR-20-DG.

- CCR Monitoring: Groundwater is routinely sampled at five on-site monitoring wells and analyzed for the Appendix III and Appendix IV constituents as a requirement of the CCR Rule. This monitoring network (further discussed in Section 3.0) includes one upgradient location (Well BR-14-UG) and four downgradient locations (Wells BR-3-DG, BR-12-DG, BR-13-DG and BR-20-DG).

3.0 CCR Groundwater Sampling

3.1 Groundwater Monitoring Network

The originally established CCR groundwater monitoring network for the Landfill is comprised of five wells, including Well BR-14-UG (upgradient) and Wells BR-3-DG, BR-12-DG, BR-13-DG, and BR-20-DG (downgradient). These well locations are shown on Figure 2. The depth to groundwater in the uppermost aquifer varies, but is generally 5 to 10 feet below ground surface (bgs). The ground surface elevations in and around the area of the Landfill range between approximately 600 to 640 feet above mean sea level (msl). Installation details and boring logs for the wells are contained in Appendix B, with pertinent information summarized below.

Table 3.1-1: CCR Groundwater Monitoring Network Details

Monitoring Well No.	Hydraulic Position	Casing Diameter (inches/material)	Top of PVC Casing Elevation (feet msl)	Well Total Length (feet)	Top/Bottom Elevations of Screened Interval (feet msl)
BR-14-UG	Upgradient	4-inch polyvinyl chloride (PVC)	629.01	26.25	611.90 / 606.90
BR-3-DG	Downgradient	4-inch PVC	618.20	18.75	609.08 / 604.08
BR-12-DG	Downgradient	2-inch PVC	600.62	17.37	588.00 / 584.00
BR-13-DG	Downgradient	4-inch PVC	607.41	19.21	593.70 / 588.70
BR-20-DG	Downgradient	2-inch PVC	625.74	35.99	601.50 / 591.50

3.2 Detection/Assessment Monitoring

As previously noted, the Dunkirk Fly Ash Landfill was transitioned into the CCR Assessment Monitoring Program in early-2018. Subsequent monitoring events performed during 2018 and 2019 showed detections of several Appendix IV constituents, but at levels remaining below corresponding GWPS. However, and as shown in Table 3.2-1, data from the 1st Quarter 2020 monitoring event indicated lithium in downgradient Well BR-20-DG at a concentration of 0.139 mg/L, preliminarily representing a value above the site-specific GWPS of 0.05 mg/L. The complete 1st Quarter 2020 CCR Assessment Monitoring Report is included in Appendix C.

Table 3.2-1: Selected CCR Assessment Monitoring Results February 11, 2020 Sampling Event						
Parameter	Concentration (mg/L) unless noted					
	BR-14-UG	BR-3-DG	BR-12-DG	BR-13-DG	BR-20-DG	GWPS
Appendix III						
pH (S.U.)	7.21	6.93	6.78	6.78	7.73	----
Boron	0.195	0.137	0.092	0.173	1.47	----
Calcium	90	129	181	115	25	----
Chloride	2.9	19.9	224	8.5	28.3	----
Fluoride	<0.20	<0.20	<0.20	<0.20	<0.20	----
Total Dissolved Solids	355	520	785	470	630	----
Sulfate	58	163	147	99	<4.0	----
Appendix IV						
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	0.01
Barium	0.17	0.03	0.05	0.08	1.84	2.0
Chromium	<0.005	<0.005	<0.005	<0.005	<0.005	0.1
Fluoride	<0.20	<0.20	<0.20	<0.20	<0.20	4.0
Lithium	<0.05	<0.05	<0.05	<0.05	0.139	0.05

3.3 Determination of Statistically Significant Level Above Groundwater Protection Standards

Following receipt of the 1st QTR 2020 result and as a preliminary confirmation, the laboratory re-analyzed the February 11, 2020 sample and verbally reported a lithium value of 0.143 mg/L on March 10, 2020. Subsequent to this initial re-analysis, Well BR-20-DG was re-sampled (including collection of a field duplicate sample) on March 12, 2020. The lithium concentrations were reported at 0.193 mg/L and 0.197 mg/L, respectively, for the sample and the duplicate. Information and laboratory results from this re-sampling are included in Appendix D.

On March 31, 2020, Frontier Technical Associates, Inc (Frontier) performed a down-well camera inspection over the entire depth of Well BR-20-DG. This inspection did not reveal any obvious breaks in the well casing nor foreign objects in the well, and the well did not appear to have any appreciable sediment buildup on the bottom. In conjunction with the inspection Frontier again sampled Well BR-20-DG for lithium, with a value of 0.253 mg/L being reported. Information and laboratory results from this sampling event are also included in Appendix D.

Based on the above, a determination was made that the lithium concentration in Well BR-20-DG did represent an SSL above the corresponding site-specific GWPS. As previously noted, notification of this finding was made to the NYSDEC on April 6, 2020 (copy included in Appendix A), and subsequent field investigation/characterization efforts initiated as required per §257.95(g)(1-3). Additional discussion of these post-SSL determination activities is provided in Section 4.0.

4.0 Further Actions Taken Following SSL Determination

4.1 Supplemental Well Monitoring

Immediately following submittal of the NYSDEC notification, an expanded field sampling effort was conducted on April 8, 2020 to encompass Well BR-20-DG and neighboring monitoring wells (Wells OB-19-DG and OB-20-DG; see Figure 1), along with manholes used for leachate collection/leak detection. The lithium concentration for Well BR-20-DG was reported at 0.198 mg/L, and further reported as 2.00 mg/L at Manhole MH-1 (shown on Figure 1 and representing landfill leachate upgradient of Well BR-20-DG within the lined landfill footprint). Information and laboratory results from this sampling event are included in Appendix E.

On May 12-13, 2020 and in conjunction with the 2nd QTR 2020 CCR Assessment Monitoring Event (discussed below in Section 4.2), a much broader investigation of on-site groundwater monitoring wells was performed. The investigation included Well BR-20-DG and ten other wells, and focused on lithologies of water-bearing zones, groundwater elevations and flow trends, as well as evaluation of lithium concentrations at each of the monitoring wells. The lithium concentration measured at Well BR-20-DG during this event was 0.208 mg/L. Information and laboratory results from this sampling event are also included in Appendix E, along with a map showing the location of the other wells sampled.

During the May 12-13, 2020 supplemental field effort, Frontier also obtained a leachate sample from Manhole MH-1 for geochemical comparison against the groundwater in Well BR-20-DG (see further discussion in Section 5.1). Laboratory results for this sample are included in Appendix E.

4.2 CCR Monitoring

The 2nd Quarter 2020 CCR Assessment Monitoring Event was performed on May 12-13, 2020 (concurrent with the above), and included sampling for Appendix III and selected Appendix IV parameters, including lithium. The lithium result for Well BR-20-DG was reported at 0.266 mg/L, and the field duplicate sample for Well BR-20-DG showed a concentration of 0.292 mg/L. The complete 2nd Quarter 2020 CCR Assessment Monitoring Report is included in Appendix F.

4.3 Water Level Survey

On June 22, 2020, Frontier performed a water level survey of features that might in some way be potentially influencing the groundwater quality at Well BR-20-DG. Corresponding water elevations were then graphically represented. The Water Level Survey Report is included in Appendix G.

4.4 Surface Water Sample at Beaver Dam

On July 16, 2020 a surface water sample was taken downstream of the discharge mixing zone (where the sedimentation basin and hydraulic basin discharges come together) near the location where beavers had created a dam along the outgoing stream (see further discussion in Section 5.4). This stream (identified as Van Buren Bay Creek) serves as the permitted discharge pathway for effluent flows from the sedimentation basins via SPDES Outfall 002. The lithium concentration in the surface water sample was measured at 0.799 mg/L. The associated laboratory report is included in Appendix H.

4.5 Site Visit and Additional Sampling

APTIM Environmental and Infrastructure, LLC (APTIM), along with representatives from NRG and Frontier, conducted a site reconnaissance of the Landfill on September 22, 2020. The visit included visual examination of the leachate collection/leak detection network; the sedimentation basins; the hydraulic basin; well pad area for Wells OB-19-DG, OB-20-DG, and BR-20-DG; the landfill sideslopes and local stormwater runoff control features (including a rip-rap lined ditch); along with the discharge mixing zone and the beaver dam downstream of the discharge mixing zone. Shortly after this visit and based upon the observed conditions, an additional round of sampling was conducted by Frontier on September 29-30, 2020 to include near-surface soils/sediments, groundwater, surface water and landfill leachate.

Specifically, near-surface soil samples were collected in proximity to the BR-20-DG well pad and from the lined stormwater ditch, which extends between the well pad area and the discharge mixing zone. A sediment sample from the discharge mixing zone below Outfall 002 was also collected. The soil and sediment samples were analyzed for total lithium and were then subjected to a synthetic precipitation leaching procedure (SPLP) for lithium. Results for total lithium for soil/sediment samples near the BR-20-DG well pad, along the lined ditch, and from the discharge mixing zone were 41.4, 125, and 74.3 parts per million (ppm), respectively. SPLP results for lithium were non-detect (<0.5 mg/L) in all three locations. Information and laboratory results from the soil/sediment sampling are included in Appendix I.

Also during the September 29-30 field efforts, groundwater samples were collected at Wells OB-20-DG and BR-20-DG. Surface water samples were collected from Sedimentation Basins 1A and 1B, the hydraulic basin, the lined ditch and from near the beaver dam. Flows from Manholes MH-1, MH-3, and MH-5 (leachate and leak detection) were also collected. All collected samples were analyzed for anions and cations needed for geochemical analysis, as well as for landfill leachate indicator parameters, including lithium. Information and laboratory results for the groundwater, surface water, and manhole samples are included in Appendix J.

5.0 Alternate Source Identification

5.1 Possible Leak from Landfill Liner

A geochemical comparison of Well BR-20-DG groundwater and Manhole MH-1 leachate (directly upgradient of Well BR-20-DG within the landfill footprint) was performed utilizing the analytical data collected on May 12 and 13, 2020 (Appendices E and F) along with that collected on September 29, 2020 (Appendix J). To support this comparison, a Piper diagram was created. A Piper diagram employs a methodology that is used to compare a known/suspected source to other sampling locations, based on the classification and visualization of hydrochemical data. This methodology builds on the recognition that almost 90 percent of dissolved solids in groundwater are attributed to eight ions: Ca^{2+}, Cl^{-}, CO_3^{2-}, HCO_3^{-}, K^{+}, Mg^{2+}, Na^{+}, and SO_4^{2-}.

A Piper diagram normalizes the eight ions into cations and anions. The normalized data are then plotted in three areas, including a center diamond which shows the composition of the sample with respect to both cations and anions, and two triangles that represent either cations or anions in the data. A Piper diagram also combines the concentrations of the anions CO_3^{2-} and HCO_3^{-} and cations Na^{+} and K^{+}, which allows all the major ions to be plotted on one diagram.

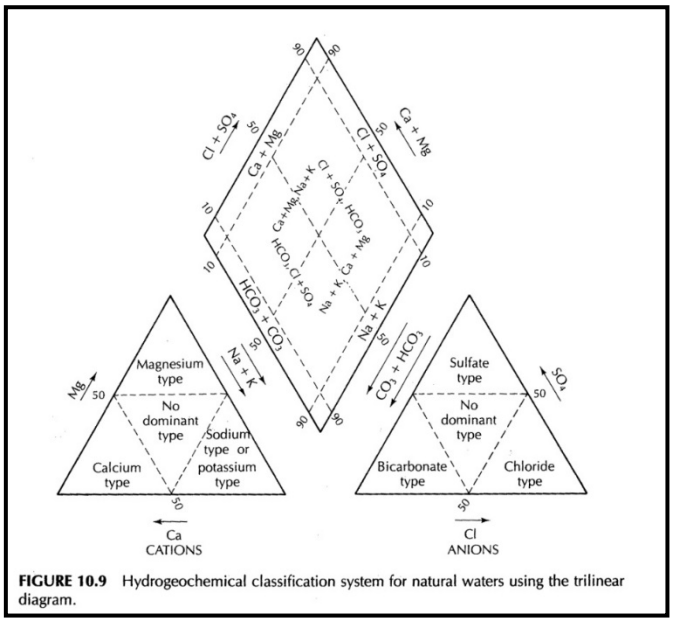

FIGURE 10.9 Hydrogeochemical classification system for natural waters using the trilinear diagram.

Fetter, C.W., Applied Hydrogeology, 1994.

The illustration above shows the hydrochemical classification system used to construct a Piper diagram. Samples that have been impacted by a source would shift away from upgradient background composition and toward the source composition.

The Piper diagram created for the current evaluation is presented in Figure 2. Review of the diagram indicates that the geochemical composition of the groundwater at Well BR-20-DG is not similar to that of the source composition (landfill leachate). Further, there is no appreciable shift in the composition of the groundwater at Well BR-20-DG away from the source composition between May 13, 2020 (when the lithium concentration at BR-20-DG was 0.266 mg/L) and September 29, 2020 (when the lithium concentration at BR-20-DG was <0.05 mg/L). This observation additionally indicates that the lithium in Well BR-20-DG was from a source other than the landfill and that a potential local breach in the liner system was not a likely cause.

Beyond the Piper diagram evaluation, it is noted that lithium levels in the leachate from Manhole MH-1 were seen to have increased from 2.00 mg/L on April 8, 2020 to 3.03 mg/L on September 29, 2020. Conversely, lithium levels in Well BR-20-DG over this same time period have fallen from 0.198 mg/L on April 8, 2020 to <0.05 mg/L on September 29, 2020 (see Appendices E and J). If the lithium in Well BR-20-DG was from a landfill source directly upgradient, one would expect the lithium level at Well BR-20-DG to increase as the lithium levels within the leachate increase. This was, however, not the case.

5.2 Surface Water Runoff from Landfill

Representing another potential pathway, possible contaminated surface water runoff from other parts of the landfill leading to and infiltrating near Well BR-20-DG was examined, including natural downward migration and aspects related to a broken or damaged well seal/casing.

During APTIM's September 22, 2020 site visit, it was noted that the stormwater runoff system in this area of the landfill diverted flows from the perimeter road and landfill sideslope down to and past the location of Well BR-20-DG. Due to the close proximity of runoff to Well BR-20-DG, the perimeter road, landfill stormwater ditches, and landfill sideslopes were visually inspected for any signs of seeps, pop-outs, or other sources for potential leachate leaks. No issues or items of concern were discovered during the visual inspection.

The wellpad containing Well BR-20-DG and adjacent nested Well OB-20-DG was visually inspected for integrity, and near-surface features of the wells (cap, locks, protective casing) were also inspected. No issues or items of concern were discovered during the visual inspection. From a downhole perspective and as previously discussed, Well BR-20-DG was subjected to a down-well video camera inspection on March 31, 2020, whereupon the subsurface integrity of the well was confirmed.

Additionally, it should be noted that lithium is naturally occurring in the regional soils. According to the United States Geological Survey (USGS) (see Figures 3 and 4), naturally-occurring lithium concentrations in the regional soils range from 36 to 300 ppm in near-surface soils and from 37 to 315 ppm at depths up to 2 feet bgs.

As previously acknowledged in Section 4.5, near-surface soils proximate to Well BR-20-DG and along the lined ditch were collected on September 29, 2020 and analyzed for total lithium; sediments from the discharge mixing zone were also collected and analyzed (see Appendix I). The lithium result for the sample close to well BR-20-DG was 41.4 ppm (reported as µg/g), which is at the low end of naturally-occurring levels. Conversely, the samples from the lined ditch and the discharge mixing zone (where lithium is present in the surface discharge water from Outfall 002) had total lithium results of 125 ppm and 74.3 ppm, respectively. Had contaminated stormwater runoff infiltrated the ground near Well BR-20-DG, one would have expected lithium levels in the soil to be elevated similarly to those of the lined ditch and the discharge mixing zone.

5.3 Leaching from Soils

In view of the above discussion, consideration was given to the possibility of naturally-occurring lithium leaching from the soils into the groundwater near Well BR-20-DG. To assess this aspect, the three soil/sediment samples collected on September 29, 2020 were further subjected to lithium testing via the Synthetic Precipitation Leaching Procedure (SPLP). The SPLP application attempts to pull constituents from the matrix being tested (soil samples) using low-pH extraction fluids, and in turn provides information on the propensity of the constituents to remain bound in the soils matrix or mobilize to the fluid phase.

Results of the SPLP analysis showed non-detect results for all three samples (see Appendix I), indicating the lithium present in the soils/sediments does not readily transfer/mobilize to the groundwater phase. Accordingly, it was concluded that lithium in Well BR-20-DG was not likely to be sourced from leaching of this constituent from local soils/solid matrices into the groundwater.

5.4 Groundwater Infiltration from Discharge Mixing Zone

Based on discussions with Station personnel, ongoing since the lithium concentration was initially deemed as an SSL in Well BR-20-DG, APTIM was made aware that a beaver dam had been constructed and first noticed during early-2020. As shown on Figure 5 (and also Figure 1), this dam is located along the stream (Van Buren Bay Creek) which receives the permitted landfill discharge from Outfall 002. Observations from Station personnel confirmed that this dam has created a backwater area along the stream and other reaches extending from the discharge mixing zone northward along the lined ditch in the direction of Well BR-20-DG. This backwater contains lithium as a direct result of the Outfall 002 discharge, and represented an obviously persistent ponding condition prior to its discovery, and believed sufficient enough to allow for percolation of the accumulated surface water into the groundwater proximate to Well BR-20-DG.

Once discovered, efforts were taken to alleviate the ponding and backwater creation by installation of “bypass” pipe to circumvent the beaver dam (see Figure 5). These efforts, combined with seasonally drier weather, have greatly reduced the ponding conditions to a point whereupon the

lithium concentrations in Well BR-20-DG (and adjacent Well OB-20-DG) have since returned to non-detect levels (See Appendix J).

The water level survey performed at the Site on June 22, 2020 (see Section 4.3 and Appendix G) indicated that surface water to groundwater flow was downgradient from the leachate collection network to the sedimentation basins, then to the discharge mixing zone, and ultimately to Well BR-20-DG. This pathway of downgradient flow is also responsible for increased mixing and dilution of the leachate discharges. This pathway specifically conveys leachate from the landfill to the sedimentation basins, and then into the discharge mixing zone where it is mixed with fresh water from the hydraulic basin. From the discharge mixing zone, the combined flows continue to move downstream via Van Buren Bay Creek and partially infiltrate to the groundwater where further dilution takes place. Based on this flow path and progressively greater mixing/dilution, it is logical that corresponding lithium concentrations should be affected in the same manner. More clearly, Figure 6 illustrates this anticipated progression, with a plot of the analytical data generated from the September 29, 2020 sampling event (See Appendix J) showing a steady and predicted decline in the lithium concentrations. Under more persistent and widespread ponding conditions (such as were created by the beaver dam), this progression would still appear but with less distance/time for dilution before affected groundwater reached the Well BR-20-DG area. This would enhance the probability for elevated lithium concentrations (above the CCR GWPS) to be measured in Well BR-20-DG, as was the case during the 1st QTR and 2nd QTR CCR Assessment Monitoring events.

In similar fashion, a geochemical comparison should also show the progressive mixing and dilution of the leachate. To this end, a Piper diagram was constructed using analytical data from the September 29, 2020 sampling event. As shown in Figure 7, plotting the data from samples collected from leachate manholes, the sedimentation basins, the lined ditch adjacent to the discharge mixing zone, and Wells OB-20-DG and BR-20-DG yields the predicted outcome. This diagram clearly shows the dilution of the leachate in a straight-line trend from the leachate manholes to the sedimentation basins. Then, the leachate is mixed with fresh water from the hydraulic basin which alters the chemistry of the leachate to a chemistry more like fresh water. This is depicted on the Piper diagram as the straight-line trend changes direction when the fresh water is added. The new straight-line trend then moves directly to the monitoring wells, as one would expect with further dilution of the leachate through the addition of groundwater.

6.0 Conclusions

The dilution of lithium in the groundwater between the discharge mixing zone and Well BR-20-DG under normal circumstances is sufficient that lithium is not detected at the well location. However, if ponding and creation of a more expansive backwater area occur, there is less distance between the point of groundwater infiltration and Well BR-20-DG. Under these conditions, there is less time for dilution of lithium in the groundwater before it reaches Well BR-20-DG. These latter conditions were in fact created by the construction of the beaver dam, which caused ponding and backup of the Outfall 002 receiving stream (Van Buren Bay Creek) into areas proximate to Well BR-20-DG. With discovery of the beaver dam and actions taken by Station personnel to alleviate the ponding situation, this transient occurrence has now subsided and lithium has returned to typical non-detect levels in Well BR-20-DG. Moving forward, this portion of the Landfill and receiving stream area will be closely monitored via monthly inspections for possible ponding and identification of other potential impediments to surface water flow downgradient from Outfall 002. Any such conditions will be appropriately remedied upon discovery.

7.0 Qualified Professional Engineer Certification

In accordance with §257.95(g)(3)(ii) of the Rule, I hereby certify based on a review of the information contained herein, that the technical and investigatory methods utilized in this Alternate Source Demonstration are accurate and appropriate. These methods' application have provided the necessary evidence to conclude that the Dunkirk Fly Ash Landfill is not the source of the SSL observed during the February 2020 CCR Assessment Monitoring event.

Certified by:	
Professional Engineer:	Richard Southorn, P.E., P.G.
Company:	Aptim Environmental & Infrastructure, LLC
New York PE Registration Number:	97551
Professional Engineer Seal:	

DEC 18, 2020

Figures

LEGEND:

- BR-20-DG — CCR GROUNDWATER MONITORING WELL
- OB-20-DG — MONITORING WELL
- ACTIVE AREAS
- MH-1 — MANHOLE

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 400 800 FEET

APTIM
500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

DUNKIRK POWER LLC

FIGURE 1

SITE FEATURES AND LOCATIONS MAP
DUNKIRK LANDFILL

DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	DESIGNED BY	DATE	OFFICE
631016538-B1	---	---	E. Schlegel	---	11/12/20	Pittsburgh, PA

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Plotted By: Evan.Schlegel
Xref: photo 3.jpg
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OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
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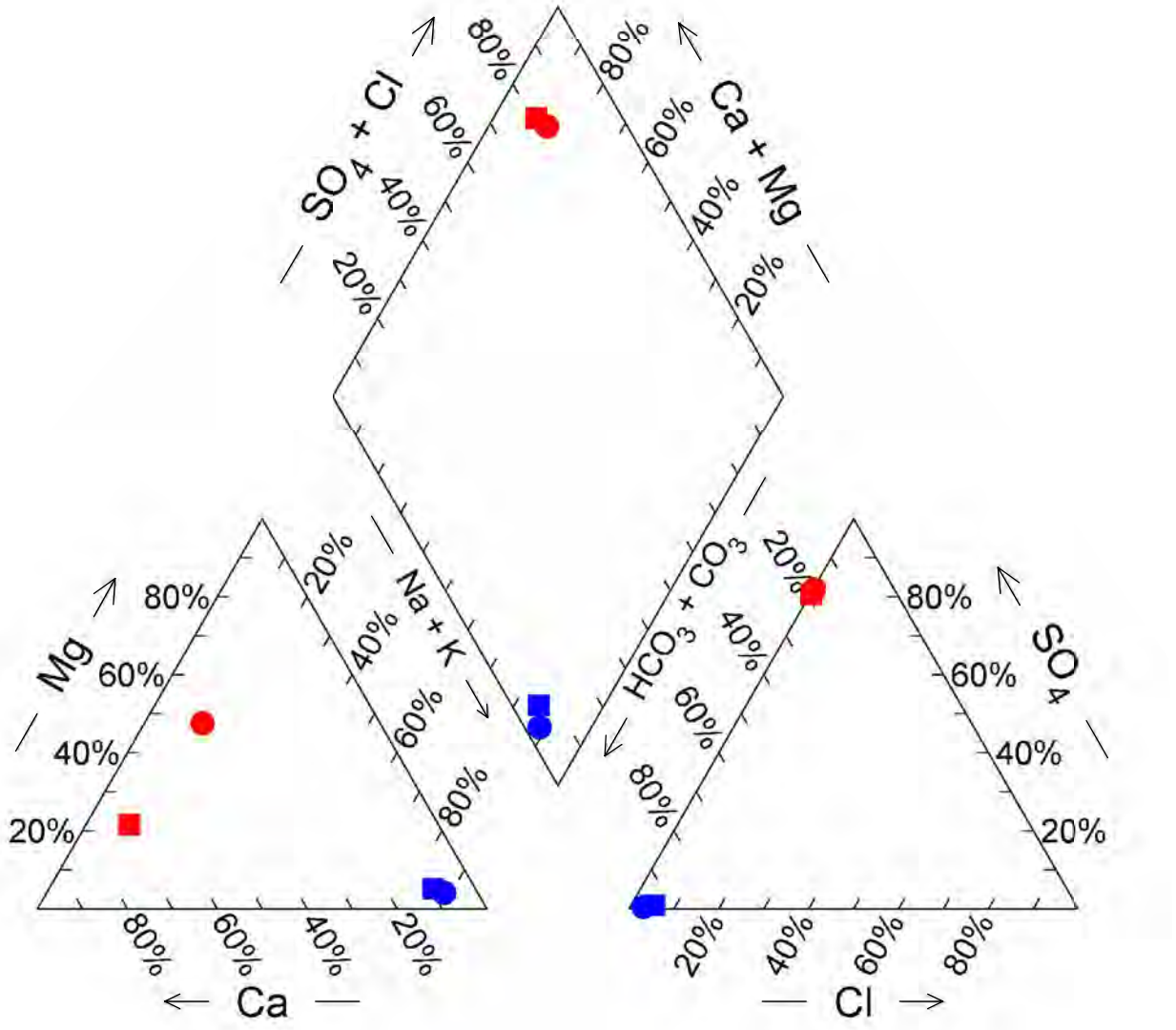

- MH–1 (5/12/2020)
- MH–1 (9/29/2020)
- BR–20-DG (5/13/2020)
- BR–20-DG (9/29/2020)

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500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

DUNKIRK POWER LLC

FIGURE 2

PIPER DIAGRAM MH-1 AND BR-20-DG COMPARISON

DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

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Plotted By: Evan.Schlegel
Xref : Image

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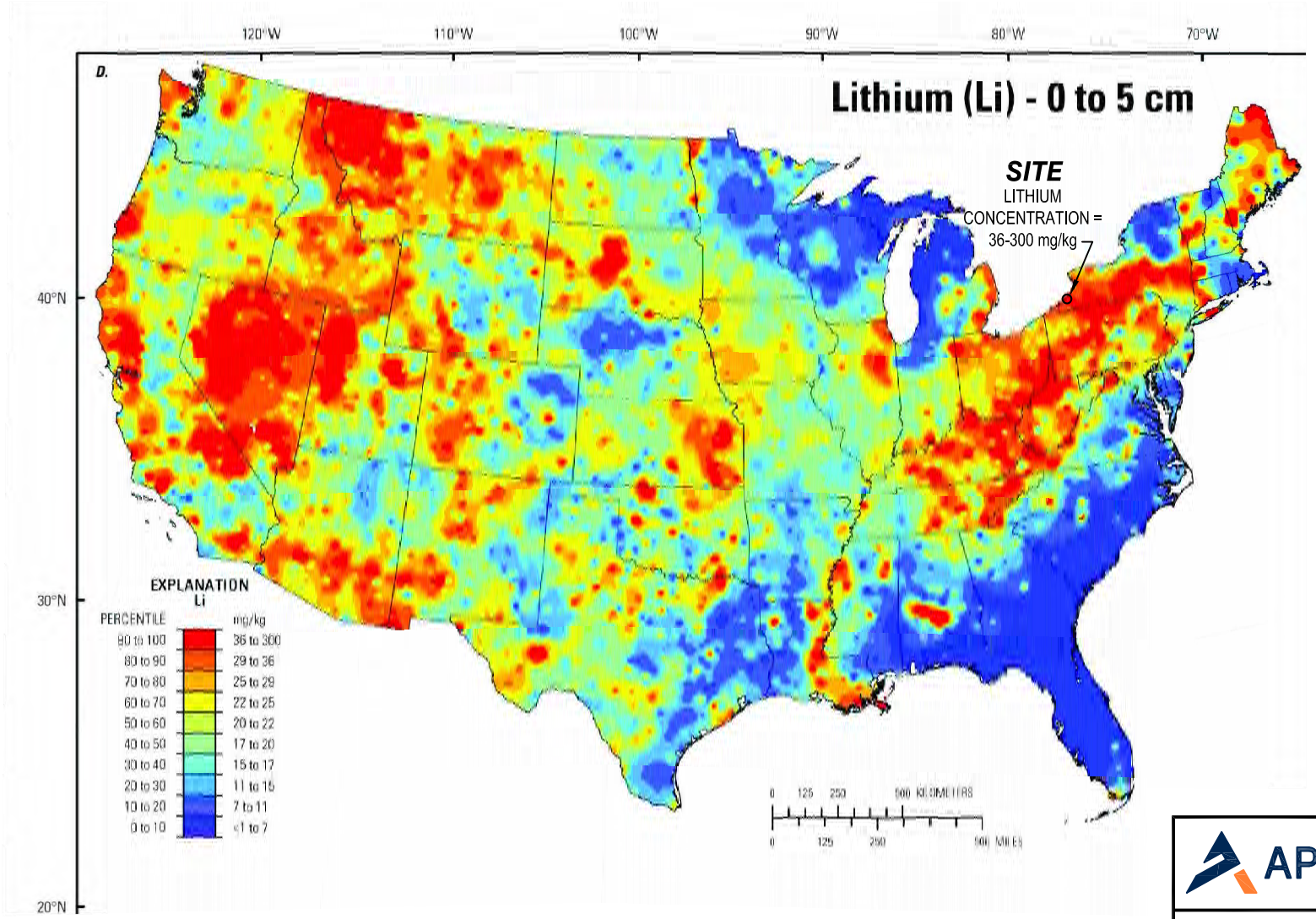

REFERENCE:

BASE MAP FROM U.S. GEOLOGICAL SURVEY DIGITAL DATA.
LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS 33°N AND 45° N
CENTRAL MERIDIAN 96°W
DATUM NAD 1983

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FIGURE 3
REGIONALIZED LITHIUM CONCENTRATIONS IN SURFACE SOILS (≤ 2 INCHES)
DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

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Plotted By: Evan.Schlegel
Xref : Image

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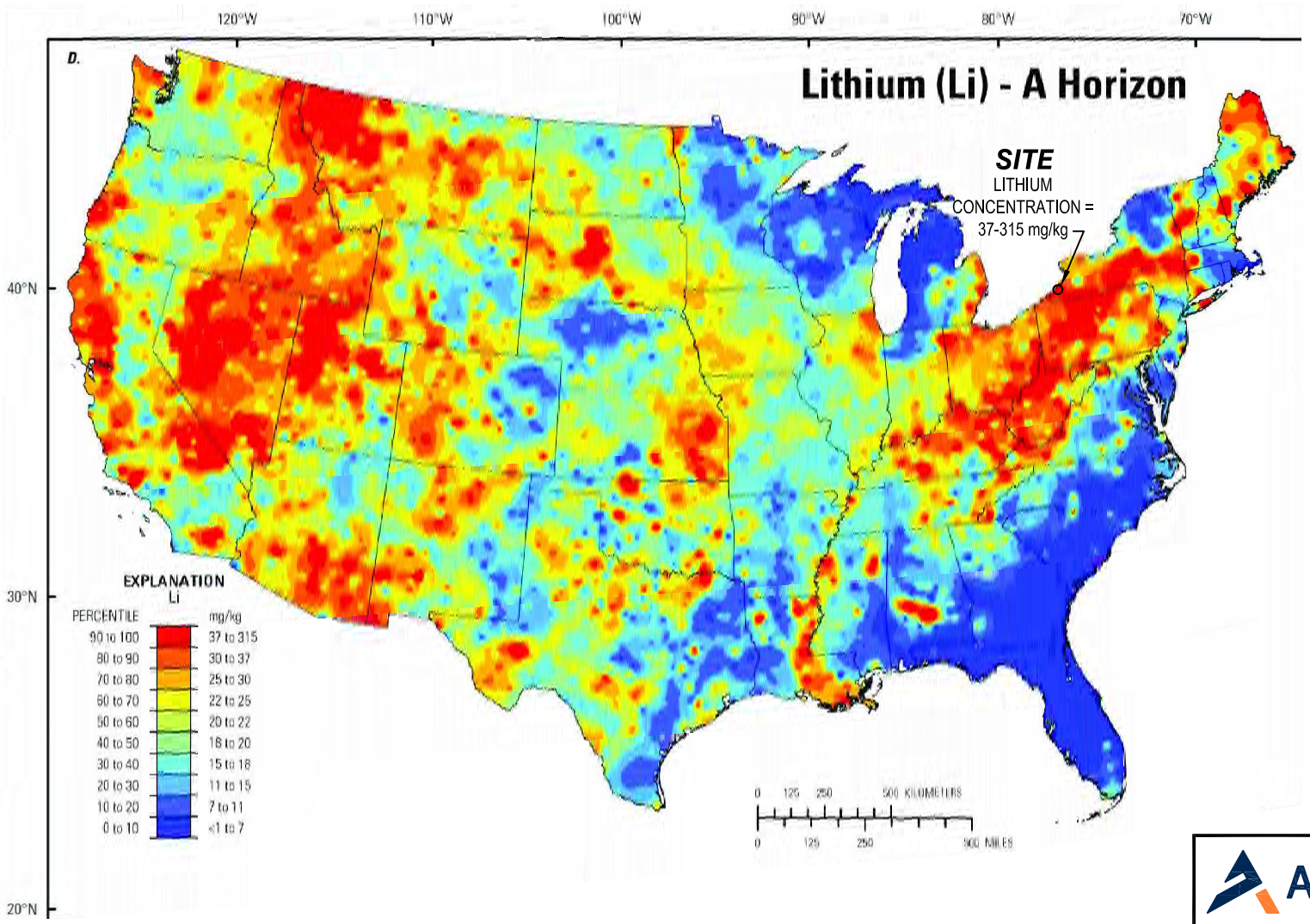

REFERENCE:

BASE MAP FROM U.S. GEOLOGICAL SURVEY DIGITAL DATA.
LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS 33°N AND 45° N
CENTRAL MERIDIAN 96°W
DATUM NAD 1983

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FIGURE 4
REGIONALIZED LITHIUM CONCENTRATIONS IN SURFACE SOILS (≤ 24 INCHES)
DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	11/16/20	--	E. Schlegel	--	--	631016538-A4

SCALE: 1" = 1,000'

BEAVER DAM LOCATION MAP

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500 Penn Center Boulevard,
Suite 1000
Pittsburgh, Pennsylvania 15235

DUNKIRK POWER LLC

FIGURE 5

BEAVER DAM

DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

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Plotted By: Evan.Schlegel
Xref : Image

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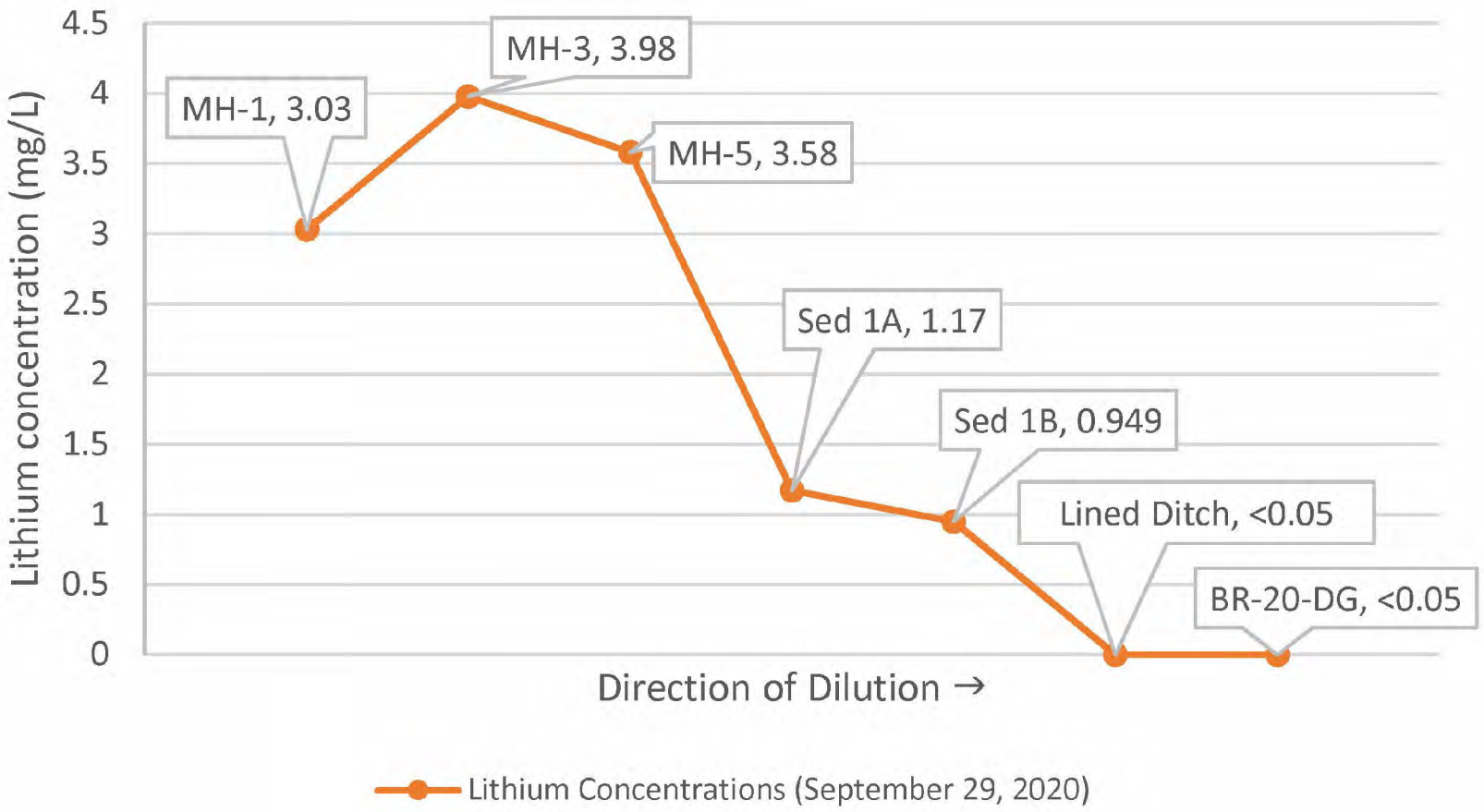

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DUNKIRK POWER LLC

FIGURE 6

LITHIUM CONCENTRATION PROGRESSION

DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
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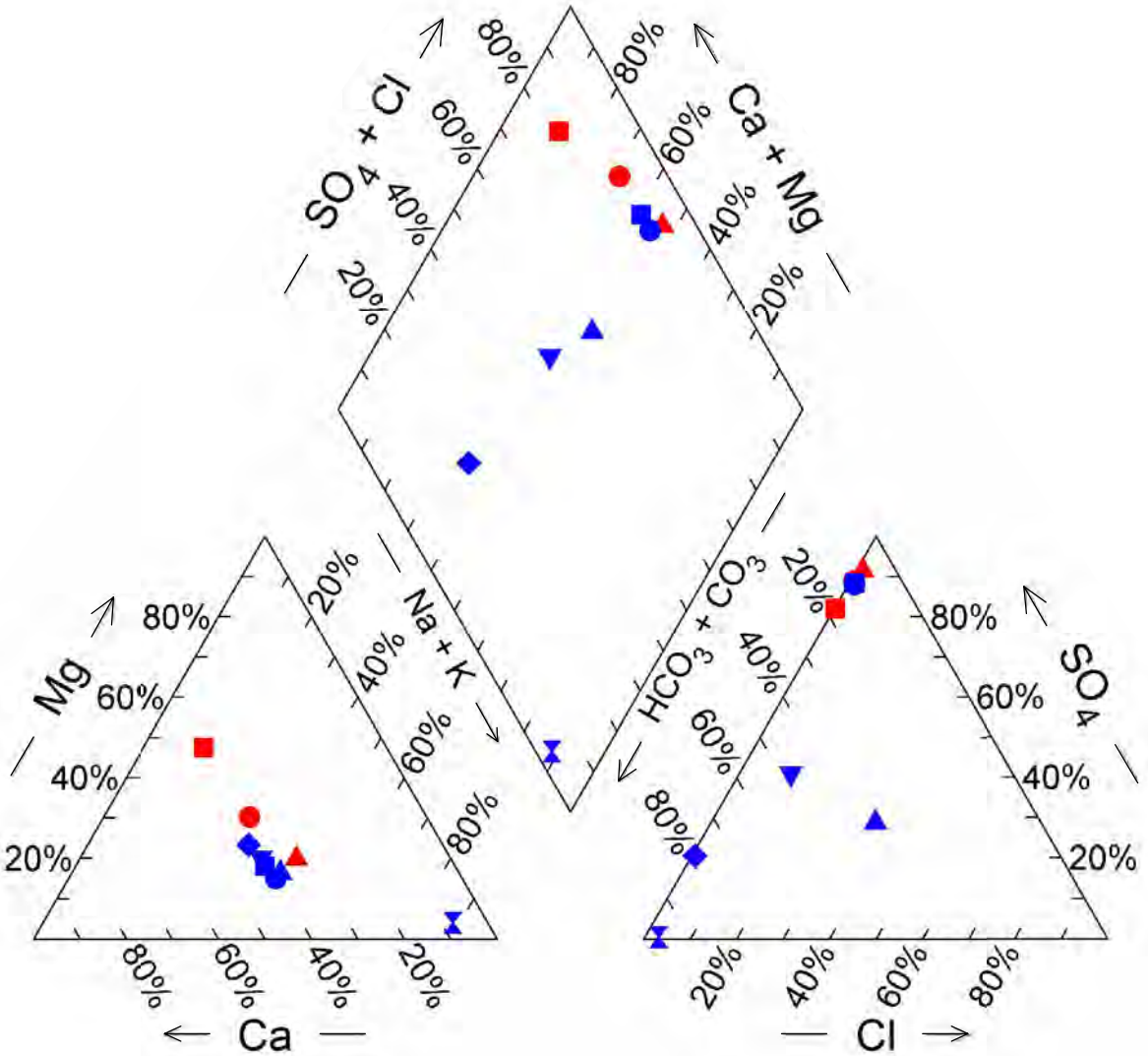

- MH–1 (Leachate)
- MH–3 (Leachate)
- MH–5 (Leachate)
- Sed 1A
- Sed 1B
- Hydraulic Basin
- Lined Ditch
- OB–20-DG
- BR–20-DG

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Suite 1000
Pittsburgh, Pennsylvania 15235

DUNKIRK POWER LLC

FIGURE 7

PIPER DIAGRAM SEPTEMBER 29, 2020
SAMPLING EVENT COMPARISON

DUNKIRK GENERATING STATION
DUNKIRK, NEW YORK

File: C:\Users\evan.schlegel\Desktop\WORK FROM HOME\631016538\631016538-A6.dwg
Plot Date/Time: Nov 19, 2020 - 1:10pm
Plotted By: Evan.Schlegel
Xref:
Image

Appendix A

Notifications to NYSDEC

Dunkirk Power LLC
106 Point Drive North
Dunkirk, NY 14150

April 6, 2020

Mr. David Vitale
New York State Department of Environmental Conservation
Division of Materials Management Director
625 Broadway
Albany, NY 12233-7250

RE: CCR Rule Notice
Dunkirk Power LLC

Dear Mr. Vitale:

Pursuant to the EPA's CCR Rule (40 CFR Part 257) and in accordance with the specific provisions of §257.95(g) and the associated requirements of §257.106(h)(6), Dunkirk Power LLC is notifying the New York State Department of Environmental Conservation that one or more Appendix IV constituents has been detected at a Statistically Significant Level (SSL) above an established Groundwater Protection Standard (GWPS) at the Dunkirk Landfill (Solid Waste Management Facility, Permit ID 9-0658-00021/00008).

This determination is based on initial results received from the ongoing Assessment Monitoring Program, specific to the recent 1st QTR 2020 CCR groundwater sampling event, and entails the detection of Lithium at concentrations greater than the associated GWPS of 50 µg/L in downgradient Well BR-20-DG. In addition to the State Director noticing requirements under §257.106(h)(6), this determination has been entered into the facility operating record per §257.105(h)(8), and will be posted to the publicly accessible website per §257.107(h)(6) at http://www.nrg.com/legal/coal-combustion-residuals/.

At this juncture and in accordance with the provisions of §257.95(g)(3)(ii), Dunkirk Power LLC is conducting a preliminary evaluation to identify if a potential alternate source may exist and be the cause for the Lithium levels presently observed in the subject well. Should this preliminary evaluation deem an alternate source as unlikely, efforts will transition to characterize the nature and extent of the SSL impacts per §257.95(g)(1)(i-iv), in order to further support the subsequently required Assessment of Corrective Measures per §257.95(g)(3)(i) and §257.96(a).

Should you require additional information, please contact George Streit at (716)-200-2797 or George.Streit@nrg.com.

Respectfully submitted,

George T. Streit
Environmental Coordinator

cc: Peter Grasso, P.E., 270 Michigan Ave., Buffalo, NY 14203

Dunkirk Power LLC
106 Point Drive North
Dunkirk, NY 14150

July 6, 2020

Mr. David Vitale
New York State Department of Environmental Conservation
Division of Materials Management Director
625 Broadway
Albany, NY 12233-7250

RE: CCR Rule Notice
Dunkirk Power LLC

Dear Mr. Vitale:

Pursuant to the EPA's CCR Rule (40 CFR Part 257) and in accordance with the specific provisions of §257.95(g) and the associated requirements of §257.106(h)(6), Dunkirk Power LLC notified the New York State Department of Environmental Conservation on April 6, 2020 that one or more Appendix IV constituents had been detected at a Statistically Significant Level (SSL) above an established Groundwater Protection Standard (GWPS) at the Dunkirk Landfill (Solid Waste Management Facility, Permit ID 9-0658-00021/00008). There are characterization activities and other efforts currently being performed, and which may ultimately support a potential Alternate Source Demonstration for the listed CCR unit. However, in consideration of the SSL being valid and representative, an Assessment of Corrective Measures for the affected CCR unit is being initiated per §257.95(g)(5) and §257.96(a).

Should you require additional information, please contact George Streit at (716)-200-2797 or George.Streit@nrg.com.

Respectfully submitted,

George T. Streit
Environmental Coordinator

cc: Peter Grasso, P.E., 270 Michigan Ave., Buffalo, NY 14203

CCR ASSESSMENT OF CORRECTIVE MEASURES
Dunkirk Generating Station

August 3, 2020

George Streit
Dunkirk Power LLC
106 Point Drive North
Dunkirk, NY 14150

VIA E-MAIL

Re: CCR Assessment of Corrective Measures Time Extension Request
Dunkirk Generating Station—Dunkirk Landfill
Dunkirk, New York

Dear Mr. Streit,

As you are aware, Title 40 Code of Federal Regulations (CFR) Part 257 Subpart D addresses the management of coal combustion residuals (CCR) in landfills and surface impoundments. As an acknowledged feature formerly used for the management of CCR materials, the Dunkirk Landfill at the Dunkirk Generating Station is subject to the provisions of the CCR Rule. Per notification provided to the State Director (NYSDEC) on April 6, 2020, lithium was measured in a downgradient CCR monitoring well (Well BR-20-DG) at a statistically significant level (SSL) above its corresponding site-specific groundwater protection standard. This determination, in turn, has triggered an Assessment of Corrective Measures (ACM) which commenced on July 6, 2020, per §257.95(g)(3)(i) and §257.96(a). As required, notice of the ACM initiation was also provided to the State Director.

In consideration of continuing efforts to potentially identify an alternate source for the detected lithium in Well BR-20-DG, it is anticipated that substantive work directly in support of the ACM will be slightly deferred until definitive findings can be established. As such, a 60-day extension of the ACM due date is being applied in accordance with provisions under Section 257.96(a) of the CCR Rule. Accordingly, the ACM (if necessary) will be completed by December 6, 2020.

Respectfully submitted,

David Shott, CHMM
APTIM

Richard Southorn, P.E., P.G.
APTIM

cc: David Bacher, NRG
Tony Shea, NRG

CERTIFICATION

In accordance with Section 257.96(a) of the CCR Rule, I hereby certify based on a review of the information contained within this time extension request dated August 3, 2020, that the information contained is accurate to the best of my knowledge.

Certified by:

Richard Southorn, P.E., P.G.
New York Professional Engineer Registration No.: 97551
APTIM

Signature: _____

Date: 8/03/2020

Seal:

Appendix B

Boring Logs

DIMENSIONS, INC.
Test Borings and Logs
East Aurora, New York 14052 • (716) 655-1717

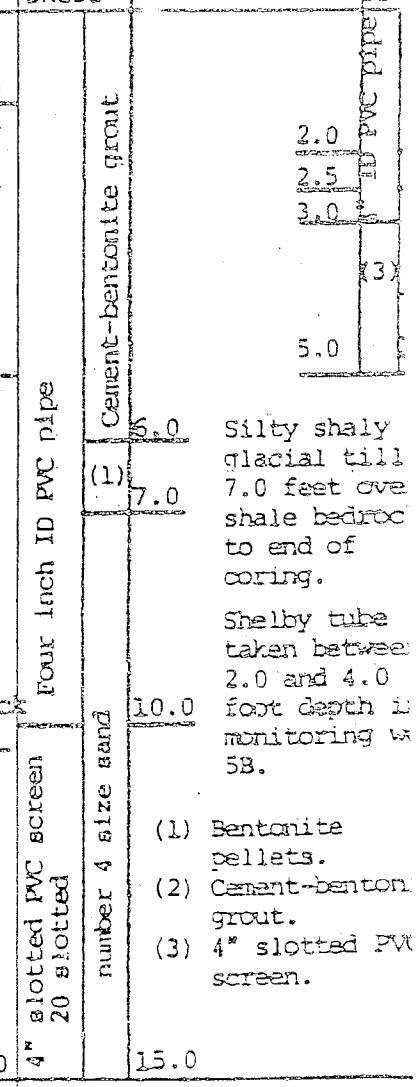
BORE CORE
MITORING WELL BR3DG & OB4DG

SURF. ELEV. 619.08 / 619.18

PROJECT Flyash disposal site investigation LOCATION Near hanger and Van Buren Road
4K83c Airport site, VanBuren Rd., Tn. of Pomfret
CLIENT Niagara Mohawk Power Corp. DATE STARTED 7/30/84 COMPLETED 7/31/84

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0-6	6-12	12-18	18-24	N	DESCRIPTION & CLASSIFICATION
	1	7					Slightly moist dark gray silt loam (CLAYEY-SILT) topsoil, granular soil structure, very stiff 1.0
			11			33	
				22			
					32		Moist distinctly mottled olive brown shaly silty clay loam (CLAYEY-SILT) with 15 to 40% mostly subangular and angular shale gravel & occasional channer, hard with nearly vertical gray desiccation cracks outlining prismatic soil structure
	2	28					
			32				
				34		66	
					36		
	3	13					
5			33			84	- - - - - - grades downward to - - - - 5.0
				51			
					100/3½"		Moist distinctly mottled olive brown very shaly silt loam (CLAYEY-SILT) with 40 to 60% mostly angular shale channer, hard, weak platy soil structure
	4	100/5½"					
	5	18					
			51				- - - - grades downward to - - - 7.0
				70		121	
					62		Extremely moist becoming wet at 8.0 feet gray shale bedrock, soft, bedrock can be crushed between finger with some effort into a CLAYEY-SILT individual beds 1/16 to 1/8 inch thick
	6	32					
		100/3/8"					
10							- - - - clear transition to - - - 10.0
	R	Run=5.0 feet					Gray shale bedrock, moderately hard, shale bedrock cannot be etched with finger nail but with knife, beds separated into 1-5 inch lengths, little evidence of weathering
	U	Recovery = 4.3 ft.					
	N	RQD = 1.6 feet					
15							15.0
							Coring completed to 15.0 feet.

WELL BR3DG



WATER TABLE & REMARKS

WELL OB4

Silty shaly glacial till 7.0 feet ove shale bedroc to end of coring.

Shelby tube taken betwee 2.0 and 4.0 foot depth i monitoring w 5B.

(1) Bentonite pellets.
(2) Cement-benton grout.
(3) 4" slotted PV screen.

Water table at 7.8 feet a completion of soil sampli Water table 2.4 feet belo surface next morning afte coring with water the pre vious day.

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

TEST LOGGED BY Donald W. Owens/Soil Scientist SHEET 1 OF 1

EARTH DIMENSIONS, INC.

Test Borings and Logs
East Aurora, New York 14052 • (716) 655-1717

MONITORING WELL BR12DG — SURF. ELEV. 598.0

PROJECT Monitoring well installation — LOCATION 60' south of VanBuren Road
4K83a Proposed flyash disposal site#5 Dunkirk, N.Y.
CLIENT Niagara Mohawk Power Corp. — DATE STARTED 4/4/84 COMPLETED 4/4/84

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	DESCRIPTION & CLASSIFICATION	WELL	WATER TABLE & REMARKS
	1	2	5	10	14	15	Extremely moist dark brown silt loam (CLAYEY-SILT) topsoil 0.5		Topsoil to 0.5 f
	2	3	6	14	31	20	Extremely moist highly mottled olive brown silt loam (CLAYEY-SILT) with 2 to 5% fine size black shale gravel, very stiff, blocky soil structure - - - - clear transition to - - - 1.5		over silty lake sediment to 1.5 over shaly silty glacial till to feet over soft b weathered shale bedrock to end c boring.
5	3	15	26	28	44	54	Extremely moist distinctly mottled olive brown silt loam (CLAYEY-SILT) with 5 to 15% mostly subangular black shale gravel, hard with nearly vertical gray desiccation cracks - - - - clear transition to - - - 3.5	cement/bentonite grout	(1) Bentonite pe seal
	4	28	33	38	99	71	Extremely moist dark brown shaly silty clay loam (CLAYEY-SILT) with 20 to 40% mostly subangular black shale gravel & occasional cobble, hard, massive soil structure - - - - clear transition to - - - 5.0	2" I.D. PVC pipe	8.0
	5	29	46	100/3"			Moist to extremely moist distinctly mottled olive brown shaly silty clay loam (CLAYEY-SILT) with 25 to 40% mostly angular & subangular black shale gravel & occasional cobble, hard, massive soil structure 7.0	(1)	9.0
10	6	24	53	51	76	104	Moist to extremely moist olive gray shaly silty clay loam (CLAYEY-SILT) with 25 to 40% mostly angular & subangular black shale gravel & occasional cobble, hard, massive soil structure 9.0	#10 slotted 2" PVC screen	10.0
15							Moist black soft weathered thinly bedded shale bedrock that can be pressed between fingers into a (CLAYEY-SILT), becomes extremely moist with alternating beds of gray & black weathered shale below 10.0 feet 14.0	#4 size sand	14.0
							Boring completed at 14.0 feet.		Water table at 13.5 fee below surface at completion, rose to 7.7 feet 1 hour later.

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

George Moreau/Natural Resource Specialist

Figure 21

DIMENSIONS, INC.
Test Borings and Logs
East Aurora, New York 14052 • (716) 655-1717

MONITORING WELL 8R13DG SURF. ELEV. 604.7

PROJECT Flyash disposal site investigation LOCATION 1100 ft. west of easterly drive
4R83c Airport site, VanSuren Rd., Tn. of Pomfret past hangar, 200 ft. south of Va
CLIENT Niagara Mohawk Power Corp. DATE STARTED 10/18/84 COMPLETED 10/25/84

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	DESCRIPTION & CLASSIFICATION	WELL 8R13DG	WATER TABLE & REMARKS
	1	2					Moist dark gray silt loam (CLAYEY-SILT) topsoil, soft, granular soil structure 1.0		Loamy lake sedi
			2			12			to 2.0 feet ove
				10					silty lake sedi
					15		Moist distinctly mottled olive brown loam (SAND-SILT-CLAY), stiff, blocky soil structure with gray ped faces		to 5.0 feet ove
	2	10							dense shaly gla
			19			48			till to 12.0 fe
				29			- - - - grades downward to - - - - 2.0		over shale bedr
					30		Moist distinctly mottled olive brown silt loam (CLAYEY-SILT), hard, thinly laminated with very thin coarse silt lenses		to end of corin
	3	18							
5			27			72			Bedrock core:
				45			- - - - grades downward to - - - - 5.0		Run1 - 13.0-15.0
					102		Slightly moist distinctly mottled olive brown shaly silt loam (CLAYEY-SILT) with 15 to 40% mostly soft sub-angular and angular shale gravel, hard, platy soil structure		Recovery - 4.6 f
	4	74							RQD = 26.0%
			100/3"						Advanced 6 inch
									roller bit to 13
									feet prior to co
							- - - - grades downward to - - - - 8.0		
	5	16					Moist gray shaly silt loam (CLAYEY-SILT) with 15 to 40% mostly subangular and angular shale gravel & occasional channer, very stiff, massive soil structure		
			18			49			
				31					
10					30				
	6	7							
		16				47			
			31						
				100/5"					
							12.0		
	7	100/1"							
							Moderately hard, black thinly bedded shale bedrock, bedrock becomes slightly harder with depth. Most breaks in core show evidence of weathering. Core is mostly separated into 1-4 inch lengths		
15			Run 1						
18							Coring completed at 18.0 feet.		

WELL 8R13DG: 4 inch PVC pipe; Cement/bentonite grout; (1); 9.0; 10.0; 11.0; 4" ID PVC slotted screen; #4 size sand; (2); 16.0; 18.0

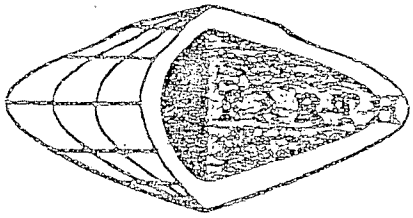
(1) Bentonite pellets.

(2) Bedrock cutt

No water at comp of soil sampling Water table at 5 below surface on 10.24.84.

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

Figure 24



DIMENSIONS, INC.

Test Borings and Logs
East Aurora, New York 14052 • (716) 655-1717

MONITORING WELL BR14DG

SURF. ELEV. 628.4

PROJECT 4K83c Flyash disposal site investigation — Airport site, VanBuren Rd., Tn. of Pomfret

LOCATION SE of railroad tracks

CLIENT Niagara Mohawk Power Corp.

DATE STARTED 10/29/84 COMPLETED 10/29/8

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N
	1	2				
			3			9
				6		
					8	
	2	8				
			12			24
				12		
					12	
	3	5				
5			10			29
				19		
					36	
	4	27				
			40			80
				40		
					47	
	5	8				
			16			40
				24		
10					35	
	6	15				
			44			136
				92		
	7	19				
			38			84
				46		
	8	17				
15			28			
				50/3"		
	9	105				

Extremely moist black silt loam (CLAYEY-SILT) topsoil, firm, granular soil 0.8

Moist distinctly mottled olive brown silty clay loam (CLAYEY-SILT), very stiff with nearly vertical gray desiccation cracks

- - - - grades downward to - - - 4.0

Extremely moist distinctly mottled olive brown silt loam (CLAYEY-SILT), very stiff, thinly laminated with very thin coarse silt lenses

- - - - clear transition to - - - 5.0

Moist distinctly mottled olive brown shaly silt loam (CLAYEY-SILT) with 15 to 40% mostly subangular shale gravel and occasional cobble

- - - - clear transition to - - - 6.0

Moist gray silt loam (SANDY-SILT) with 5 to 15% mostly subangular shale gravel, very dense, weakly thinly bedded

- - - - - - clear transition to - - - 10.0

Moist gray shaly silt loam (CLAYEY-SILT) with 15 to 40% mostly sub-angular and angular shale gravel and occasional channer, hard, massive soil structure

16.0

Wet gray shale bedrock, thinly bedded soft and very soft, bedrock can be crushed between fingers into CLAYEY-SILT

WELL BR14DG

Four inch inside diameter PVC pipe

Cement bentonite

(1)

(2)

(3)

14.0

15.2

16.5

WATER TABLE & REMARKS

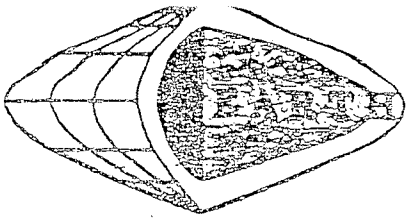
Silty lake sedime with gravel in lo one foot to 6.0 f over coarse silty lake sediment to 10.0 feet over lo glacial till to 1 feet over shale b rock to end of sampling.

(1) Bentonite pellets.
(2) #4 size sand.
(3) 4" slotted PV screen. (20 slotted)

Cont. on sheet 2.

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

Figure 45



DIMENSIONS, INC.

Test Borings and Logs
East Aurora, New York 14052 • (716) 656-1717

MONITORING WELL BR14DG SURF. ELEV. 628.4

PROJECT Flyash disposal site investigation LOCATION SE of railroad tracks
4K83c Airport site, VanBuren Rd. Th of Pomfret
CLIENT Niagara Mohawk Power Corp. DATE STARTED 10/29/84 COMPLETED 10/29/84

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	DESCRIPTION & CLASSIFICATION	WELL BR14DG	WATER TABLE & REMARKS
20	10	10	30	50/3"			Wet gray shale bedrock, thinly bedded soft and very soft, bedrock can be crushed between fingers into CLAYEY-SILT	#20 slotted PVC screen; Number 4 size sand	21.5
	11	73	50/2"						22.2
25							Sampling completed at 22.2 feet.		Water table at 12.2 feet below surface at comple
30									
35									

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

LOGGED BY Donald W. Owens/Soil Scientist

EARTH DIMENSIONS, INC.
Soil Investigations and Natural Resource Assessments
Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

MONITORING WELL
HOLE NO. BR20DG SURF. ELEV. _____

PROJECT 4K83d Monitoring well installation Solid waste facility. Town of Pomfret, NY
LOCATION Southern most well in cluster, located along western side of abandoned N-S runway, 1000 ft south of abandoned E-W runway.
CLIENT NIAGARA MOHAWK POWER CORP.
DATE STARTED 7/10/87 COMPLETED 7/10/87

DEPTH feet	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	DESCRIPTION & CLASSIFICATION	WELL BR20DG	WATER TABLE & REMARKS
		Advanced augers					Advanced augers without sampling 0-2.0 foot depth		Silty lake sediments to 4.5 feet over coarse silty lake sediments to 5.4 feet over shaly glacial till to end of split spoon sampling.
	1	3	4	5	6	9	Moist distinctly mottled olive brown silt loam (CLAYEY-SILT), stiff with nearly nearly vertical gray desiccation cracks		
	2	2	3	7	16	10	- - - - grades downward to - - 4.5 Wet distinctly mottled olive brown silt loam (SANDY-SILT) with little to some very fine size sand, loose, material tends to liquify when disturbed, thinly bedded		Hard augering at 5.5 foot depth to 16.2 foot depth.
5	3	6	13	22	25	35	- - -grades downward to - 5.4		
10							Extremely moist faintly mottled olive brown shaly silty clay loam (CLAYEY-SILT) with 15 to 40% mostly angular shale gravel, dense, massive soil structure		
15							Advanced augers below 8.0 foot depth without sampling to 16.2 foot depth. Refer to Monitoring Well BR20DG for description of glacial till and shale bedrock to top of coring depth at 16.2 feet.	Two inch inside diameter PVC pipe riser / Cement-bentonite grout	13.8 (1) (1) Bentonite pellets
16.2		RUN #1					Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 1-2 inch lengths 16.5		Continued on sheet 2.

N = NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 lb. WT. FALLING 30 " PER BLOW.

bls LOGGED BY Donald W. Owens/Soil Scientist SHEET 1 OF 3

EARTH DIMENSIONS, INC.
Soil Investigations and Natural Resource Assessments
Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

MONITORING WELL
HOLE NO. BR20DG SURF. ELEV. _____

PROJECT Monitoring well installation
4K83d Solid waste facility, Town of Pomfret, NY
CLIENT NIAGARA MOHAWK POWER CORP.

LOCATION Southern most well in cluster, located along western side of abandoned N-S runway, 1000 ft south of abandoned E-W runway.

DATE STARTED ~~7/10/87~~ COMPLETED ~~7/10/87~~

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6 6/12 12/18 18/24 N	DESCRIPTION & CLASSIFICATION	WELL BR20DG	WATER TABLE & REMARKS
			Gray shale bedrock, very soft, bedrock can easily be crushed between fingers into CLAYEY-SILT 16.6	(1) 17.9	(1) Bentonite pellets
		RUN #1	Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 1-2 inch lengths 17.5	2" ID PVC riser pipe	
20			Gray shale bedrock, very soft, bedrock can easily be crushed between fingers into CLAYEY-SILT, occasional thin moderately hard interbed ¼-½ inch thick 18.3		
21.2	X			23.2	
		RUN #2	Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated in 1-3 inch lengths 22.6		
25			Gray shale bedrock, alternating soft and moderately hard layers 1-3 inches thick 23.2		
26.2	X				
		RUN #3	Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 1-3 inch lengths 24.0		
30			Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 1-6 inch lengths, noticed nearly vertical joint 25.5-27.0 foot depth with slight evidence of weathering	#10 slotted 2" PVC screen	Number 4 size sand
31.2	X		└ - -grades downward to - 27.0		33.2
		RUN #4	See next sheet		
35					Continued on sheet 3

Bedrock coring summary

RUN #	DEPTH	LENGTH	RECOVERY	RQD
1	16.2-21.2'	5.0'	5.0'	0
2	21.2-26.2'	5.0'	5.0'	16"
3	26.2-31.2'	5.0'	5.0'	32"
4	31.2-36.2'	5.0'	5.0'	37"

RUN #	RQD%
1	0
2	27%
3	50%
4	62%

N = NUMBER OF BLOWS TO DRIVE - - - " SPOON - - - " WITH - - - lb. WT. FALLING - - - " PER BLOW.

bls LOGGED BY Donald W. Owens/Soil Scientist SHEET 2 OF 3

EARTH DIMENSIONS, INC.
Soil Investigations and Natural Resource Assessments
Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

MONITORING WELL

HOLE NO. BR20DG continued — SURF. ELEV. _____

PROJECT Monitoring well installation
4K83d Solid waste facility, Town of Pomfret, NY
CLIENT NIAGARA MOHAWK POWER CORP.

LOCATION Southern most well in cluster, located along western side of abandoned N-S runway, 1000 ft south of abandoned E-W runway.

DATE STARTED 7/8/87 COMPLETED 7/10/87

DEPTH feet	SAMPLE NO.	BLOWS ON SAMPLER 0/6 6/12 12/18 18/24 N	DESCRIPTION & CLASSIFICATION	WELL	WATER TABLE & REMARKS
36.2	RUN #4		Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 2-9 inch lengths, occasional very soft shale interbed 1/8 inch thick	#4 size sand	36.2
			Gray shale bedrock, hard, difficult to etch core with knife, core separated into 6 inch lengths	30.7	
40			Gray shale bedrock, moderately hard, core can be easily etched with knife, core separated into 2-3 inch lengths, with very soft interbeds 1/8-¼ inch thick	31.2	
			- - - clear transition to - - -	32.3	
			Gray shale bedrock, hard, difficult to etch core with knife, separated into 1-9 inch lengths	36.2	
45			Core completed at 36.2 feet.		No water loss during corin
50					

N = NUMBER OF BLOWS TO DRIVE - - - " SPOON - - - " WITH - - - lb. WT. FALLING - - - " PER BLOW.

bls LOGGED BY Donald W. Owens/Soil Scientist

SHEET 3 OF 3

Appendix C

1st QTR 2020 Assessment Monitoring Report (February 2020)

FRONTIER TECHNICAL ASSOCIATES INC.

ATTORNEY CLIENT PRIVILEGED

QUARTERLY SAMPLING AND ANALYSIS REPORT FOR CCR PARAMETERS DUNKIRK FLYASH LANDFILL (First Quarter 2020)

FTA Report CCR-D-20-01
DUN LF CCR 1 QTR 2020

March 2, 2020

Prepared for:

Mr. Gregory M. Brown, Esq.
BROWN DUKE & FOGEL, P.C.
100 Madison Street, AXA Tower 1, Ste. 1820
Syracuse, New York 13202

Prepared by:

Frontier Technical Associates, Inc.
8675 Main Street
Williamsville, New York 14221

The analytical test results reported herein were performed to professional standards of the NYSDOH ELAP program. The analytical data are for management use only, and except for regulatory compliance reporting, are not intended for any other purpose.

FRONTIER TECHNICAL ASSOCIATES INC.

TABLE OF CONTENTS

FRONTIER TECHNICAL ASSOCIATES INC.

QUARTERLY SAMPLING AND ANALYSIS REPORT
DUNKIRK FLYASH LANDFILL
(First Quarter 2020)

INTRODUCTION

NRG Dunkirk Power, LLC owns and operates the Dunkirk Solid Waste Management Facility (Dunkirk Flyash Landfill) for their exclusive use in the Town of Pomfret, New York. Wastes received at the landfill were limited to flyash, bottom ash, pyrites and wastewater treatment sludges from NRG Dunkirk fossil fuel combustion facilities.

The landfill is located on a 339.6 acre property (9 parcels) of land at the location shown on Figure 1. Figure 2 is an aerial photograph of the site. The landfill is on the south side of Van Buren Road and is surrounded by railroads, industrial, farmland and vacant properties. Landfill activities in the southern portion of the site as shown are complete as these cells are closed (Phase 1). The active cells (Phase 2) are in the north side of the site.

In response to the requirements of the EPA Coal Combustion Residue requirements, Frontier Technical Associates, Inc. has completed groundwater monitoring report for the First Quarter of 2020 for the Dunkirk Landfill. This analytical data report provides the information for reporting to the USEPA and NYSDEC. The monitoring included five monitoring wells.

SCOPE

This report presents the sampling and analytical results for the quarterly monitoring event at the NRG Dunkirk Landfill. Groundwater sampling and field measurements were performed by Frontier Technical Associates, Inc. and laboratory measurements were performed by Adirondack Environmental Services, Inc. Adirondack Environmental Services is a NYSDOH ELAP certified laboratory (ELAP No. 10709). Pace Analytical performed the radium testing and they are a NYSDOH ELAP certified laboratory (ELAP No. 10888). This report includes the following elements:

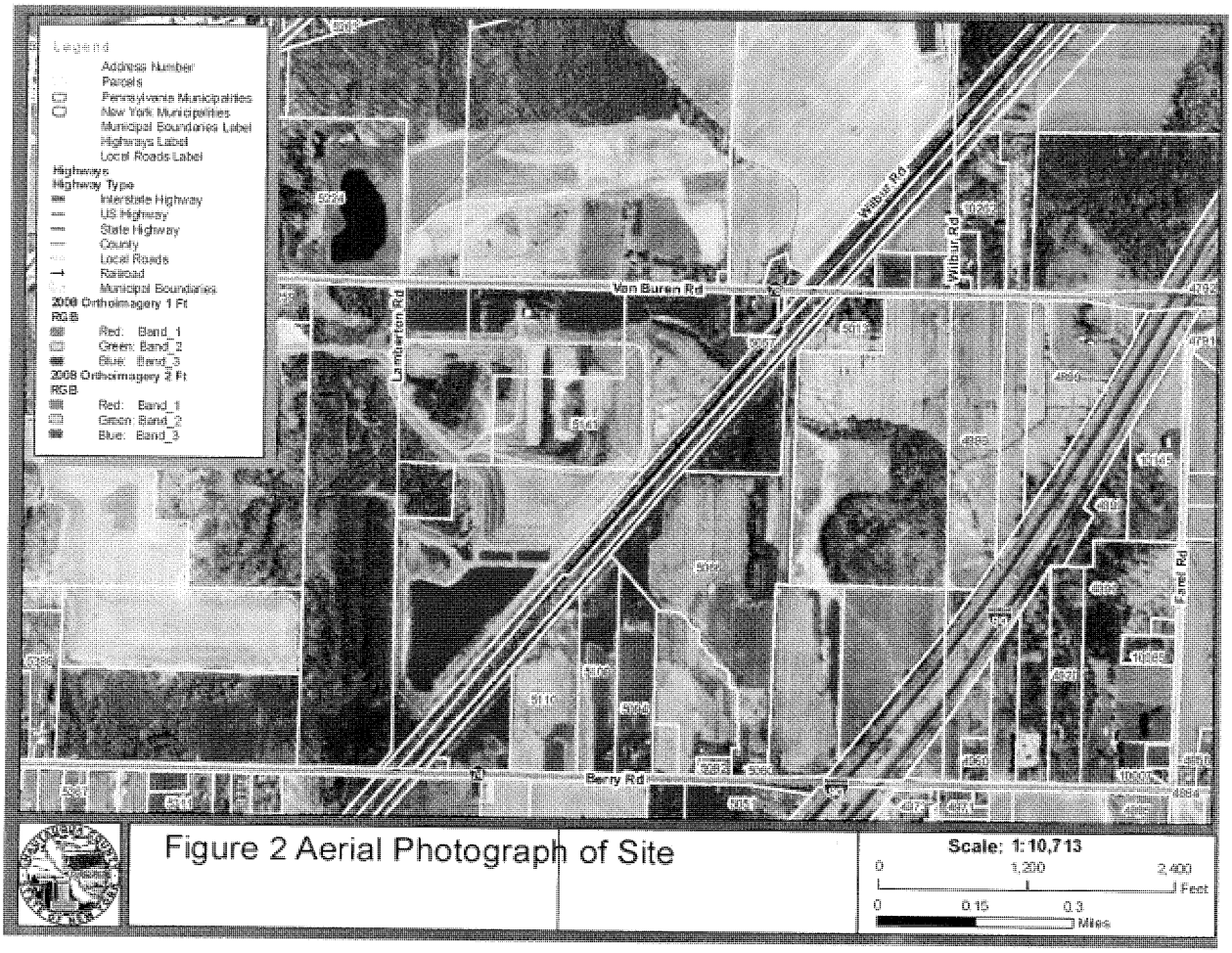
- Figures showing the location of the sampling points.
- Field data sheets showing the purging and sampling information and field measurements for pH, specific conductance, temperature and turbidity.

Figure 1. Site Location

Scale 1:72,224

0 8,100 16,200 Feet

0 1.5 3 Miles


Legend
Address Number
Parcels
Pennsylvania Municipalities
New York Municipalities
Municipal Boundaries Label
Highways Label
Local Roads Label
Highways
Highway Type
Interstate Highway
US Highway
State Highway
County
Local Roads
Railroad
Municipal Boundaries
2008 Orthoimagery 1 Ft
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
2008 Orthoimagery 2 Ft
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
Van Buren Rd
Wilbur Rd
Lamberton Rd
Berry Rd
Fanel Rd
Figure 2 Aerial Photograph of Site
Scale: 1:10,713
0
1,200
2,400
Feet
0
0.15
0.3
Miles

- Analytical methods and laboratories used.
- Data summary tables.
- Quality control and quality assurance data.
- Chain-of-custody records.
- Monitoring Point Assessment Forms

DATA QUALITY OBJECTIVES

The primary data quality objectives of the monitoring program are to obtain representative samples and accurate analytical results of the groundwater at the Dunkirk Landfill. The results are to be used in the assessment of the groundwater.

SITE HISTORY

NRG Dunkirk has operated this facility since 1999 and prior to that the site was owned and operated by Niagara Mohawk from 1988 to 1999. Over its operating history the facility has been developed in phases. Phase I of the facility located in the southern portion of the site consists of two cells. The two cells A & B, approximately 18.8 acres, have been filled to capacity and are closed and capped. Phase I is monitored by three (3) wells, OB-19-DG, OB-20-DG, and BR-20-DG, all located in a cluster northwest of Phase I.

Phase II is located immediately north of the Phase I development and consists of approximately 35 acres which is divided into three (3) cells. Phase II Cell A consists of approximately 11.4 acres and was constructed in 1993. This cell is nearing its capacity and was partially capped in 2001 and 2008. Phase II Cell B-1 was constructed in 2004 and Phase II Cell B-2 was constructed in 2010. The total acreage of Cell B is 11.6 acres and it is adjacent to and west of Phase II Cell A. Leachate from both Phase I and Phase II development drains to the sedimentation basins on the south side of the site.

MONITORING LOCATIONS

The locations of the monitoring points are shown on Figure 3. These wells are also used for monitoring under the NYSDEC Part 360 requirements. The NYSDEC monitoring includes additional soil profile wells, leachate collection monitoring, leachate monitoring and surface water

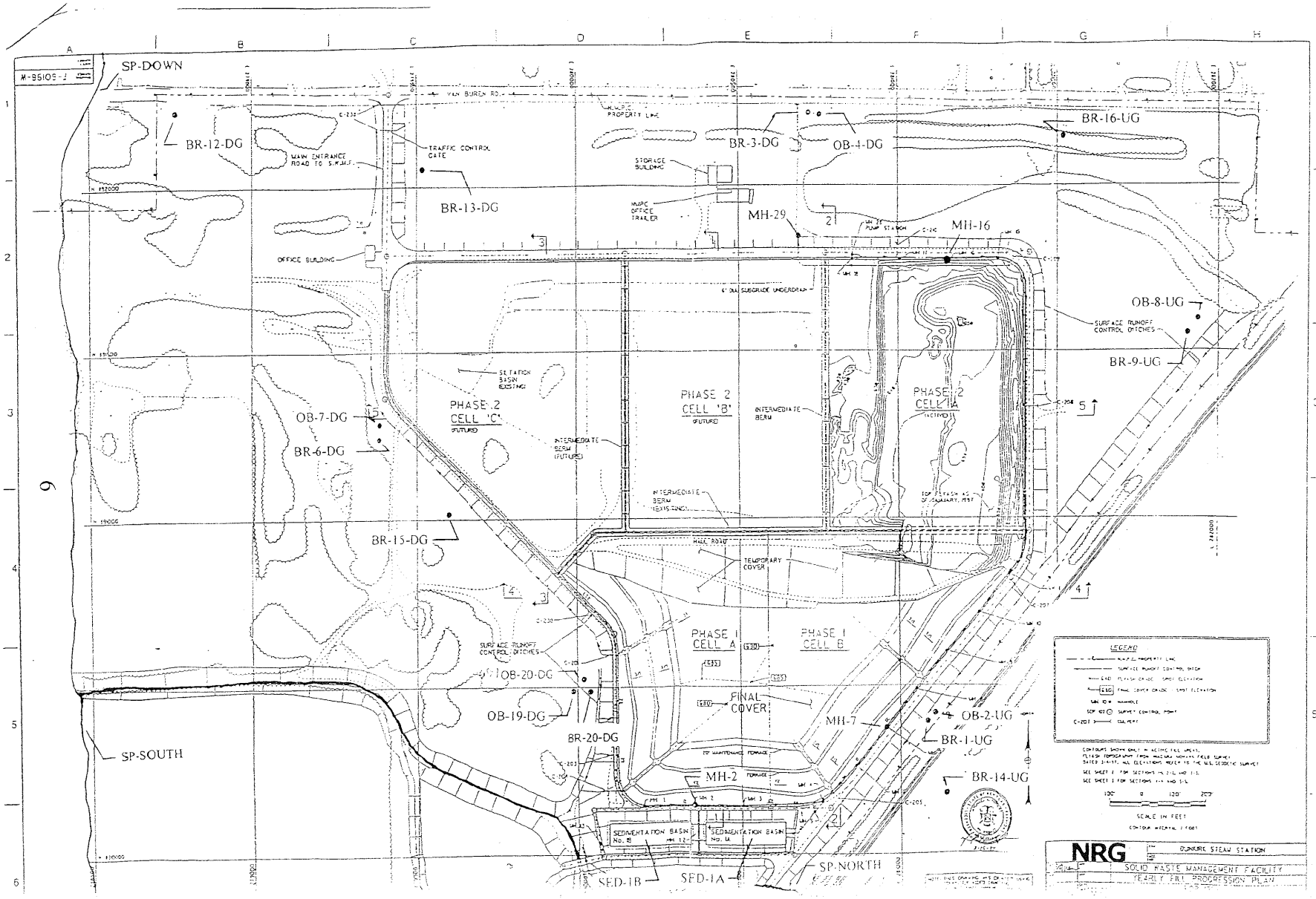


Figure 3- Monitoring Locations

monitoring. This additional data is reported to the NYSDEC under the provision of the Landfill Permit. The groundwater monitoring is sampled at the following locations:

BR-14-UG (up-gradient well of Phase 1 and Phase 2) – Bedrock Well

Downgradient Wells

BR-20-DG	Bedrock Well
BR-3-DG	Bedrock Well
BR-12-DG	Bedrock Well
BR-13-DG	Bedrock Well

GROUNDWATER ELEVATIONS

Groundwater elevations are measured quarterly in each of the wells. Table 1 is a summary of the groundwater elevations this quarter. Well BR-14-UG is the up-gradient well. Graphical representation of historical groundwater elevations can be found in the Appendix.

SAMPLING PERSONNEL

Field Crew – Kathy Wager and David Harty
Frontier Technical Associates, Inc.

SAMPLING EQUIPMENT AND CONTAINERS

The sampling equipment is constructed of inert materials. Dedicated tubing is used to obtain the samples. The tubing used is polyethylene food grade tubing. The tubing is stored in the well casing.

The sample containers are polyethylene or glass as required by the analytical protocols and are prepared by the laboratory performing the analysis. The samples are preserved as required by the analytical methods immediately in the field. The samples collected are placed under chain-of-custody and a chain-of-custody record is shipped with the samples. The sample date, time of collection, analytical parameters to be tested, sampler identification and times of possession are marked on the chain-of-custody record.

TABLE 1
GROUNDWATER ELEVATION DATA
NRG DUNKIRK LANDFILL
FIRST QUARTER 2020

MONITORING WELL	DATE	CASING ELEVATION (feet)	DEPTH TO WATER (feet)	WATER ELEVATION (feet)	WELL LENGTH (feet)	HEIGHT OF WATER COLUMN (feet)
BR-14-UG	2/11/2020	629.01	4.34	624.67	26.25	21.91
BR-3-DG	2/10/2020	618.20	3.35	614.85	18.75	15.40
BR-12-DG	2/10/2020	600.62	4.79	595.83	17.37	12.58
BR-13-DG	2/10/2020	607.41	3.86	603.55	19.21	15.35
BR-20-DG	2/10/2020	625.74	11.28	614.46	35.99	24.71

MONITORING POINT ASSESSMENT

Prior to purging and sampling at each of the wells, a physical assessment of the well is made to determine if the well is suitable. These monitoring point assessment forms are presented in the Appendix. All wells were determined to be in good condition.

WELL PURGING

The wells were purged with a peristaltic or submersible pump prior to sampling. The wells were purged to remove three standing well volumes of water or to dryness. The well purging information is recorded on the Field Observations Forms in the Appendix.

LABORATORIES

In accordance with the requirements of this project and the NYSDEC, Adirondack Environmental Services, Inc., (ELAP No. 10709) a NYSDOH ELAP certified laboratory, was contracted to perform the analyses for the samples collected. The EPA and Standard Methods analytical methods used are present in the laboratory report. The radium 226 and radium 228 are determined by Pace Analytical Services, Greensburg PA (ELAP No. 10888) under contract to Frontier Technical Associates.

FIELD INFORMATION

Field analyses were completed for pH, specific conductance, Eh, temperature and turbidity for each of the samples. These field data are summarized on Table 2. In general, the field parameters, pH, specific conductance, Eh, temperature and turbidity were typical of previous sampling episodes.

ANALYTICAL TESTING

The analytical parameters, results and test methods used are summarized in the Appendix. The appendices provide the following information:

- Laboratory Data Sheets
- QA/QC Documentation
- Field Data Sheets
- Chain-of-Custody Records

The complete data laboratory report for this sampling event is attached.

FRONTIER TECHNICAL ASSOCIATES INC.

TABLE 2
SUMMARY OF ANALYSIS OF CCR PARAMETERS
NRG Dunkirk Landfill
FIRST QUARTER 2020 - February 11, 2020

	CONCENTRATION (mg/l) unless noted					
	BR-14-UG	BR-3-DG	BR-12-DG	BR-13-DG	BR-20-DG	Field Dup BR-13-DG
Casing Elevation (feet)	629.01	618.20	600.62	607.41	625.74	*
Depth to Water (feet)	6.90	3.35	4.79	3.86	3.11	*
Water Elevation (feet)	622.11	614.85	595.83	603.55	622.63	*
Well Length (feet)	26.25	18.75	17.37	19.21	35.99	*
Height of Water Column (feet)	19.35	15.4	12.58	15.35	32.88	*
pH (SU)	7.21	6.93	6.78	6.78	7.73	*
Specific Conductance (umhos/cm)	539	596	778	625	937	*
Temp (F)	48	45	45	46	49	*
Turbidity (NTU)	28.3	32.1	34.4	2.88	2.12	*
Eh (MV)	-110	-94	-111	-172	12	*
Chloride	2.86	19.9	224	8.53	28.3	8.52
Fluoride	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Sulfate	58	163	147	99.1	< 4.00	99.3
TDS	355	520	785	470	630	570
Antimony	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0004	< 0.0004
Arsenic	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Barium	0.168	0.034	0.049	0.078	1.84	0.080
Beryllium	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Boron	0.195	0.137	0.092	0.173	1.47	0.177
Cadmium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Calcium	89.6	129	181	115	25.2	116
Chromium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Lead	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Lithium	< 0.050	< 0.050	0.057	< 0.050	0.139	< 0.050
Mercury, ng/l	< 0.5	1.4	< 0.5	< 0.5	< 0.5	< 0.5
Molybdenum	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Selenium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Thallium	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Radium 226, pCi/l	0.171	0.687	0.456	0.449	0.851	0.094
Radium 228, pCi/l	0.697	0.499	0.888	0.200	0.575	0.716

*: See parent sample

QA/QC

The elements of the QA/QC program for this round of sampling include the following:

- Case Narrative (See Appendix)
- Blind Duplicate (Well BR-13-DG)
- Method Blanks
- Matrix Spike/Matrix Spike Duplicate (Well BR-14-UG)

The impact these quality control samples had is discussed in the Case Narrative (See Appendix).

RESULTS

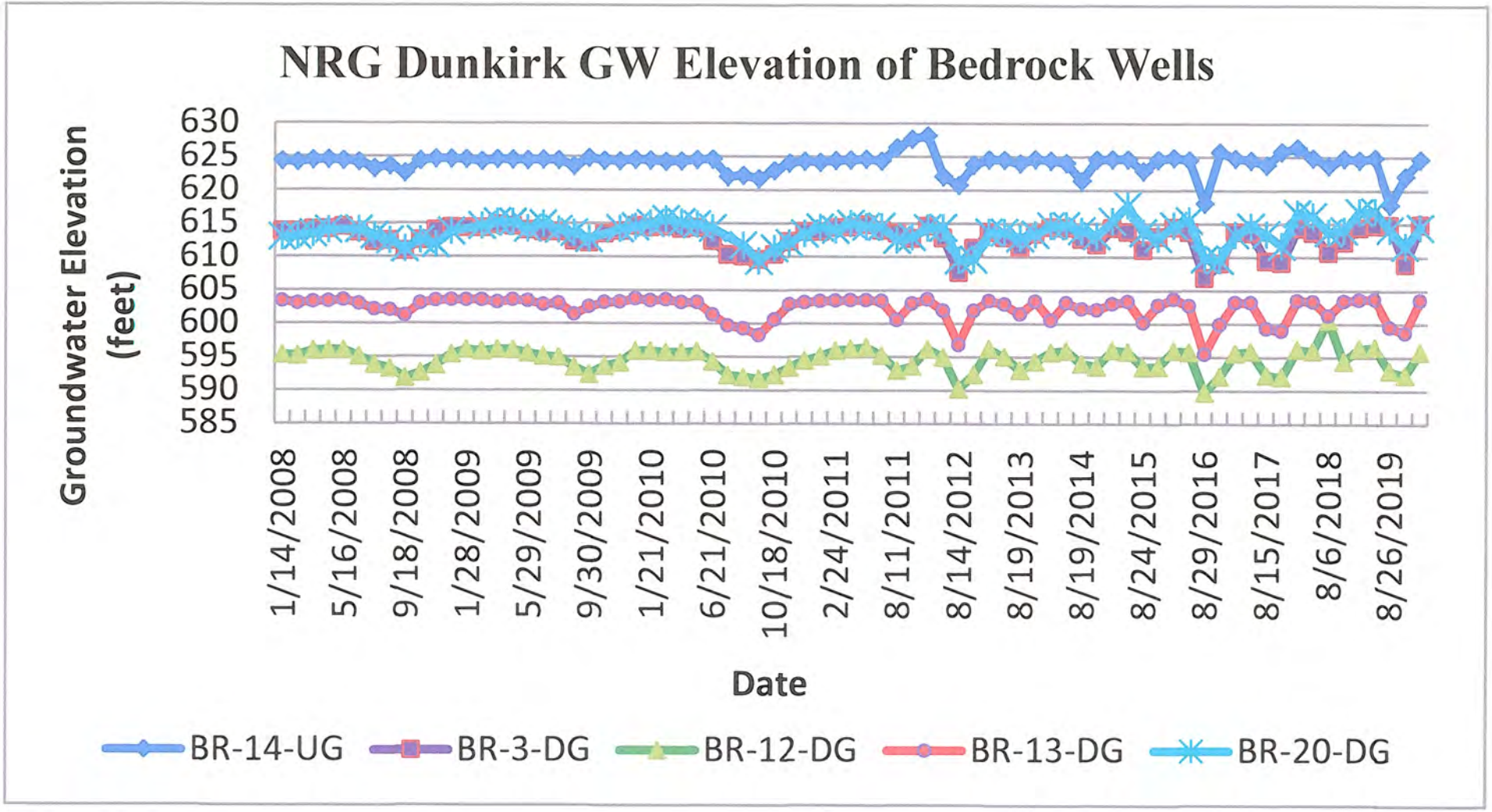
The analytical results are summarized in Table 2. The well samples were analyzed for the CCR Appendix IV parameters. The QA/QC on the data is acceptable. The data is to be evaluated after all the data under this program is gathered.

SUMMARY

The well monitoring was completed in accordance with the agreed on scope of work. The data will be summarized further for use under the CCR requirements.

APPENDIX

Graphical Representation of Groundwater Elevations
Well Monitoring Field Forms
Laboratory Reports
Chain-of-Custody Records


NRG Dunkirk GW Elevation of Bedrock Wells
Groundwater Elevation (feet)
630
625
620
615
610
605
600
595
590
585
1/14/2008
5/16/2008
9/18/2008
1/28/2009
5/29/2009
9/30/2009
1/21/2010
6/21/2010
10/18/2010
2/24/2011
8/11/2011
8/14/2012
8/19/2013
8/19/2014
8/24/2015
8/29/2016
8/15/2017
8/6/2018
8/26/2019
Date
BR-14-UG
BR-3-DG
BR-12-DG
BR-13-DG
BR-20-DG

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: BR-3-DG Date: 2/10/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 18.75 ft

Depth to Water Surface: 3.35 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 15.4 ft Elevation of Casing: 618.15

Volume of Standing Water in Well: 10.2 gallons

Start of Purge – Time: 10:08

End of Purge – Time: 11:31

Total Volume Purged: 30.4 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					10.2	20.4	30.6		2/11/20
Time	--	--	10:08		10:38	10:52	11:31		12:15
pH	Oakton pH 300	SM 18-20 4500HB	7.06		7.18	7.12	7.14		6.93
Spec. Conductance	Oakton COM 5	EPA 120.1	885		864	804	797		596
Temperature	Oakton COM 5	SM 18-20 2550B	47		46	48	48		45
Eh	ORP tester	ASTM D1498	-132		-128	-177	-204		-94
Turbidity	Hach 2100P	EPA 180.1	113		103	299	14.5		32.1
Appearance	--	--	tan		sl tan	tan	clear		sl. cloudy

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 8.05 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: H_2S odor

Sampling Personnel: Kathy Wagner

Sampling Personnel Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: BR-12-DG Date: 2/10/20

Purge Information Purge Method: Bailer, (Peristaltic) Pump

Depth to Bottom of Well: 17.37 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 4.79 ft

Depth of Water Column: 12.58 ft Elevation of Casing: 600.65

Volume of Standing Water in Well: 2.1 gallons

Start of Purge – Time: 9:47

End of Purge – Time: 10:00

Total Volume Purged: 6.3 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.1		4.2	6.3	2/11/20
Time	--	--	9:45		9:52		9:56	10:00	12:03
pH	Oakton pH 300	SM 18-20 4500HB	7.09		6.92		6.82	6.90	6.78
Spec. Conductance	Oakton CON 5	EPA 120.1	1342		1316		1312	1313	778
Temperature	Oakton CON 5	SM 18-20 2550B	46		47		47	46	45
Eh	ORP tester	ASTM D1498	-117		-175		-180	-186	-111
Turbidity	Hach 2100P	EPA 180.1	4.35		3.28		1.41	1.62	34.4
Appearance	--	--	Clear		Clear		Clear	Clear	Clear

NYSDOH ELAP No. 10475 Values in parenthesis are duplicate values

Depth to Water: 7.50 ft. Sample Method: Bailer (Peristaltic) Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: H_2S odor

Sampling Personnel: Kathy Wagner

Sampling Personnel Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.

8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sed. Basin No. 2 Well Project No.: ET-1066

Sample Point I.D.: BR-13-DG Date: 2/10/20

Purge Information Purge Method: Bailer, (Peristaltic) Pump

Depth to Bottom of Well: 19.21 ft

Depth to Water Surface: 3.86 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 15.35 ft Elevation of Casing: 607.42

Volume of Standing Water in Well: 10.1 gallons

Start of Purge – Time: 12:10

End of Purge – Time: 1:35

Total Volume Purged: 30.3 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					10.1	20.2	30.3		2/11/20
Time	--	--	12:10		12:37	1:05	1:35		11:50
pH	Oakton pH 300	SM 18-20 4500HB	6.88 (6.88)		6.99	7.06	6.93		6.78
Spec. Conductance	Oakton CON 5	EPA 120.1	858		872	865	864		685
Temperature	Oakton CON 5	SM 18-20 2550B	45 (45)		46	47	47		46
Eh	ORP tester	ASTM D1498	-151		-182	-203	-221		-172
Turbidity	Hach 2100P	EPA 180.1	7.88		2.31	1.47	1.04		2.88
Appearance	--	--	clear		clear	clear	clear		clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 8.20 ft. Sample Method: Bailer (Peristaltic) Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: H_2S odor

pump

Sampling Personnel: Kathy Wager

Sampling Personnel Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I & II Well Project No.: ET-1066

Sample Point I.D.: BR-14-UG Date: 2/11/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 26.25 ft

Depth to Water Surface: 4.34 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 21.91 ft Elevation of Casing: 629.01

Volume of Standing Water in Well: 14.5 gallons

Start of Purge – Time: 9:54

End of Purge – Time: 10:18

Total Volume Purged: 23.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					14.5				23.5
Time	--	--	9:55		10:07				10:18
pH	Oakton pH 300	SM 18-20 4500HB	7.08		7.06				7.21 (7.21)
Spec. Conductance	Oakton CON 5	EPA 120.1	658		549				539
Temperature	Oakton CON 5	SM 18-20 2550B	47		48				48
Eh	ORP tester	ASTM D1498	41		-159				-110
Turbidity	Hach 2100P	EPA 180.1	1.71		2.04				28.3
Appearance	--	--	clear		clear				Sl. cloudy

NYSDOH ELAP No. 10475; Values in parenthesis are duplicate values

Depth to Water: 18.82 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: MS/MSD

Sampling Personnel: Kathy Wager

Sampling Personnel Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: BR-20-DG Date: 2/10/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 35.99 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 11.28 ft

Depth of Water Column: 24.71 ft Elevation of Casing: 625.43

Volume of Standing Water in Well: 4.2 gallons

Start of Purge – Time: 11:31

End of Purge – Time: 11:42

Total Volume Purged: 6.0 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					4.2				2/11/20
Time	--	--	11:32		11:39				11:30
pH	Oakton pH 300	SM 18-20 4500HB	7.59		7.63				7.43
Spec. Conductance	Oakton CON 6+	EPA 120.1	105		891				937
Temperature	emi 550	SM 18-20 2550B	48		52				49
Eh	ORP tester	ASTM D1498	73		52				12
Turbidity	Hach 2100P	EPA 180.1	10.8		21.8				2.12
Appearance	--	--	Clear		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 17.62 ft. Sample Method: Bailer ~~Peristaltic~~ Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Harty

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BZ-3-DG Date: 2/10/20

Inspectors Name (Print): Kathy Wagner
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

_____

_____

Inspector's Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-13-DG Date: 2/10/00

Inspectors Name (Print): Kathy Wager
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

_____

_____

Inspector's Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-12-DG Date: 2/10/20

Inspectors Name (Print): Kathy Wagner
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

Inspector's Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-14-UG Date: 2/11/20

Inspectors Name (Print): Kathy Wager
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

Inspector's Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-20-DG Date: 2/10/20

Inspectors Name (Print): David Hark
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

Inspector's Signature: _____

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

March 02, 2020

David Harty
Frontier Technical Associates
8675 Main Street
Buffalo, NY 14221

RE: Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Dear David Harty:
Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebeka K. Smith
rebeka.smith@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Kathy Wager, Frontier Technical Associates, Inc.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70121827001	BR-14-UG	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70121827002	BG-13-DG	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70121827003	BR-12-DG	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70121827004	BR-3-DG	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70121827005	BR-20-DG	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70121827006	DUP	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: BR-14-UG **Lab ID: 70121827001** Collected: 02/11/20 10:18 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.171 ± 0.261 (0.420) C:NA T:83%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.697 ± 0.387 (0.710) C:82% T:85%**	pCi/L	02/28/20 10:51	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: BG-13-DG **Lab ID: 70121827002** Collected: 02/11/20 11:50 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.449 ± 0.352 (0.414) C:NA T:84%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.200 ± 0.362 (0.792) C:77% T:85%**	pCi/L	02/28/20 13:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: BR-12-DG **Lab ID: 70121827003** Collected: 02/11/20 12:03 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.456 ± 0.334 (0.373) C:NA T:92%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.888 ± 0.428 (0.740) C:78% T:89%**	pCi/L	02/28/20 13:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: BR-3-DG **Lab ID: 70121827004** Collected: 02/11/20 12:15 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.687 ± 0.382 (0.143) C:NA T:84%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.499 ± 0.372 (0.728) C:80% T:84%**	pCi/L	02/28/20 13:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: BR-20-DG **Lab ID: 70121827005** Collected: 02/11/20 11:30 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.851 ± 0.519 (0.611) C:NA T:90%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.575 ± 0.362 (0.688) C:82% T:89%**	pCi/L	02/28/20 10:51	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Sample: DUP **Lab ID: 70121827006** Collected: 02/11/20 00:00 Received: 02/14/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0944 ± 0.216 (0.348) C:NA T:92%**	pCi/L	02/28/20 13:20	13982-63-3	
Radium-228	EPA 904.0	**0.716 ± 0.384 (0.693) C:80% T:88%**	pCi/L	02/28/20 10:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

QC Batch: 384311 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 70121827001, 70121827002, 70121827003, 70121827004, 70121827005, 70121827006

METHOD BLANK: 1862124 Matrix: Water
Associated Lab Samples: 70121827001, 70121827002, 70121827003, 70121827004, 70121827005, 70121827006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.148 ± 0.306 (0.675) C:82% T:86%	pCi/L	02/28/20 10:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

QC Batch: 384310 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 70121827001, 70121827002, 70121827003, 70121827004, 70121827005, 70121827006

METHOD BLANK: 1862122 Matrix: Water
Associated Lab Samples: 70121827001, 70121827002, 70121827003, 70121827004, 70121827005, 70121827006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.124 ± 0.244 (0.445) C:NA T:85%	pCi/L	02/28/20 13:20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT ND LANDFILL
Pace Project No.: 70121827

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70121827001	BR-14-UG	EPA 903.1	384310		
70121827002	BG-13-DG	EPA 903.1	384310		
70121827003	BR-12-DG	EPA 903.1	384310		
70121827004	BR-3-DG	EPA 903.1	384310		
70121827005	BR-20-DG	EPA 903.1	384310		
70121827006	DUP	EPA 903.1	384310		
70121827001	BR-14-UG	EPA 904.0	384311		
70121827002	BG-13-DG	EPA 904.0	384311		
70121827003	BR-12-DG	EPA 904.0	384311		
70121827004	BR-3-DG	EPA 904.0	384311		
70121827005	BR-20-DG	EPA 904.0	384311		
70121827006	DUP	EPA 904.0	384311		

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder Label Here

Pace Workorder Number or

WO#: 70121827

USE ONLY

Project Manager: EHS

Company: Frontier Technical Associates, Inc.	Billing Information: same
Address: 8675 Main Street, Williamsville, NY 14221	
Report To: Kathy Wager	Email To: kathy.wager@frontiertechnical.com
Copy To:	Site Collection Info/Address: PLANT ND LF
Customer Project Name/Number: Plant ND Landfill	State: NY / County/City: / Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]
Phone: 716-634-2293 Email:	Site/Facility ID #: / Compliance Monitoring? [X] Yes [ ] No
Collected By (print): Kathy Wager	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): Kathy Wager	Turnaround Date Required: STANDARD / Immediately Packed on Ice: [ ] Yes [X] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [X] No / Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Radium 226/228
BR-14-ug	GW	G			2/11/20	1615		2	X
BR-13-DG	GW	G				1150		2	X
BR-12-DG	GW	G				1203		2	X
BR-3-DG	GW	G				1215		2	X
BR-20-DG	GW	G				1130		2	X
Dup	GW	G			✓	—		2	X

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:		
Custody Seals Present/Intact:	Y N	NA
Custody Signatures Present:	Y N	NA
Collector Signature Present:	Y N	NA
Bottles Intact:	Y N	NA
Correct Bottles:	Y N	NA
Sufficient Volume:	Y N	NA
Samples Received on Ice:	Y N	NA
VOA - Headspace Acceptable:	Y N	NA
USDA Regulated Soils:	Y N	NA
Samples in Holding Time:	Y N	
Residual Chlorine Present:	Y N	
Cl Strips:		
Sample pH Acceptable:	Y N	NA
pH Strips:		
Sulfide Present:	Y N	NA
Lead Acetate Strips:		

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 7777 6520 1134

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: IR21

Cooler 1 Temp Upon Receipt: 2.7

Cooler 1 Therm Corr. Factor: .3

Cooler 1 Corrected Temp: 3.0

Comments:

Relinquished by/Company: (Signature) Kathy Wager FTA	Date/Time: 2/13/20 1034	Received by/Company: (Signature) Ruben Pace
Relinquished by/Company: (Signature) Ruben Pace	Date/Time: 2/13/20 1200	Received by/Company: (Signature) Pace
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)

Date/Time: 2/13/20 1034

Date/Time: 2/14/20 10:30

Date/Time:

MTJL LAB USE ONLY

Table #:

Acctnum:

Template:

Prelogin:

PM:

PB:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

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

February 27, 2020

Kathy Wager
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221
TEL: (716) 634-2293

Work Order No: 200212024

RE: Plant ND GW

Dear Kathy Wager:

Adirondack Environmental Services, Inc received 11 samples on 2/12/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Monica Higdon
Laboratory Manager

CC:
MS/MSD Report

Adirondack Environmental Services, Inc — CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:**	*27-Feb-20*
Project:	Plant ND GW		
Lab Order:	200212024		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: BR-14-UG
Collection Date: 2/11/2020 10:18:00 AM
Lab Sample ID: 200212024-001
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (**Prep: 1631E - 2/18/2020**)						Analyst: **WB**
Mercury	**ND**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (**Prep: - 2/13/2020**)						Analyst: **SM**
Antimony	**ND**	0.0004		mg/L	1	2/19/2020 4:25:01 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 4:25:01 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 4:25:01 PM
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**376**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:08:00 PM
Barium	**0.168**	0.010	Z	mg/L	1	2/26/2020 3:08:00 PM
Boron	**0.195**	0.050	Z	mg/L	1	2/26/2020 3:08:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:08:00 PM
Calcium	**89.6**	0.050		mg/L	1	2/26/2020 3:08:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:08:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:08:00 PM
Iron	**0.099**	0.050	Z	mg/L	1	2/26/2020 3:08:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:08:00 PM
Lithium	**ND**	0.050		mg/L	1	2/26/2020 3:08:00 PM
Magnesium	**37.0**	0.050		mg/L	1	2/26/2020 3:08:00 PM
Manganese	**0.025**	0.020	Z	mg/L	1	2/26/2020 3:08:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:08:00 PM
Potassium	**4.24**	0.050		mg/L	1	2/26/2020 3:08:00 PM
Selenium	**ND**	0.005	N	mg/L	1	2/26/2020 3:08:00 PM
Sodium	**26.2**	0.050	Z	mg/L	1	2/26/2020 3:08:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005	N	mg/L	1	2/21/2020 3:12:00 PM
Barium, Dissolved	**0.181**	0.010	Z	mg/L	1	2/21/2020 3:12:00 PM
Boron, Dissolved	**0.171**	0.050	Z	mg/L	1	2/21/2020 3:12:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 3:12:00 PM
Calcium, Dissolved	**92.8**	0.050		mg/L	1	2/21/2020 3:12:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	2/21/2020 3:12:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 3:12:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-14-UG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 10:18:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**38.8**	0.050		mg/L	1	2/21/2020 3:12:00 PM
Manganese, Dissolved	**0.022**	0.020		mg/L	1	2/21/2020 3:12:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 3:12:00 PM
Potassium, Dissolved	**4.44**	0.050		mg/L	1	2/21/2020 3:12:00 PM
Selenium, Dissolved	**ND**	0.005	N	mg/L	1	2/21/2020 3:12:00 PM
Sodium, Dissolved	**26.8**	0.050		mg/L	1	2/21/2020 3:12:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	2/13/2020 2:26:39 AM
Chloride	**2.86**	2.00		mg/L	2	2/13/2020 2:26:39 AM
Nitrate, Nitrogen (As N)	**0.04**	0.04		mg/L	2	2/13/2020 2:26:39 AM
Sulfate	**58.0**	4.00		mg/L	2	2/13/2020 2:26:39 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**340**	10		mgCaCO3/L	1	2/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.8**	0.1		mg/L	1	2/21/2020 10:45:09 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:12:17 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**355**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 2:35:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-3-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 12:15:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (Prep: 1631E - 2/18/2020)						Analyst: **WB**
Mercury	**1.4**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (Prep: - 2/13/2020)						Analyst: **SM**
Antimony	**ND**	0.0004		mg/L	1	2/19/2020 4:39:55 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 4:39:55 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 4:39:55 PM
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**499**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:23:00 PM
Barium	**0.034**	0.010		mg/L	1	2/26/2020 3:23:00 PM
Boron	**0.137**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:23:00 PM
Calcium	**129**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:23:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Iron	**1.11**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:23:00 PM
Lithium	**ND**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Magnesium	**42.8**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Manganese	**1.12**	0.020		mg/L	1	2/26/2020 3:23:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:23:00 PM
Potassium	**3.25**	0.050		mg/L	1	2/26/2020 3:23:00 PM
Selenium	**ND**	0.005		mg/L	1	2/26/2020 3:23:00 PM
Sodium	**17.4**	0.050		mg/L	1	2/26/2020 3:23:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic, Dissolved	**0.006**	0.005		mg/L	1	2/21/2020 3:57:00 PM
Barium, Dissolved	**0.034**	0.010		mg/L	1	2/21/2020 3:57:00 PM
Boron, Dissolved	**0.121**	0.050		mg/L	1	2/21/2020 3:57:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 3:57:00 PM
Calcium, Dissolved	**128**	0.050		mg/L	1	2/21/2020 3:57:00 PM
Iron, Dissolved	**0.557**	0.050		mg/L	1	2/21/2020 3:57:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 3:57:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-3-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 12:15:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**43.2**	0.050		mg/L	1	2/21/2020 3:57:00 PM
Manganese, Dissolved	**1.07**	0.020		mg/L	1	2/21/2020 3:57:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 3:57:00 PM
Potassium, Dissolved	**3.35**	0.050		mg/L	1	2/21/2020 3:57:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 3:57:00 PM
Sodium, Dissolved	**17.7**	0.050		mg/L	1	2/21/2020 3:57:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	2/13/2020 4:23:14 AM
Chloride	**19.9**	2.00		mg/L	2	2/13/2020 4:23:14 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 4:23:14 AM
Sulfate	**163**	4.00		mg/L	2	2/13/2020 4:23:14 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**320**	10		mgCaCO3/L	1	2/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.3**	0.1		mg/L	1	2/21/2020 10:38:39 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:16:18 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**520**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.0**	1.0		mg/L	1	2/25/2020 3:46:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: BR-12-DG
Collection Date: 2/11/2020 12:03:00 PM
Lab Sample ID: 200212024-003
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (**Prep: 1631E - 2/18/2020**)						Analyst: **WB**
Mercury	**ND**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (**Prep: - 2/13/2020**)						Analyst: **SM**
Antimony	**ND**	0.0004		mg/L	1	2/19/2020 4:43:39 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 4:43:39 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 4:43:39 PM
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**729**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:27:00 PM
Barium	**0.049**	0.010		mg/L	1	2/26/2020 3:27:00 PM
Boron	**0.092**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:27:00 PM
Calcium	**181**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:27:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Iron	**ND**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:27:00 PM
Lithium	**ND**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Magnesium	**67.4**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Manganese	**0.221**	0.020		mg/L	1	2/26/2020 3:27:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:27:00 PM
Potassium	**4.48**	0.050		mg/L	1	2/26/2020 3:27:00 PM
Selenium	**ND**	0.005		mg/L	1	2/26/2020 3:27:00 PM
Sodium	**21.2**	0.050		mg/L	1	2/26/2020 3:27:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:02:00 PM
Barium, Dissolved	**0.050**	0.010		mg/L	1	2/21/2020 4:02:00 PM
Boron, Dissolved	**0.084**	0.050		mg/L	1	2/21/2020 4:02:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:02:00 PM
Calcium, Dissolved	**187**	0.050		mg/L	1	2/21/2020 4:02:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	2/21/2020 4:02:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:02:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-12-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 12:03:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-003
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**70.2**	0.050		mg/L	1	2/21/2020 4:02:00 PM
Manganese, Dissolved	**0.221**	0.020		mg/L	1	2/21/2020 4:02:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 4:02:00 PM
Potassium, Dissolved	**4.83**	0.050		mg/L	1	2/21/2020 4:02:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:02:00 PM
Sodium, Dissolved	**22.2**	0.050		mg/L	1	2/21/2020 4:02:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	2/13/2020 4:42:17 AM
Chloride	**224**	10.0		mg/L	10	2/24/2020 10:56:58 PM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 4:42:17 AM
Sulfate	**147**	4.00		mg/L	2	2/13/2020 4:42:17 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**320**	10		mgCaCO3/L	1	2/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.4**	0.1		mg/L	1	2/21/2020 10:50:06 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:17:39 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**785**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 4:02:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: BR-13-DG
Collection Date: 2/11/2020 11:50:00 AM
Lab Sample ID: 200212024-004
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (**Prep: 1631E - 2/18/2020**)						Analyst: **WB**
Mercury	**ND**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (**Prep: - 2/13/2020**)						Analyst: **SM**
Antimony	**ND**	0.0004		mg/L	1	2/19/2020 4:47:22 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 4:47:22 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 4:47:22 PM
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**451**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:30:00 PM
Barium	**0.078**	0.010		mg/L	1	2/26/2020 3:30:00 PM
Boron	**0.173**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:30:00 PM
Calcium	**115**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:30:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Iron	**ND**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:30:00 PM
Lithium	**0.057**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Magnesium	**39.9**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Manganese	**0.091**	0.020		mg/L	1	2/26/2020 3:30:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:30:00 PM
Potassium	**3.79**	0.050		mg/L	1	2/26/2020 3:30:00 PM
Selenium	**ND**	0.005		mg/L	1	2/26/2020 3:30:00 PM
Sodium	**44.8**	0.050		mg/L	1	2/26/2020 3:30:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic, Dissolved	**0.007**	0.005		mg/L	1	2/21/2020 4:07:00 PM
Barium, Dissolved	**0.078**	0.010		mg/L	1	2/21/2020 4:07:00 PM
Boron, Dissolved	**0.152**	0.050		mg/L	1	2/21/2020 4:07:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:07:00 PM
Calcium, Dissolved	**119**	0.050		mg/L	1	2/21/2020 4:07:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	2/21/2020 4:07:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:07:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: BR-13-DG
Collection Date: 2/11/2020 11:50:00 AM
Lab Sample ID: 200212024-004
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**41.5**	0.050		mg/L	1	2/21/2020 4:07:00 PM
Manganese, Dissolved	**0.092**	0.020		mg/L	1	2/21/2020 4:07:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 4:07:00 PM
Potassium, Dissolved	**3.93**	0.050		mg/L	1	2/21/2020 4:07:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:07:00 PM
Sodium, Dissolved	**46.2**	0.050		mg/L	1	2/21/2020 4:07:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	2/13/2020 5:01:19 AM
Chloride	**8.53**	2.00		mg/L	2	2/13/2020 5:01:19 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 5:01:19 AM
Sulfate	**99.1**	4.00		mg/L	2	2/13/2020 5:01:19 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**410**	10		mgCaCO3/L	1	2/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.4**	0.1		mg/L	1	2/21/2020 10:51:43 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:18:59 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**470**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 4:19:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:30:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-005
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (Prep: 1631E - 2/18/2020)						Analyst: **WB**
Mercury	**ND**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (Prep: - 2/13/2020)						Analyst: **SM**
Antimony	**0.0004**	0.0004		mg/L	1	2/19/2020 4:58:34 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 4:58:34 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 4:58:34 PM
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**97**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:35:00 PM
Barium	**1.84**	0.010		mg/L	1	2/26/2020 3:35:00 PM
Boron	**1.47**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:35:00 PM
Calcium	**25.2**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:35:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Iron	**ND**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:35:00 PM
Lithium	**0.139**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Magnesium	**8.20**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Manganese	**ND**	0.020		mg/L	1	2/26/2020 3:35:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:35:00 PM
Potassium	**8.66**	0.050		mg/L	1	2/26/2020 3:35:00 PM
Selenium	**ND**	0.005		mg/L	1	2/26/2020 3:35:00 PM
Sodium	**228**	0.500		mg/L	10	2/26/2020 3:52:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:11:00 PM
Barium, Dissolved	**1.83**	0.010		mg/L	1	2/21/2020 4:11:00 PM
Boron, Dissolved	**1.32**	0.050		mg/L	1	2/21/2020 4:11:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:11:00 PM
Calcium, Dissolved	**24.6**	0.050		mg/L	1	2/21/2020 4:11:00 PM
Iron, Dissolved	**0.093**	0.050		mg/L	1	2/21/2020 4:11:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:11:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: BR-20-DG
Collection Date: 2/11/2020 11:30:00 AM
Lab Sample ID: 200212024-005
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**8.35**	0.050		mg/L	1	2/21/2020 4:11:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	2/21/2020 4:11:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 4:11:00 PM
Potassium, Dissolved	**9.13**	0.050		mg/L	1	2/21/2020 4:11:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:11:00 PM
Sodium, Dissolved	**262**	0.500		mg/L	10	2/21/2020 4:15:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**0.40**	0.20		mg/L	2	2/13/2020 5:20:20 AM
Chloride	**28.3**	2.00		mg/L	2	2/13/2020 5:20:20 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 5:20:20 AM
Sulfate	**ND**	4.00		mg/L	2	2/13/2020 5:20:20 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**610**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**2.2**	0.5		mg/L	5	2/21/2020 11:40:00 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:20:20 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**630**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 5:09:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: DUP
Collection Date: 2/11/2020
Lab Sample ID: 200212024-006
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E (**Prep: 1631E - 2/18/2020**)						Analyst: **WB**
Mercury	**ND**	0.5		ng/L	1	2/19/2020
ICP/MS - EPA 200.8 REV 5.4 (**Prep: - 2/13/2020**)						Analyst: **SM**
Antimony	**ND**	0.0004		mg/L	1	2/19/2020 5:02:18 PM
Beryllium	**ND**	0.0003		mg/L	1	2/19/2020 5:02:18 PM
Thallium	**ND**	0.0003		mg/L	1	2/19/2020 5:02:18 PM
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**458**	5		mg/L CaCO3	1	2/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/26/2020 3:56:00 PM
Barium	**0.080**	0.010		mg/L	1	2/26/2020 3:56:00 PM
Boron	**0.177**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/26/2020 3:56:00 PM
Calcium	**116**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Chromium	**ND**	0.005		mg/L	1	2/26/2020 3:56:00 PM
Cobalt	**ND**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Iron	**ND**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Lead	**ND**	0.005		mg/L	1	2/26/2020 3:56:00 PM
Lithium	**ND**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Magnesium	**40.8**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Manganese	**0.091**	0.020		mg/L	1	2/26/2020 3:56:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/26/2020 3:56:00 PM
Potassium	**3.92**	0.050		mg/L	1	2/26/2020 3:56:00 PM
Selenium	**ND**	0.005		mg/L	1	2/26/2020 3:56:00 PM
Sodium	**45.7**	0.050		mg/L	1	2/26/2020 3:56:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic, Dissolved	**0.006**	0.005		mg/L	1	2/21/2020 4:23:00 PM
Barium, Dissolved	**0.079**	0.010		mg/L	1	2/21/2020 4:23:00 PM
Boron, Dissolved	**0.155**	0.050		mg/L	1	2/21/2020 4:23:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:23:00 PM
Calcium, Dissolved	**120**	0.050		mg/L	1	2/21/2020 4:23:00 PM
Iron, Dissolved	**0.051**	0.050		mg/L	1	2/21/2020 4:23:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:23:00 PM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	DUP
Work Order:	**200212024**	**Collection Date:**	2/11/2020
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-006
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Magnesium, Dissolved	**42.1**	0.050		mg/L	1	2/21/2020 4:23:00 PM
Manganese, Dissolved	**0.092**	0.020		mg/L	1	2/21/2020 4:23:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 4:23:00 PM
Potassium, Dissolved	**4.02**	0.050		mg/L	1	2/21/2020 4:23:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:23:00 PM
Sodium, Dissolved	**46.9**	0.050		mg/L	1	2/21/2020 4:23:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	2/13/2020 5:39:23 AM
Chloride	**8.52**	2.00		mg/L	2	2/13/2020 5:39:23 AM
Nitrate, Nitrogen (As N)	**0.05**	0.04		mg/L	2	2/13/2020 5:39:23 AM
Sulfate	**99.3**	4.00		mg/L	2	2/13/2020 5:39:23 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**410**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.4**	0.1		mg/L	1	2/21/2020 10:54:57 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/21/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	2/21/2020 4:24:14 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**570**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 5:26:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-2-UG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 10:50:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-007
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**538**	5		mg/L CaCO3	1	2/21/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/21/2020 1:47:00 PM
Barium	**0.018**	0.010		mg/L	1	2/21/2020 1:47:00 PM
Boron	**ND**	0.050		mg/L	1	2/21/2020 1:47:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/21/2020 1:47:00 PM
Calcium	**146**	0.050		mg/L	1	2/21/2020 1:47:00 PM
Iron	**0.226**	0.050		mg/L	1	2/21/2020 1:47:00 PM
Lead	**ND**	0.005		mg/L	1	2/21/2020 1:47:00 PM
Magnesium	**42.1**	0.050		mg/L	1	2/21/2020 1:47:00 PM
Manganese	**ND**	0.020		mg/L	1	2/21/2020 1:47:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/21/2020 1:47:00 PM
Potassium	**0.470**	0.050		mg/L	1	2/21/2020 1:47:00 PM
Selenium	**ND**	0.005		mg/L	1	2/21/2020 1:47:00 PM
Sodium	**5.88**	0.050		mg/L	1	2/21/2020 1:47:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic, Dissolved	**0.007**	0.005		mg/L	1	2/21/2020 4:28:00 PM
Barium, Dissolved	**0.018**	0.010		mg/L	1	2/21/2020 4:28:00 PM
Boron, Dissolved	**ND**	0.050		mg/L	1	2/21/2020 4:28:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:28:00 PM
Calcium, Dissolved	**154**	0.050		mg/L	1	2/21/2020 4:28:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	2/21/2020 4:28:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:28:00 PM
Magnesium, Dissolved	**43.3**	0.050		mg/L	1	2/21/2020 4:28:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	2/21/2020 4:28:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/21/2020 4:28:00 PM
Potassium, Dissolved	**0.482**	0.050		mg/L	1	2/21/2020 4:28:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/21/2020 4:28:00 PM
Sodium, Dissolved	**6.11**	0.050		mg/L	1	2/21/2020 4:28:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**ND**	2.00		mg/L	2	2/13/2020 5:58:25 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 5:58:25 AM
Sulfate	**367**	10.0		mg/L	10	2/25/2020 12:52:39 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-2-UG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 10:50:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-007
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**170**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	2/21/2020 10:56:34 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) **(Prep: Method - 2/24/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**0.005**	0.004		mg/L	1	2/26/2020 3:55:09 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**705**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.9**	1.0		mg/L	1	2/25/2020 5:42:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-4-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 12:22:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-008
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**124**	5		mg/L CaCO3	1	2/21/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/21/2020 1:52:00 PM
Barium	**0.031**	0.010		mg/L	1	2/21/2020 1:52:00 PM
Boron	**ND**	0.050		mg/L	1	2/21/2020 1:52:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/21/2020 1:52:00 PM
Calcium	**36.7**	0.050		mg/L	1	2/21/2020 1:52:00 PM
Iron	**0.553**	0.050		mg/L	1	2/21/2020 1:52:00 PM
Lead	**ND**	0.005		mg/L	1	2/21/2020 1:52:00 PM
Magnesium	**7.88**	0.050		mg/L	1	2/21/2020 1:52:00 PM
Manganese	**0.060**	0.020		mg/L	1	2/21/2020 1:52:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/21/2020 1:52:00 PM
Potassium	**1.23**	0.050		mg/L	1	2/21/2020 1:52:00 PM
Selenium	**ND**	0.005		mg/L	1	2/21/2020 1:52:00 PM
Sodium	**2.44**	0.050		mg/L	1	2/21/2020 1:52:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **SM**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Barium, Dissolved	**0.028**	0.010		mg/L	1	2/26/2020
Boron, Dissolved	**ND**	0.050		mg/L	1	2/26/2020
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Calcium, Dissolved	**37.4**	0.050		mg/L	1	2/26/2020
Iron, Dissolved	**0.113**	0.050		mg/L	1	2/26/2020
Lead, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Magnesium, Dissolved	**8.09**	0.050		mg/L	1	2/26/2020
Manganese, Dissolved	**0.031**	0.020		mg/L	1	2/26/2020
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/26/2020
Potassium, Dissolved	**1.70**	0.050		mg/L	1	2/26/2020
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Sodium, Dissolved	**3.08**	0.050		mg/L	1	2/26/2020
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**2.76**	2.00		mg/L	2	2/13/2020 6:17:27 AM
Nitrate, Nitrogen (As N)	**0.14**	0.04		mg/L	2	2/13/2020 6:17:27 AM
Sulfate	**24.6**	4.00		mg/L	2	2/13/2020 6:17:27 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-4-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 12:22:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-008
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**96**	4		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	2/21/2020 10:58:12 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) (Prep: Method - 2/24/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**0.005**	0.004		mg/L	1	2/26/2020 3:57:50 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**165**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**5.7**	1.0		mg/L	1	2/25/2020 5:59:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-7-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:00:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-009
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**682**	5		mg/L CaCO3	1	2/21/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/21/2020 2:27:00 PM
Barium	**0.015**	0.010		mg/L	1	2/21/2020 2:27:00 PM
Boron	**0.304**	0.050		mg/L	1	2/21/2020 2:27:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/21/2020 2:27:00 PM
Calcium	**200**	0.500		mg/L	10	2/21/2020 2:31:00 PM
Iron	**0.148**	0.050		mg/L	1	2/21/2020 2:27:00 PM
Lead	**ND**	0.005		mg/L	1	2/21/2020 2:27:00 PM
Magnesium	**44.7**	0.050		mg/L	1	2/21/2020 2:27:00 PM
Manganese	**ND**	0.020		mg/L	1	2/21/2020 2:27:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/21/2020 2:27:00 PM
Potassium	**1.22**	0.050		mg/L	1	2/21/2020 2:27:00 PM
Selenium	**ND**	0.005		mg/L	1	2/21/2020 2:27:00 PM
Sodium	**8.12**	0.050		mg/L	1	2/21/2020 2:27:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 2/13/2020**)						Analyst: **SM**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Barium, Dissolved	**0.016**	0.010		mg/L	1	2/26/2020
Boron, Dissolved	**0.341**	0.050		mg/L	1	2/26/2020
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Calcium, Dissolved	**217**	0.500		mg/L	10	2/26/2020
Iron, Dissolved	**ND**	0.050		mg/L	1	2/26/2020
Lead, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Magnesium, Dissolved	**38.7**	0.050		mg/L	1	2/26/2020
Manganese, Dissolved	**ND**	0.020		mg/L	1	2/26/2020
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/26/2020
Potassium, Dissolved	**1.38**	0.050		mg/L	1	2/26/2020
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Sodium, Dissolved	**7.51**	0.050		mg/L	1	2/26/2020
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**2.29**	2.00		mg/L	2	2/13/2020 7:55:51 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	2/13/2020 7:55:51 AM
Sulfate	**382**	10.0		mg/L	10	2/25/2020 1:11:51 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-7-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:00:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-009
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**340**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	2/21/2020 11:03:09 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) **(Prep: Method - 2/24/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**0.006**	0.004		mg/L	1	2/26/2020 3:59:11 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**985**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.6**	1.0		mg/L	1	2/25/2020 6:15:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-19-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:15:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-010
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**1533**	5		mg/L CaCO3	1	2/21/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/21/2020 2:39:00 PM
Barium	**ND**	0.010		mg/L	1	2/21/2020 2:39:00 PM
Boron	**0.098**	0.050		mg/L	1	2/21/2020 2:39:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/21/2020 2:39:00 PM
Calcium	**440**	0.500		mg/L	10	2/21/2020 2:43:00 PM
Iron	**0.239**	0.050		mg/L	1	2/21/2020 2:39:00 PM
Lead	**ND**	0.005		mg/L	1	2/21/2020 2:39:00 PM
Magnesium	**106**	0.050		mg/L	1	2/21/2020 2:39:00 PM
Manganese	**ND**	0.020		mg/L	1	2/21/2020 2:39:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/21/2020 2:39:00 PM
Potassium	**2.22**	0.050		mg/L	1	2/21/2020 2:39:00 PM
Selenium	**ND**	0.005		mg/L	1	2/21/2020 2:39:00 PM
Sodium	**8.42**	0.050		mg/L	1	2/21/2020 2:39:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **SM**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Barium, Dissolved	**ND**	0.010		mg/L	1	2/26/2020
Boron, Dissolved	**0.101**	0.050		mg/L	1	2/26/2020
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Calcium, Dissolved	**321**	0.500		mg/L	10	2/26/2020
Iron, Dissolved	**ND**	0.050		mg/L	1	2/26/2020
Lead, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Magnesium, Dissolved	**91.4**	0.050		mg/L	1	2/26/2020
Manganese, Dissolved	**ND**	0.020		mg/L	1	2/26/2020
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/26/2020
Potassium, Dissolved	**2.43**	0.050		mg/L	1	2/26/2020
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Sodium, Dissolved	**7.74**	0.050		mg/L	1	2/26/2020
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**ND**	2.00		mg/L	2	2/13/2020 8:15:05 AM
Nitrate, Nitrogen (As N)	**0.05**	0.04		mg/L	2	2/13/2020 8:15:05 AM
Sulfate	**1120**	50.0		mg/L	50	2/25/2020 1:30:53 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-19-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:15:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-010
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**380**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	2/21/2020 11:04:49 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) **(Prep: Method - 2/24/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**0.005**	0.004		mg/L	1	2/26/2020 4:00:31 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**2000**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**2.1**	1.0		mg/L	1	2/25/2020 6:31:00 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT: Frontier Technical Associates
Work Order: **200212024**
Reference: Plant ND GW /
PO#:

Client Sample ID: OB-20-DG
Collection Date: 2/11/2020 11:23:00 AM
Lab Sample ID: 200212024-011
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Total Hardness (As CaCO3)	**419**	5		mg/L CaCO3	1	2/21/2020
ICP METALS - EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	2/21/2020 2:47:00 PM
Barium	**0.038**	0.010		mg/L	1	2/21/2020 2:47:00 PM
Boron	**0.869**	0.050		mg/L	1	2/21/2020 2:47:00 PM
Cadmium	**ND**	0.005		mg/L	1	2/21/2020 2:47:00 PM
Calcium	**102**	0.050		mg/L	1	2/21/2020 2:47:00 PM
Iron	**0.085**	0.050		mg/L	1	2/21/2020 2:47:00 PM
Lead	**ND**	0.005		mg/L	1	2/21/2020 2:47:00 PM
Magnesium	**39.6**	0.050		mg/L	1	2/21/2020 2:47:00 PM
Manganese	**0.150**	0.020		mg/L	1	2/21/2020 2:47:00 PM
Molybdenum	**ND**	0.010		mg/L	1	2/21/2020 2:47:00 PM
Potassium	**9.08**	0.050		mg/L	1	2/21/2020 2:47:00 PM
Selenium	**ND**	0.005		mg/L	1	2/21/2020 2:47:00 PM
Sodium	**101**	0.500		mg/L	10	2/26/2020 2:03:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (Prep: - 2/13/2020)						Analyst: **SM**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Barium, Dissolved	**0.026**	0.010		mg/L	1	2/26/2020
Boron, Dissolved	**0.938**	0.050		mg/L	1	2/26/2020
Cadmium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Calcium, Dissolved	**107**	0.500		mg/L	10	2/26/2020
Iron, Dissolved	**ND**	0.050		mg/L	1	2/26/2020
Lead, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Magnesium, Dissolved	**36.2**	0.050		mg/L	1	2/26/2020
Manganese, Dissolved	**0.128**	0.020		mg/L	1	2/26/2020
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	2/26/2020
Potassium, Dissolved	**7.96**	0.050		mg/L	1	2/26/2020
Selenium, Dissolved	**ND**	0.005		mg/L	1	2/26/2020
Sodium, Dissolved	**103**	0.500		mg/L	10	2/26/2020
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**2.24**	2.00		mg/L	2	2/13/2020 8:34:07 AM
Nitrate, Nitrogen (As N)	**0.08**	0.04		mg/L	2	2/13/2020 8:34:07 AM
Sulfate	**181**	4.00		mg/L	2	2/13/2020 8:34:07 AM

Adirondack Environmental Services, Inc

Date: *27-Feb-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-20-DG
Work Order:	**200212024**	**Collection Date:**	2/11/2020 11:23:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200212024-011
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**470**	10		mgCaCO3/L	1	2/24/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.6**	0.1		mg/L	1	2/21/2020 11:06:24 AM
PHENOLS, TOTAL - EPA 420.4 REV 1.0(1993) **(Prep: Method - 2/24/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**0.005**	0.004		mg/L	1	2/26/2020 4:01:53 PM
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**760**	5		mg/L	1	2/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	2/25/2020 6:48:00 AM

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78081

MBLK

SeqNo: **2795445** PrepDate: TestNo: **E200.7F** RunNo: **180278**
Samp ID: **MBLK** PrepRef: Units: **mg/L** Analysis Date: **2/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	ND	0.00500									
Barium, Dissolved	ND	0.0100									
Boron, Dissolved	ND	0.0500									
Cadmium, Dissolved	ND	0.00500									
Calcium, Dissolved	ND	0.0500									
Iron, Dissolved	ND	0.0500									
Lead, Dissolved	ND	0.00500									
Magnesium, Dissolved	ND	0.0500									
Manganese, Dissolved	ND	0.0200									
Molybdenum, Dissolved	ND	0.0100									
Potassium, Dissolved	ND	0.0500									
Selenium, Dissolved	ND	0.00500									
Sodium, Dissolved	ND	0.0500									

MBLK

SeqNo: **2795994** PrepDate:**2/13/2020** TestNo: **E200.7F** RunNo: **180313**
Samp ID: **MB-78081** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	ND	0.00500									
Barium, Dissolved	ND	0.0100									
Boron, Dissolved	ND	0.0500									
Cadmium, Dissolved	ND	0.00500									
Calcium, Dissolved	ND	0.0500									
Iron, Dissolved	ND	0.0500									
Lead, Dissolved	ND	0.00500									
Magnesium, Dissolved	ND	0.0500									
Manganese, Dissolved	ND	0.0200									
Molybdenum, Dissolved	ND	0.0100									
Potassium, Dissolved	ND	0.0500									
Selenium, Dissolved	ND	0.00500									
Sodium, Dissolved	ND	0.0500									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78081

LCS SeqNo: **2795446** PrepDate: TestNo: **E200.7F** RunNo: **180278**
Samp ID: **LCS** PrepRef: Units: **mg/L** Analysis Date: **2/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	1.97	0.00500	2	0	98.5	85	115	0	0		
Barium, Dissolved	1.941	0.0100	2	0	97	89	112	0	0		
Boron, Dissolved	1.922	0.0500	2	0	96.1	86.6	115	0	0		
Cadmium, Dissolved	1.877	0.00500	2	0	93.8	85.3	112	0	0		
Calcium, Dissolved	1.889	0.0500	2	0	94.4	85.8	115	0	0		
Iron, Dissolved	1.92	0.0500	2	0	96	87.5	113	0	0		
Lead, Dissolved	1.849	0.00500	2	0	92.5	86.8	114	0	0		
Magnesium, Dissolved	1.862	0.0500	2	0	93.1	87.7	112	0	0		
Manganese, Dissolved	1.96	0.0200	2	0	98	89.2	112	0	0		
Molybdenum, Dissolved	1.868	0.0100	2	0	93.4	87.9	115	0	0		
Potassium, Dissolved	9.181	0.0500	10	0	91.8	85	115	0	0		
Selenium, Dissolved	1.907	0.00500	2	0	95.4	85	115	0	0		
Sodium, Dissolved	1.935	0.0500	2	0	96.8	85	115	0	0		

LCS SeqNo: **2795993** PrepDate:**2/13/2020** TestNo: **E200.7F** RunNo: **180313**
Samp ID: **LCS-78081** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	2.115	0.00500	2	0	106	85	115	0	0		
Barium, Dissolved	2.03	0.0100	2	0	102	89	112	0	0		
Boron, Dissolved	1.868	0.0500	2	0	93.4	86.6	115	0	0		
Cadmium, Dissolved	2.147	0.00500	2	0	107	85.3	112	0	0		
Calcium, Dissolved	2.079	0.0500	2	0	104	85.8	115	0	0		
Iron, Dissolved	2.041	0.0500	2	0	102	87.5	113	0	0		
Lead, Dissolved	1.944	0.00500	2	0	97.2	86.8	114	0	0		
Magnesium, Dissolved	2.061	0.0500	2	0	103	87.7	112	0	0		
Manganese, Dissolved	1.957	0.0200	2	0	97.8	89.2	112	0	0		
Molybdenum, Dissolved	2.134	0.0100	2	0	107	87.9	115	0	0		
Potassium, Dissolved	9.869	0.0500	10	0	98.7	85	115	0	0		
Selenium, Dissolved	2.17	0.00500	2	0	109	85	115	0	0		
Sodium, Dissolved	1.97	0.0500	2	0	98.5	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78081

MS

SeqNo: **2796002** PrepDate:**2/13/2020** TestNo: **E200.7F** RunNo: **180313**
Samp ID: **200212024-001F (BR-14-UG)** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	0.02992	0.00500	0.04	0.004611	63.3	75	123	0	0		S
Barium, Dissolved	2.17	0.0100	2	0.1806	99.5	75	124	0	0		
Cadmium, Dissolved	0.0519	0.00500	0.05	0	104	75	125	0	0		
Iron, Dissolved	0.9925	0.0500	1	0.005234	98.7	75	120	0	0		
Lead, Dissolved	0.01908	0.00500	0.02	0.0008976	90.9	75	125	0	0		
Manganese, Dissolved	0.4865	0.0200	0.5	0.02187	92.9	75	115	0	0		
Selenium, Dissolved	0.006492	0.00500	0.01	0	64.9	75	125	0	0		S

DUP

SeqNo: **2795996** PrepDate:**2/13/2020** TestNo: **E200.7F** RunNo: **180313**
Samp ID: **200212024-001F** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	0.005093	0.00500	0	0	0	0	0	0.004611	9.94	17.3	
Barium, Dissolved	0.2213	0.0100	0	0	0	0	0	0.1806	20.3	15.4	Z
Boron, Dissolved	0.215	0.0500	0	0	0	0	0	0.1705	23.1	18.9	Z
Cadmium, Dissolved	ND	0.00500	0	0	0	0	0	0	0	20	
Calcium, Dissolved	91.2	0.0500	0	0	0	0	0	92.84	1.79	13.9	
Iron, Dissolved	ND	0.0500	0	0	0	0	0	0.005234	0	17.9	
Lead, Dissolved	ND	0.00500	0	0	0	0	0	0.0008976	0	22	
Magnesium, Dissolved	38.01	0.0500	0	0	0	0	0	38.75	1.93	13.7	
Manganese, Dissolved	0.02057	0.0200	0	0	0	0	0	0.02187	6.12	17.2	
Molybdenum, Dissolved	ND	0.0100	0	0	0	0	0	0	0	17.3	
Potassium, Dissolved	4.948	0.0500	0	0	0	0	0	4.44	10.8	15.2	
Selenium, Dissolved	ND	0.00500	0	0	0	0	0	0	0	16.6	
Sodium, Dissolved	34.18	0.0500	0	0	0	0	0	26.83	24.1	15	Z

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78082

MS

SeqNo: **2794061** PrepDate:**2/13/2020** TestNo: **E200.8** RunNo: **180197**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef: Units: **mg/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.4314	0.000400	0.5	0.00009372	86.3	70	130	0	0		
Arsenic	0.04375	0.00100	0.04	0.00677	92.4	70	130	0	0		
Barium	1.874	0.00200	2	0.1737	85	70	130	0	0		
Beryllium	0.038	0.000300	0.05	0	76	70	130	0	0		
Cadmium	0.05105	0.00100	0.05	0	102	70	130	0	0		
Lead	0.02249	0.00100	0.02	0.003159	96.7	70	130	0	0		
Manganese	0.3836	0.00500	0.5	0.024	71.9	70	130	0	0		
Selenium	0.008558	0.00100	0.01	0.000411	81.5	70	130	0	0		
Thallium	0.05331	0.000300	0.05	0.0002463	106	70	130	0	0		

MS

SeqNo: **2794062** PrepDate:**2/13/2020** TestNo: **E200.8** RunNo: **180197**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef: Units: **mg/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.2295	0.0500	0.2	0.0002448	115	70	130	0	0		
Cobalt	0.3929	0.0100	0.5	0.0001644	78.6	70	130	0	0		
Iron	1.285	0.200	1	0.3173	96.8	70	130	0	0		

DUP

SeqNo: **2794060** PrepDate:**2/13/2020** TestNo: **E200.8** RunNo: **180197**
Samp ID: **200212024-001** PrepRef: Units: **mg/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.000400	0	0	0	0	0	0.00009372	0	20	
Arsenic	0.006051	0.00100	0	0	0	0	0	0.00677	11.2	20	
Barium	0.2015	0.00200	0	0	0	0	0	0.1737	14.8	20	
Beryllium	ND	0.000300	0	0	0	0	0	0	0	20	
Cadmium	ND	0.00100	0	0	0	0	0	0	0	20	
Chromium	ND	0.00500	0	0	0	0	0	0.0002448	0	20	
Cobalt	ND	0.00100	0	0	0	0	0	0.0001644	0	20	
Iron	0.3272	0.0200	0	0	0	0	0	0.3173	3.05	20	B
Lead	ND	0.00100	0	0	0	0	0	0.003159	0	20	
Manganese	0.03265	0.00500	0	0	0	0	0	0.024	30.5	20	Z
Selenium	ND	0.00100	0	0	0	0	0	0.000411	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78082

DUP SeqNo: **2794060** PrepDate:**2/13/2020** TestNo: **E200.8** RunNo: **180197**
Samp ID: **200212024-001** PrepRef: Units: **mg/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	ND	0.000300	0	0	0	0	0	0.0002463	0	20	

MBLK SeqNo: **2791270** PrepDate: TestNo: **E200.7** RunNo: **180051**
Samp ID: **MBLK** PrepRef: Units: **mg/L** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0600	0	0	0	0	0	0	0		
Arsenic	ND	0.00500	0	0	0	0	0	0	0		
Barium	ND	0.0100	0	0	0	0	0	0	0		
Beryllium	ND	0.00500	0	0	0	0	0	0	0		
Boron	ND	0.0500	0	0	0	0	0	0	0		
Cadmium	ND	0.00500	0	0	0	0	0	0	0		
Calcium	ND	0.0500	0	0	0	0	0	0	0		
Chromium	ND	0.00500	0	0	0	0	0	0	0		
Cobalt	ND	0.0500	0	0	0	0	0	0	0		
Iron	ND	0.0500	0	0	0	0	0	0	0		
Lead	ND	0.00500	0	0	0	0	0	0	0		
Lithium	ND	0.0500	0	0	0	0	0	0	0		
Magnesium	ND	0.0500	0	0	0	0	0	0	0		
Manganese	ND	0.0200	0	0	0	0	0	0	0		
Molybdenum	ND	0.0100	0	0	0	0	0	0	0		
Potassium	ND	0.0500	0	0	0	0	0	0	0		
Selenium	ND	0.00500	0	0	0	0	0	0	0		
Sodium	ND	0.0500	0	0	0	0	0	0	0		
Thallium	ND	0.0100	0	0	0	0	0	0	0		

LCS SeqNo: **2791271** PrepDate: TestNo: **E200.7** RunNo: **180051**
Samp ID: **LCS** PrepRef: Units: **mg/L** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.984	0.0600	2	0	99.2	88.3	113	0	0		
Arsenic	1.923	0.00500	2	0	96.2	89.1	111	0	0		
Barium	1.92	0.0100	2	0	96	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78082

LCS

SeqNo: **2791271** PrepDate: TestNo: **E200.7** RunNo: **180051**
Samp ID: **LCS** PrepRef: Units: **mg/L** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	1.98	0.00500	2	0	99	86.1	114	0	0		
Boron	1.886	0.0500	2	0	94.3	88.2	114	0	0		
Cadmium	1.928	0.00500	2	0	96.4	85	115	0	0		
Calcium	1.977	0.0500	2	0	98.8	85.6	114	0	0		
Chromium	1.891	0.00500	2	0	94.6	89.7	109	0	0		
Cobalt	1.953	0.0500	2	0	97.7	89.6	109	0	0		
Iron	1.891	0.0500	2	0	94.6	86.2	112	0	0		
Lead	1.924	0.00500	2	0	96.2	88.1	112	0	0		
Magnesium	1.923	0.0500	2	0	96.1	87.4	110	0	0		
Manganese	1.911	0.0200	2	0	95.5	85	112	0	0		
Molybdenum	1.983	0.0100	2	0	99.1	88.8	112	0	0		
Potassium	9.312	0.0500	10	0	93.1	85	112	0	0		
Selenium	1.931	0.00500	2	0	96.5	87.5	112	0	0		
Sodium	2.087	0.0500	2	0	104	85.8	113	0	0		
Thallium	1.977	0.0100	2	0	98.9	85	115	0	0		

MS

SeqNo: **2798767** PrepDate:**2/13/2020** TestNo: **E200.7** RunNo: **180434**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef: Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.5065	0.0600	0.5	0	101	80.6	120	0	0		
Arsenic	0.03234	0.00500	0.04	0	80.9	75	125	0	0		
Barium	2.229	0.0100	2	0.1679	103	75	119	0	0		
Beryllium	0.05332	0.00500	0.05	0	107	80.6	123	0	0		
Cadmium	0.05033	0.00500	0.05	0	101	75	118	0	0		
Chromium	0.2108	0.00500	0.2	0	105	75	124	0	0		
Cobalt	0.4549	0.0500	0.5	0	91	75	123	0	0		
Iron	1.199	0.0500	1	0.0992	110	75	122	0	0		
Lead	0.01923	0.00500	0.02	0.003763	77.3	75	125	0	0		
Manganese	0.5043	0.0200	0.5	0.02472	95.9	75	123	0	0		
Selenium	0.006612	0.00500	0.01	0	66.1	75	125	0	0		S
Thallium	0.0437	0.0100	0.05	0	87.4	75	125	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78082

DUP

SeqNo: **2798766** PrepDate:2/13/2020 TestNo: **E200.7** RunNo: **180434**
Samp ID: **200212024-001** PrepRef: Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0600	0	0	0	0	0	0	0	20	
Arsenic	ND	0.00500	0	0	0	0	0	0	0	20	
Barium	0.2426	0.0100	0	0	0	0	0	0.1679	36.4	20	Z
Beryllium	ND	0.00500	0	0	0	0	0	0	0	20	
Boron	0.2382	0.0500	0	0	0	0	0	0.1948	20.1	20	Z
Cadmium	ND	0.00500	0	0	0	0	0	0	0	20	
Calcium	86.12	0.0500	0	0	0	0	0	89.57	3.92	13.9	
Chromium	ND	0.00500	0	0	0	0	0	0	0	20	
Cobalt	ND	0.0500	0	0	0	0	0	0	0	13	
Iron	0.5797	0.0500	0	0	0	0	0	0.0992	142	19.4	Z
Lead	ND	0.00500	0	0	0	0	0	0.003763	0	18.9	
Lithium	0.0542	0.0500	0	0	0	0	0	0	200	18.8	Z
Magnesium	35.25	0.0500	0	0	0	0	0	36.99	4.82	15.6	
Manganese	0.05512	0.0200	0	0	0	0	0	0.02472	76.1	16.6	Z
Molybdenum	ND	0.0100	0	0	0	0	0	0	0	15.3	
Potassium	4.618	0.0500	0	0	0	0	0	4.239	8.55	15.2	
Selenium	ND	0.00500	0	0	0	0	0	0	0	15	
Sodium	33.29	0.0500	0	0	0	0	0	26.22	23.8	15.7	Z
Thallium	ND	0.0100	0	0	0	0	0	0	0	19.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
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CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78146

MBLK
SeqNo: **2793894** PrepDate:**2/18/2020** TestNo: **E1631** RunNo: **180179**
Samp ID: **MB-78146** PrepRef:**(1631E)** Units: **ng/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

LCS
SeqNo: **2793895** PrepDate:**2/18/2020** TestNo: **E1631** RunNo: **180179**
Samp ID: **LCS-78146** PrepRef:**(1631E)** Units: **ng/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	10.9	0.500	10	0	109	77	123	0	0		

MS
SeqNo: **2793899** PrepDate:**2/18/2020** TestNo: **E1631** RunNo: **180179**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef:**(1631E)** Units: **ng/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	12.8	0.500	12.5	0.498	98.4	71	125	0	0		

MSD
SeqNo: **2793900** PrepDate:**2/18/2020** TestNo: **E1631** RunNo: **180179**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef:**(1631E)** Units: **ng/L** Analysis Date: **2/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	10.7	0.500	12.5	0.498	81.6	71	125	12.8	17.9	24	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78203

mblk SeqNo: **2795871** PrepDate:2/20/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **MB-78203** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	0.00400									

lcs SeqNo: **2795872** PrepDate:2/20/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **LCS-78203** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0964	0.00400	0.1	0	96.4	90	110	0	0		

ms SeqNo: **2795878** PrepDate:2/20/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **200212005-004** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0987	0.00400	0.1	0	98.7	80.7	120	0	0		

ms SeqNo: **2795897** PrepDate:2/21/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.1058	0.00400	0.1	0.0023	104	80.7	120	0	0		

msd SeqNo: **2795879** PrepDate:2/20/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **200212005-004** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.1084	0.00400	0.1	0	108	80.7	120	0.0987	9.37	16	

msd SeqNo: **2795886** PrepDate:2/21/2020 TestNo: **E420.4** RunNo: **180308**
Samp ID: **200212024-001 (BR-14-UG)** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.1123	0.00400	0.1	0.0023	110	80.7	120	0.1058	5.96	16	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78203

cri

SeqNo: **2795896** PrepDate: TestNo: **E420.4** RunNo: **180308**
Samp ID: **cri-78203** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0062	0.00400	0.004	0	155	50	150	0	0		S

icb

SeqNo: **2795870** PrepDate: TestNo: **E420.4** RunNo: **180308**
Samp ID: **ICB** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	0.00400	0	0	0	0	0	0	0		

icv

SeqNo: **2795869** PrepDate: TestNo: **E420.4** RunNo: **180308**
Samp ID: **ICV** PrepRef: Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0944	0.00400	0.1	0	94.4	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 78248

mblk

SeqNo: **2798881** PrepDate:2/24/2020 TestNo: **E420.4** RunNo: **180454**
Samp ID: **MB-78248** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	0.00400									

lcs

SeqNo: **2798882** PrepDate:2/24/2020 TestNo: **E420.4** RunNo: **180454**
Samp ID: **LCS-78248** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0964	0.00400	0.1	0	96.4	90	110	0	0		

ms

SeqNo: **2798884** PrepDate:2/24/2020 TestNo: **E420.4** RunNo: **180454**
Samp ID: **200212024-007 (OB-2-UG)** PrepRef:(Method) Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0868	0.00400	0.1	0.0052	81.6	80.7	120	0	0		

icb

SeqNo: **2798903** PrepDate: TestNo: **E420.4** RunNo: **180454**
Samp ID: **ICB** PrepRef: Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0041	0.00400	0	0	0	0	0	0	0		

icv

SeqNo: **2798902** PrepDate: TestNo: **E420.4** RunNo: **180454**
Samp ID: **ICV** PrepRef: Units: **mg/L** Analysis Date: **2/26/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.0912	0.00400	0.1	0	91.2	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180013

MBLK SeqNo: **2790405** Samp ID: **MBLK 3449 DI** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00									
Fluoride	ND	0.100									
Nitrate, Nitrogen (As N)	ND	0.0200									
Sulfate	ND	1.00									

LCS SeqNo: **2790406** Samp ID: **LCS ICA-82-S** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102.3	10.0	100	0	102	90	110	0	0		
Fluoride	9.88	1.00	10	0	98.8	90	110	0	0		
Nitrate, Nitrogen (As N)	11.07	0.200	11.3	0	98	90	110	0	0		
Sulfate	200.3	10.0	200	0	100	90	110	0	0		

LCS SeqNo: **2790449** Samp ID: **LCS** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102.2	10.0	100	0	102	90	110	0	0		
Fluoride	9.84	1.00	10	0	98.4	90	110	0	0		
Nitrate, Nitrogen (As N)	11.02	0.200	11.3	0	97.5	90	110	0	0		
Sulfate	199.9	10.0	200	0	99.9	90	110	0	0		

LCS SeqNo: **2790470** Samp ID: **LCS** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102.5	10.0	100	0	102	90	110	0	0		
Fluoride	9.836	1.00	10	0	98.4	90	110	0	0		
Nitrate, Nitrogen (As N)	11.07	0.200	11.3	0	98	90	110	0	0		
Sulfate	200.4	10.0	200	0	100	90	110	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180013

MS SeqNo: **2790413** Samp ID: **200212005-004a** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.39	2.00	20	5.464	105	90	110	0	0		
Nitrate, Nitrogen (As N)	4.638	0.0400	4.5	0.114	101	90	110	0	0		
Sulfate	30.08	4.00	20	9.864	101	90	110	0	0		

MS SeqNo: **2790429** Samp ID: **200212015-006a** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.37	0.200	10	0	104	90	110	0	0		
Sulfate	164.4	2.00	20	144.9	97.1	90	110	0	0		

MS SeqNo: **2790438** Samp ID: **200212024-001 (BR-14-UG)** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.58	2.00	20	2.864	104	90	110	0	0		
Fluoride	10.6	0.200	10	0	106	90	110	0	0		
Nitrate, Nitrogen (As N)	4.584	0.0400	4.5	0.04	101	90	110	0	0		
Sulfate	78.71	4.00	20	57.98	104	90	110	0	0		

MS SeqNo: **2790463** Samp ID: **200212016-006b** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate, Nitrogen (As N)	4.51	0.0400	4.5	0	100	90	110	0	0		

MSD SeqNo: **2790416** Samp ID: **200212005-004a** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.39	2.00	20	5.464	105	90	110	26.39	0.0185	20	
Nitrate, Nitrogen (As N)	4.686	0.0400	4.5	0.114	102	90	110	4.638	1.03	20	
Sulfate	30.1	4.00	20	9.864	101	90	110	30.08	0.0532	20	

Qualifiers:
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B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180013

MSD SeqNo: **2790430** Samp ID: **200212015-006a** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.43	0.200	10	0	104	90	110	10.37	0.538	20	
Sulfate	164.9	2.00	20	144.9	100	90	110	164.4	0.350	20	

MSD SeqNo: **2790439** Samp ID: **200212024-001 (BR-14-UG)** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.62	2.00	20	2.864	104	90	110	23.58	0.168	20	
Fluoride	10.54	0.200	10	0	105	90	110	10.6	0.549	20	
Nitrate, Nitrogen (As N)	4.604	0.0400	4.5	0.04	101	90	110	4.584	0.435	20	
Sulfate	78.65	4.00	20	57.98	103	90	110	78.71	0.0661	20	

MSD SeqNo: **2790464** Samp ID: **200212016-006b** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate, Nitrogen (As N)	4.502	0.0400	4.5	0	100	90	110	4.51	0.178	20	

CRI SeqNo: **2790407** Samp ID: **CRI ICA-86-C** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.225	1.00	1	0	123	50	150	0	0		
Sulfate	2.058	1.00	2	0	103	50	150	0	0		

CRI SeqNo: **2790408** Samp ID: **CRI NO3 from I** TestNo: **E300** Units: **mg/L** RunNo: **180013** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.100	0.02	0	110	50	150	0	0		
Nitrate, Nitrogen (As N)	0.025	0.0200	0.02	0	125	50	150	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180013

ICB

SeqNo: **2790404**
Samp ID: **ICB 3449 DI**
TestNo: **E300** RunNo: **180013**
Units: **mg/L** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00	0	0	0	0	0	0	0		
Fluoride	ND	0.100	0	0	0	0	0	0	0		
Nitrate, Nitrogen (As N)	ND	0.0200	0	0	0	0	0	0	0		
Sulfate	ND	1.00	0	0	0	0	0	0	0		

ICV

SeqNo: **2790403**
Samp ID: **ICV IC020520C**
TestNo: **E300** RunNo: **180013**
Units: **mg/L** Analysis Date: **2/12/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10	0	102	90	110	0	0		
Fluoride	1.006	0.100	1	0	101	90	110	0	0		
Nitrate, Nitrogen (As N)	0.977	0.0200	1	0	97.7	90	110	0	0		
Sulfate	9.854	1.00	10	0	98.5	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180186

LCS SeqNo: **2793833** Samp ID: **LCS-R180186** TestNo: **SM2540C** Units: **mg/L** RunNo: **180186** Analysis Date: **2/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	635	5.00	654	0	97.1	85.4	114	0	0		

LCS SeqNo: **2794808** Samp ID: **LCS-R180186** TestNo: **SM2540C** Units: **mg/L** RunNo: **180186** Analysis Date: **2/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	620	5.00	654	0	94.8	85.4	114	0	0		

DUP SeqNo: **2794791** Samp ID: **200212015-011** TestNo: **SM2540C** Units: **mg/L** RunNo: **180186** Analysis Date: **2/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	1820	5.00	0	0	0	0	0	1795	1.38	10	

DUP SeqNo: **2794807** Samp ID: **200212024-001** TestNo: **SM2540C** Units: **mg/L** RunNo: **180186** Analysis Date: **2/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	360	5.00	0	0	0	0	0	355	1.40	10	

DUP SeqNo: **2794819** Samp ID: **200212075-004** TestNo: **SM2540C** Units: **mg/L** RunNo: **180186** Analysis Date: **2/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	640	5.00	0	0	0	0	0	610	4.80	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180280

MBLK SeqNo: **2795423** Samp ID: **MBLK** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.100	0	0	0	0	0	0	0		

LCS SeqNo: **2795310** Samp ID: **LCS 2.72 PPM** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.969	0.200	2.72	0	109	90	110	0	0		

LCS SeqNo: **2795333** Samp ID: **LCS 2.72 Filtere** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.971	0.200	2.72	0	109	90	110	0	0		

LCS SeqNo: **2795355** Samp ID: **LCS 2.72** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.979	0.200	2.72	0	110	90	110	0	0		

MS SeqNo: **2795317** Samp ID: **200212005-004** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.78	0.100	1	0	78	90	110	0	0		S

MS SeqNo: **2795338** Samp ID: **200212016-011** TestNo: **E350.1** Units: **mg/L** RunNo: **180280** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.101	0.100	1	0	110	90	110	0	0		S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180280

MS
SeqNo: **2795357**
Samp ID: **200212024-001 (BR-14-UG)**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.773	0.100	1	0.7846	98.8	90	110	0	0		

MSD
SeqNo: **2795318**
Samp ID: **200212005-004**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.712	0.100	1	0	71.2	90	110	0.78	9.12	20	S

MSD
SeqNo: **2795339**
Samp ID: **200212016-011**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.22	0.100	1	0	122	90	110	1.101	10.3	20	S

MSD
SeqNo: **2795358**
Samp ID: **200212024-001 (BR-14-UG)**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.76	0.100	1	0.7846	97.5	90	110	1.773	0.742	20	

CRI
SeqNo: **2795311**
Samp ID: **CRI 0.1 PPM**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.100	0.1	0	66.3	50	150	0	0		

CRI
SeqNo: **2795334**
Samp ID: **CRI 0.1 PPM**
TestNo: **E350.1** RunNo: **180280**
Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.100	0.1	0	73.5	50	150	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180280

ICB

SeqNo: **2795309** TestNo: **E350.1** RunNo: **180280**
Samp ID: **ICB** Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.100	0	0	0	0	0	0	0		

ICV

SeqNo: **2795308** TestNo: **E350.1** RunNo: **180280**
Samp ID: **ICV** Units: **mg/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9885	0.100	1	0	98.8	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180324

MBLK SeqNo: **2796212** Samp ID: **MB-R180324** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	1.00									

LCS SeqNo: **2796213** Samp ID: **LCS-R180324** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	55	5.00	56.3	0	97.7	88.6	115	0	0		

MS SeqNo: **2796215** Samp ID: **200212016-007** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	900	10.0	500	400	100	80	120	0	0		

MS SeqNo: **2796226** Samp ID: **200212024-001 (BR-14-UG)** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	860	10.0	500	340	104	80	120	0	0		

MSD SeqNo: **2796216** Samp ID: **200212016-007** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	910	10.0	500	400	102	80	120	900	1.10	15	

MSD SeqNo: **2796227** Samp ID: **200212024-001 (BR-14-UG)** TestNo: **SM2320B** RunNo: **180324** Units: **mgCaCO3/L** Analysis Date: **2/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	850	10.0	500	340	102	80	120	860	1.17	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180348

DUP

SeqNo: **2796816**
Samp ID: **200212075-002**
TestNo: **SM2320B** RunNo: **180348**
Units: **mgCaCO3/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	280	10.0	0	0	0	0	0	290	3.51	8.8	

MBLK

SeqNo: **2796797**
Samp ID: **MB-R180348**
TestNo: **SM2320B** RunNo: **180348**
Units: **mgCaCO3/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	1.00									

LCS

SeqNo: **2796798**
Samp ID: **LCS-R180348**
TestNo: **SM2320B** RunNo: **180348**
Units: **mgCaCO3/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	55	5.00	56.3	0	97.7	88.6	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180349

MBLK SeqNo: **2796868** Samp ID: **MBLK** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	1.00	0	0	0	0	0	0	0		

LCS SeqNo: **2796821** Samp ID: **LCS** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	28.97	1.00	30	0	96.6	88.7	115	0	0		

LCS SeqNo: **2796847** Samp ID: **LCS** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/25/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	28.9	1.00	30	0	96.3	88.7	115	0	0		

MS SeqNo: **2796826** Samp ID: **200212005-004** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	26.06	1.00	25	0	104	82	120	0	0		

MS SeqNo: **2796849** Samp ID: **200212024-001 (BR-14-UG)** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/25/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.94	1.00	25	0	104	82	120	0	0		

MSD SeqNo: **2796827** Samp ID: **200212005-004** TestNo: **SM5310C** Units: **mg/L** RunNo: **180349** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.03	1.00	25	0	92.1	82	120	26.06	12.3	21.2	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180349

MSD
SeqNo: **2796850**
Samp ID: **200212024-001 (BR-14-UG)**
TestNo: **SM5310C** RunNo: **180349**
Units: **mg/L** Analysis Date: **2/25/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	23.81	1.00	25	0	95.2	82	120	25.94	8.54	21.2	

CRI
SeqNo: **2796820**
Samp ID: **CRI**
TestNo: **SM5310C** RunNo: **180349**
Units: **mg/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.036	1.00	1	0	104	50	150	0	0		

ICB
SeqNo: **2796819**
Samp ID: **ICB**
TestNo: **SM5310C** RunNo: **180349**
Units: **mg/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	1.00	0	0	0	0	0	0	0		

ICV
SeqNo: **2796818**
Samp ID: **ICV**
TestNo: **SM5310C** RunNo: **180349**
Units: **mg/L** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	47.02	1.00	50	0	94	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180365

MBLK SeqNo: **2797079** Samp ID: **MBLK 3449 DI** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00									
Fluoride	ND	0.100									
Sulfate	ND	1.00									

LCS SeqNo: **2797080** Samp ID: **LCS ICA-82-T** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	105.6	10.0	100	0	106	90	110	0	0		
Fluoride	10.31	1.00	10	0	103	90	110	0	0		
Sulfate	211	10.0	200	0	105	90	110	0	0		

LCS SeqNo: **2797102** Samp ID: **LCS** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/25/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	105.5	10.0	100	0	105	90	110	0	0		
Fluoride	10.22	1.00	10	0	102	90	110	0	0		
Sulfate	209.6	10.0	200	0	105	90	110	0	0		

MS SeqNo: **2797083** Samp ID: **200211010-001a** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	968.9	20.0	200	757.5	106	90	110	0	0		

MS SeqNo: **2797099** Samp ID: **200212024-003a (BR-12-DG)** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	328.9	10.0	100	224	105	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200212024
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R180365

DUP SeqNo: **2797085** Samp ID: **200211010-002a** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1787	50.0	0	0	0	0	0	1776	0.629	10.9	

DUP SeqNo: **2797106** Samp ID: **200212024-010a** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/25/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1101	50.0	0	0	0	0	0	1125	2.18	10.9	

ICB SeqNo: **2797078** Samp ID: **ICB 3449 DI** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00	0	0	0	0	0	0	0		
Fluoride	ND	0.100	0	0	0	0	0	0	0		
Sulfate	ND	1.00	0	0	0	0	0	0	0		

ICV SeqNo: **2797077** Samp ID: **ICV IC022020C** TestNo: **E300** Units: **mg/L** RunNo: **180365** Analysis Date: **2/24/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	10.69	1.00	10	0	107	90	110	0	0		
Fluoride	1.019	0.100	1	0	102	90	110	0	0		
Sulfate	10.58	1.00	10	0	106	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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

EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 200212024

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: Kathy Wager	Project Name (Location): Plwt ND LF	Samplers Name: David Hartz / Kathy Wager
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature: Kathy Wager
Client Email: kathy.wager@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm		Sample Type Matrix	C	G	# of Cont's	Preservative	Analysis
001	BR-14-UG-	2/11/20	1010	A P	GW		X	1	2	T metals, hardness
002	BR-3-DG-		1215	A P				1	2	D. metals
003	BR-12-DG-		1203	A P				1	0	Cl⁻, SO₄, TDS, F, NO₃
004	BR-13-DG-		1150	A P				2	1	NH₃, phenol
005	BR-20-DG-		1130	A P				1	0	Alkalinity
006	DUP		—	A P				1	10	TOC
001	BR-14-UG MS		1010	A P				3	3	LL Hg
	BR-14-UG MSD		1018	A P						
				A P						
	DL:			A P						
	Sb < 0.0004 mg/L			A P						
	Be < 0.0003 mg/L			A P						
	Tl < 0.0003 mg/L			A P						
	Li < 0.050 mg/L			A P						
				A P						

Shipment Arrived Via: FedEx UPS Client AES Other:

Turnaround Time Requested:

1 Day 2 Day 3 Day 5 Day (Standard)

NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:

T. metals: As, Ba, B, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na, Sb, Be, Cr, Co, Li, Tl

D. metals: As, Ba, B, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na

Relinquished by: (Signature) Kathy Wager	Received by: (Signature) FedEx	Date 2/11/20	Time 4:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by:	Date 2/13/20	Time 9AM

Sample Temperature

Ambient ~ (Chilled) ~ Chilling Begun

Notes:

Properly Preserved: (Y) / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other

Received Within Holding Times: (Y) / N

Notes:

Custody Seal Intact: (Y) / N

Bottles AES: (Y) / N

Demo
200212024

Adirondack Environmental Services Inc.

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EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 20021202Y

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: Kathy Wager	Project Name (Location): Plant ND LF	Samplers Name: David Hardy / Kathy Wager
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature: Kathy Wager
Client Email: kathy.wager@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm		Sample Type Matrix	C	G	# of Cont's	Preservative	Analysis
007	OB-2-UG	2/11/20	1050	A P	GW		X	1	2	T. metals, hardness
008	OB-4-DG		1222	A P			X	1	2	D. metals
009	OB-7-DG		1100	A P			X	1	0	Cl, SO_4, TDS, NO_3
010	OB-19-DG		1115	A P			X	2	1	NH_3, phenol
011	OB-20-DG		1123	A P			X	1	0	Alkalinity
				A P				1	10	TOC
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						
				A P						

Shipment Arrived Via:
FedEx UPS Client AES Other: _____

Turnaround Time Requested:
1 Day 2 Day 3 Day 5 Day (Standard)
NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:
T & D metals: As, Ba, B, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na
- metals AM field filtered

Relinquished by: (Signature) Kathy Wager	Received by: (Signature) FedEx	Date 2/11/20	Time 4:06
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by: KMG	Date 2/12/20	Time 9:47am

Sample Temperature
Ambient ~ (Chilled) ~ Chilling Begun
Notes:
Ice

Custody Seal Intact: (Y) / N

Bottles AES: (Y) / N

Properly Preserved: (Y) / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other H_3PO_4

Received Within Holding Times: (Y) / N
Notes:

Appendix D

Laboratory Results for SSL Confirmation (March 2020)

Experience is the solution
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(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

March 20, 2020

Dave Harty
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221

TEL: (716) 634-2293

Work Order No: 200313062

RE: Plant ND-LF SPDES
Plant ND LF-CCR

Dear Dave Harty:

Adirondack Environmental Services, Inc received 2 samples on 3/13/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Christopher Hess
QA Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:**	*20-Mar-20*
Project:	Plant ND-LF SPDES		
Lab Order:	200313062		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *20-Mar-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200313062**	**Collection Date:**	3/12/2020
Reference:	Plant ND-LF SPDES / Plant ND LF-CCR	**Lab Sample ID:**	200313062-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 3/16/2020)**						Analyst: **KH**
Lithium	**0.193**	0.050		mg/L	1	3/19/2020 2:53:00 PM

Adirondack Environmental Services, Inc

Date: *20-Mar-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Field Dup
Work Order:	**200313062**	**Collection Date:**	3/12/2020
Reference:	Plant ND-LF SPDES / Plant ND LF-CCR	**Lab Sample ID:**	200313062-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 3/16/2020)**						Analyst: **KH**
Lithium	**0.197**	0.050		mg/L	1	3/19/2020 2:58:00 PM

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CHAIN OF CUSTODY RECORD

AES Work Order # 200313062

Client Name:	Address:	
Frontier Technical Associates, Inc.	8675 Main Street, Williamsville, NY 14221	
Send Report To: David Harty	**Project Name (Location):** Plant NO LF-CCR	**Samplers: (Names):** David Harty
Client Phone No: 716-634-2293	**Client Email:** david.harty@frontiertechnical.com	**PO Number:**
		Samplers: (Signature):

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	BR-20-D6	3/12/20	10:~~20~~	A	GW		X	1	Lithium
				P					
002	Field Dup	3/12/20	10:25	A	GW		X	1	Lithium
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					

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

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

CC Report To / Special Instructions/Remarks:

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	To FedEx	3/12/20 3:00pm
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time
	Knox	3/13/20 1201pm

Temperature	AES Bottles		Properly Preserved	Received Within Holding Times
Ambient or (Chilled)	Y	N	(Y) N	(Y) N
Notes: 2°C	☑	☐	Notes:	

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services

200313062

Adirondack Environmental Services Inc.
Experience is the solution
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TERMS, CONDITIONS & LIMITATIONS

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

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

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

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

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

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

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

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

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April 07, 2020

Dave Harty
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221

TEL: (716) 634-2293

Work Order No: 200402011

RE: Plant N LF
Lithium Samples

Dear Dave Harty:

Adirondack Environmental Services, Inc received 3 samples on 4/2/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Monica Higdon
Laboratory Manager

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:**	*07-Apr-20*
Project:	Plant N LF		
Lab Order:	200402011		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *07-Apr-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200402011**	**Collection Date:**	3/31/2020
Reference:	Plant N LF / Lithium Samples	**Lab Sample ID:**	200402011-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 4/3/2020)**						Analyst: **KH**
Lithium	**0.253**	0.050		mg/L	1	4/6/2020 3:42:00 PM

Adirondack Environmental Services, Inc

Date: *07-Apr-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG-Dis
Work Order:	**200402011**	**Collection Date:**	3/31/2020
Reference:	Plant N LF / Lithium Samples	**Lab Sample ID:**	200402011-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 4/3/2020)**						Analyst: **KH**
Lithium	**0.275**	0.050		mg/L	1	4/6/2020 4:02:00 PM

Adirondack Environmental Services, Inc

Date: *07-Apr-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-19 Leachate
Work Order:	**200402011**	**Collection Date:**	3/31/2020
Reference:	Plant N LF / Lithium Samples	**Lab Sample ID:**	200402011-003
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 4/3/2020)**						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	4/6/2020 4:06:00 PM

Adirondack Environmental Services, Inc.

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EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 200402011

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: David Harty	Project Name (Location): Plant N - LF	Samplers Name: David Harty
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature:
Client Email: David.harty@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type Matrix	C	G	# of Cont's	Preser-vative	Analysis
001	BR-20-DG	3/31/20	1:10 AP	GW		X	1	2	Lithium
002	BR-20-DG-Dis	3/31/20	1:11 AP	GW		X	1	2	Lithium
003	MH-19 Leachate	3/31/20	12:47 AP	Leachate		X	—	2	Lithium

Shipment Arrived Via: FedEx UPS Client AES Other:_____

Turnaround Time Requested:

1 Day 2 Day 3 Day 5 Day ~~Standard~~

NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:

		Date	Time
Relinquished by: (Signature)	Received by: (Signature) To FedEx	4/1/20	2:00pm
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by:	4/2/20	10

Sample Temperature

Ambient ~ Chilled ~ Chilling Begun

Notes: 1°C

Custody Seal Intact: Y / N

Bottles AES: Y / N

Properly Preserved: Y / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other___

Received Within Holding Times: Y / N

Notes:

Demo
200402011

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TERMS, CONDITIONS & LIMITATIONS

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

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

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

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

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

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

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

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

Appendix E

April-May 2020 Supplemental Sampling Events

FRONTIER TECHNICAL ASSOCIATES, INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293
Environmental Monitoring and Consulting

May 27, 2020
(Revised 12/18/20)

Mr. George Streit
NRG Dunkirk Power, LLC
106 Point Drive North
Dunkirk, NY 14048

Re: Supplemental Well Monitoring at Dunkirk Landfill

Dear Mr. Streit:

On May 12, 2020, in accordance with your request, we sampled some of the supplemental wells associated with the Dunkirk Landfill. Some of these wells are not part of the normal NYSDEC Part 360 monitoring and also are not part of the CCR program. The locations of these wells are shown on the attached Figure. The wells were purged and sampled and the sampling field sheets are also attached. The well water was monitored for the field parameters and total and dissolved lithium.

A brief summary of the wells is presented below:

Well ID	Approximate Bottom Depth below grade	Description of Water Bearing Zone
BR-6-DG	17.96'	Gray shale bedrock
BR-12-DG	15.25'	Soft weathered shale
BR-13-DG	16.65'	Moderately hard shale
BR-15-DG	17'	Gray shale bedrock, soft
BR-20-DG	33.5'	Unknown (no well log)
OB-5-DG	5.7'	Clayey-Silt with bedrock refusal at bottom of hole
OB-7-DG	6.4'	Sand-Silt-Clay mix
OB-11-DG	4.5'	Sand-Silt-Clay mix with refusal at bottom of hole
OB-19-DG	7.5'	Unknown (no well log)
OB-20-DG	14.6'	Unknown (no well log)
FA-10-DG	14.5'	Black flyash

From an understanding of the results perspective, a couple of notes are in order. The designation BR stands for bedrock. Bedrock on this site is a layered shale sometimes denoted soft and sometimes denoted hard. The OB designation stands for overburden, although these shallow wells often scratched the surface of the shale bedrock and thus are not truly overburden wells. BR-12-DG, BR-13-DG, BR-20-DG, OB-19-DG and OB-20-DG are part of the NYSDEC Part 360 monitoring and there is historical data available for these wells, until recently lithium was not examined in these wells.

The water bearing zone for well FA-10-DG is in 8' ofblack flyash. This well is approximately 1,300 feet from the landfill and visually looks like the surrounding area and not a fill site.

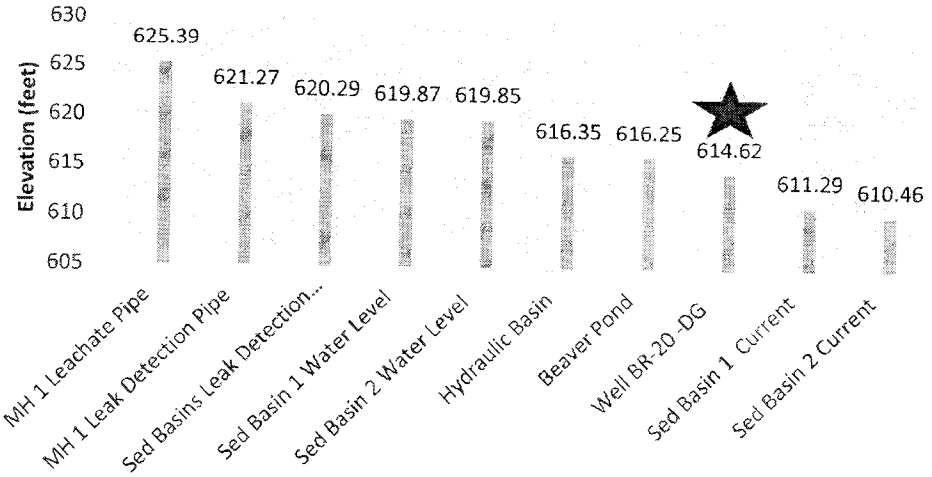
The field measurements are summarized below:

Well ID	pH (SU)	Specific Conductance (umhos/cm)	ORP/eH	Turbidity (NTU)
BR-6-DG	6.87	909	-90	56.7
BR-12-DG	7.05	982	-144	13.5
BR-13-DG	7.21	633	-89	12.7
BR-15-DG	7.98	563	-80	189
BR-20-DG	7.52	1,125	-91	13.8
OB-20-DG	7.20	945	-94	38.7
OB-5-DG	6.65	1,580	42	4.95
OB-7-DG	6.77	963	60	5.08
OB-11-DG	7.39	482	56	16.4
OB-19-DG	7.05	1,408	-130	14.2
FA-10-DG	7.43	1,394	-82	15.8

Direction of Groundwater Flow

The direction of groundwater gradients in the bedrock wells is instructional for further understanding

Groundwater Elevations - NRG Dunkirk Landfill
May 2020



The groundwater elevations followed the expected pattern with BR-14-UG the upgradient well and BR-12-DG the downgradient well at the edge of the property. Well BR- 3 being somewhat off to the side. The well where we should reexamine the data is BR-15-DG where two factors are impacting the reliability of the data. The first is the survey data only shows a ¼" difference between the concrete pad and the well but in reality this is closer to two feet. There was also a significant amount of soil in the bottom of the well and this could be influencing the groundwater level. This well should be further redeveloped and resurveyed if needed in this evaluation.

Lithium Results

The table below presents the total and dissolved lithium results obtained from the wells on May 12, 2020.

Lithium Results in Wells at NRG Dunkirk Landfill (May 12, 2020)		
Well ID	Lithium Concentration (mg/l)	
	Total	Dissolved
BR-6-DG	< 0.050	< 0.050
BR-12-DG	< 0.050	< 0.050
BR-13-DG	< 0.050	< 0.050
BR-15-DG	< 0.050	< 0.050
BR-20-DG	0.208	0.211
OB-20-DG	0.095	0.060
OB-5-DG	9.94	10.1
OB-7-DG	< 0.050	< 0.050
OB-11-DG	< 0.050	< 0.050
OB-19-DG	< 0.050	< 0.050
FA-10-DG	0.336	0.313

Observations are tentative and subject to revision based on additional data. If you have any questions please do not hesitate to contact me.

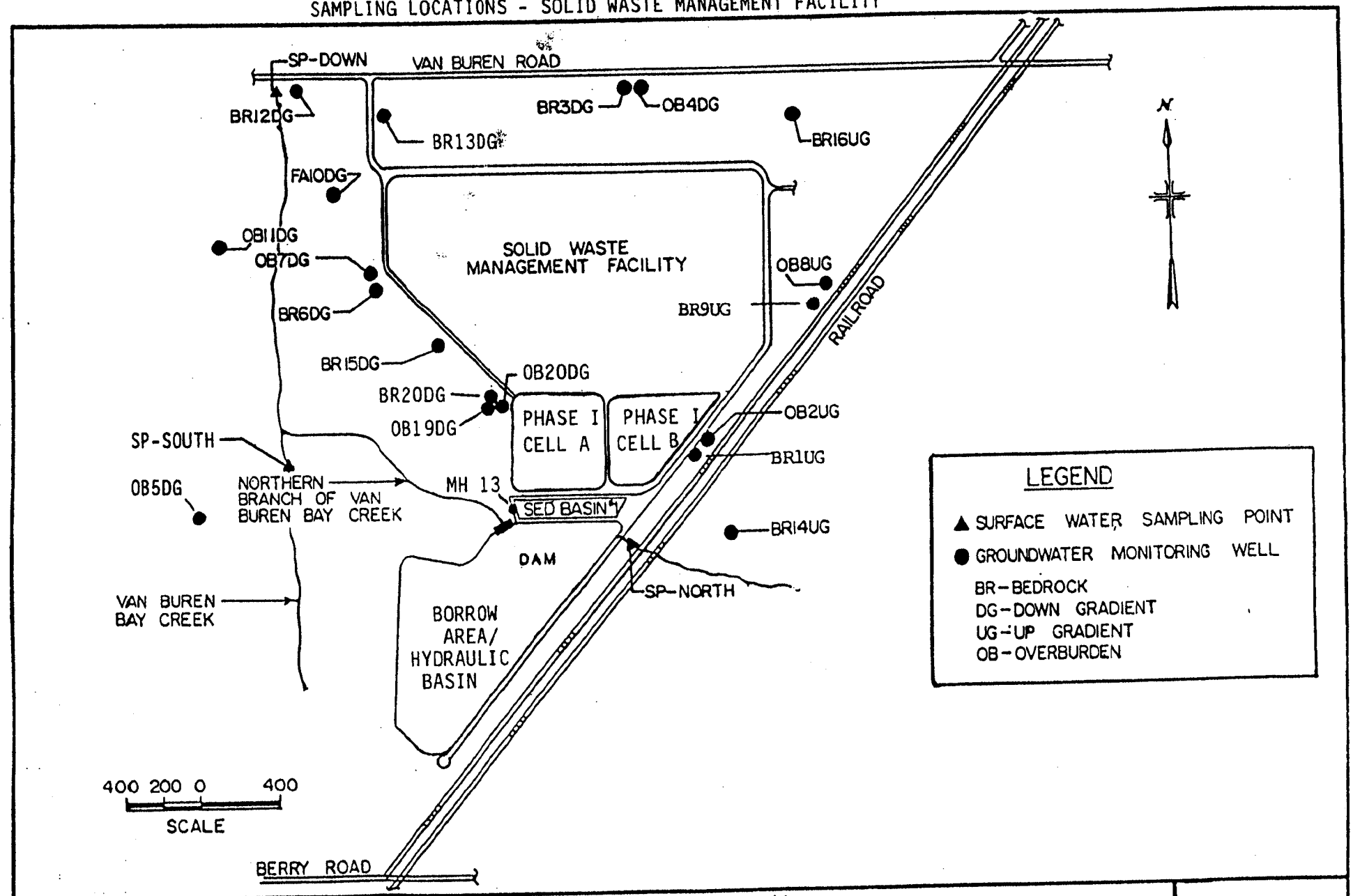
Sincerely,

David M. Harty,

P.E., BCEE President

DMH:20-120 (Revised)
200514014

SAMPLING LOCATIONS - SOLID WASTE MANAGEMENT FACILITY



NIAGARA MOHAWK

SAMPLING LOCATIONS

FIGURE 2-1

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Project No.: ET-1066

Sample Point I.D.: OB- 5- DG Date: 5/13/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 8.20 ft

Depth to Water Surface: 2.90 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 5.30 ft Elevation of Casing: 619.92

Volume of Standing Water in Well: 3.5 gallons

Start of Purge – Time: 10:25

End of Purge – Time: 10:51

Total Volume Purged: 10.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)				Sample
					3.5		8.5	5/13/20
Time	--	--	10:28		10:34		10:45	10:51
pH	Oakton pH 300	SM 18-20 4500HB	6.13		6.60		6.66	6.65
Spec. Conductance	Oakton CON 5	EPA 120.1	2230		1980		1650	1580
Temperature	Oakton CON 5	SM 18-20 2550B	51		50		51	50
Eh	ORP tester	ASTM D1498	6		2		38	42
Turbidity	Hach 2100P	EPA 180.1	72.2		42.5		20.1	4.95
Appearance	--	--	Slightly Turbid		Slightly Turbid		Clear	Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 5.78 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: _____

Sampling Personnel: David Harty

Sampling Personnel Signature: DHarty

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: OB-7-DG Date: 5/12/20

Purge Information Purge Method: Bailer / Peristaltic Pump

Depth to Bottom of Well: 8.87 ft

Depth to Water Surface: 2.48 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 6.39 ft Elevation of Casing: 614.13

Volume of Standing Water in Well: 4.2 gallons

Start of Purge – Time: 10:08

End of Purge – Time: 10:20

Total Volume Purged: 7.5 gallons Well Purged Dry: Yes / No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					4.2				5/13/20
Time	--	--	10:08		10:15				11:58
pH	Oakton pH 300	SM 18-20 4500HB	6.71		6.72				6.77
Spec. Conductance	Oakton CON 5	EPA 120.1	1378		1088				963
Temperature	Oakton CON 5	SM 18-20 2550B	48		48				48
Eh	ORP tester	ASTM D1498	46		56				60
Turbidity	Hach 2100P	EPA 180.1	9.11		16.0				5.08
Appearance	--	--	Clear		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 3.85 ft. Sample Method: Bailer / Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hartz

Sampling Personnel Signature: DHH

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: OB-11DG Date: 5/13/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 7.25 ft 4" well = 0.66 gallons per foot

Depth to Water Surface: 2.90 ft

Depth of Water Column: 4.35 ft

Volume of Standing Water in Well: 2.9 gallons

Start of Purge – Time: 11:12 am

End of Purge – Time: 11:30 am

Total Volume Purged: 9.0 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.9				3.0
Time	--	--	11:13		11:15				11:30
pH	Oakton pH 300	SM 18-20 4500HB	7.76		7.53				7.39
Spec. Conductance	Oakton CON 5	EPA 120.1	463		474				482
Temperature	Oakton CON 5	SM 18-20 2550B	53		53				56
Eh	ORP tester	ASTM D1498	39		-1				-35
Turbidity	Hach 2100P	EPA 180.1	4.95		2.22				16.4
Appearance	--	--	clear		clear				clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 6.50 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Harty

Sampling Personnel Signature: DHM

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: OB-19-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 10.55 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 3.08 ft

Depth of Water Column: 7.47 ft Elevation of Casing: 625.36

Volume of Standing Water in Well: 1.27 gallons

Start of Purge – Time: 10:30 am

End of Purge – Time: 10:40 am

Total Volume Purged: 3.2 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					1.5				5/13/20
Time	--	--	10:30		10:36				12:39
pH	Oakton pH 300	SM 18-20 4500HB	6.67		6.70				7.05
Spec. Conductance	Oakton CON 5	EPA 120.1	2180		2070				1408
Temperature	Oakton CON 5	SM 18-20 2550B	47		48				50
Eh	ORP tester	ASTM D1498	-36		-47				-130
Turbidity	Hach 2100P	EPA 180.1	8.25		10.5				14.2
Appearance	--	--	Clear		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 5.80 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Harty

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: OB-20-DG Date: 5/12/20

Purge Information Purge Method: Bailer, (Peristaltic Pump)

Depth to Bottom of Well: 17.61 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 3.02 ft

Depth of Water Column: 14.59 ft Elevation of Casing: 625.35

Volume of Standing Water in Well: 2.5 gallons

Start of Purge – Time: 10:42am

End of Purge – Time: 11:34am

Total Volume Purged: 6.5 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.5		4.0	6.5	5/13/20
Time	--	--	10:42		10:52		11:04	11:34	12:57
pH	Oakton pH 300	SM 18-20 4500HB	6.82		7.02		7.06	7.23	7.20
Spec. Conductance	Oakton COM 6=	EPA 120.1	1393		1322		1308	1108	945
Temperature	emi 550	SM 18-20 2550B	49		50		50	50	50
Eh	ORP tester	ASTM D1498	-6		5		1	-34	-94
Turbidity	Hach 2100P	EPA 180.1	7200		18.1		9.97	9.68	38.7
Appearance	--	--	Rock Flour		Clear		Clear	Clear	Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 8.69 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hartz

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Project No.: ET-1066

Sample Point I.D.: BR-6-DG Date: 5/12/20

Purge Information Purge Method: Pump

Depth to Bottom of Well: 20.18 ft

Depth to Water Surface: 3.12 ft 4" well = 0.66gallons per foot

Depth of Water Column: 17.06 ft Elevation of Casing: 613.67

Volume of Standing Water in Well: 18.1 gallons

Start of Purge – Time: 1:47

End of Purge – Time: 2:38

Total Volume Purged: 55 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
				8	15	21	30	50	5/13/20
Time	--	--	1:47	1:54	2:05	2:12	2:19	2:33	12:11
pH	Oakton pH 300	SM 18-20 4500HB	8.26	7.71	7.36	7.33	7.36	7.35	6.87
Spec. Conductance	Oakton CON 5	EPA 120.1	1181	1132	1093	1086	1084	1076	909
Temperature	Oakton CON 5	SM 18-20 2550B	48	48	48	47	47	47	48
Eh	ORP tester	ASTM D1498	-47	-94	-158	-196	-204	-183	-90
Turbidity	Hach 2100P	EPA 180.1	2.50	7.22	3.13	7.25	5.36	35	567
Appearance	--	--	Slightly Turbid	Clear	Clear	Clear	Clear	Slightly Turbid.	Slightly Turbid

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 3.96 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hardy

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: BR-12-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 17.37 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 5.05 ft

Depth of Water Column: 12.32 ft Elevation of Casing: 600.65

Volume of Standing Water in Well: 2.1 gallons

Start of Purge – Time: 11:30

End of Purge – Time: 11:47

Total Volume Purged: 6.3 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.1	4.2	6.3		5/13/20
Time	--	--	11:32		11:37	11:42	11:47		12:35
pH	Oakton pH 300	SM 18-20 4500HB	7.17		7.18	7.18	7.26		7.05
Spec. Conductance	Oakton CON 5	EPA 120.1	758		755	762	756		982
Temperature	Oakton CON 5	SM 18-20 2550B	10.1		10.1	11.3	10.5		11.2
Eh	ORP tester	ASTM D1498	-107		-131	-139	-137		-144
Turbidity	Hach 2100P	EPA 180.1	3.36		3.05	1.41	2.36		13.5
Appearance	--	--	clear		clear	clear	clear		clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 6.34 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: _____

Sampling Personnel: Kathy Wagner

Sampling Personnel Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sed. Basin No. 2 Well Project No.: ET-1066

Sample Point I.D.: BR-13-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 19.21 ft

Depth to Water Surface: 3.94 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 15.27 ft Elevation of Casing: 607.42

Volume of Standing Water in Well: 10 gallons

Start of Purge – Time: 11:54

End of Purge – Time: 12:05

Total Volume Purged: 12.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					10				5/13/20
Time	--	--	11:54		12:00				12:58
pH	Oakton pH 300	SM 18-20 4500HB	7.26		7.23				7.21
Spec. Conductance	Oakton CON 5	EPA 120.1	666		674				633
Temperature	Oakton CON 5	SM 18-20 2550B	10.8		10.1				12.2
Eh	ORP tester	ASTM D1498	-116		-135				-89
Turbidity	Hach 2100P	EPA 180.1	6.6		15.0				12.7
Appearance	--	--	Clear		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 6.14 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: Kathy Wager

Sampling Personnel Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: BR-20-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 35.99 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 10.42 ft

Depth of Water Column: 25.57 ft Elevation of Casing: 625.43

Volume of Standing Water in Well: 4.35 gallons

Start of Purge – Time: 11:10 am

End of Purge – Time: 11:18 am

Total Volume Purged: 4.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					4.0				5/13/20
Time	--	--	11:10		11:18				1:15pm
pH	Oakton pH 300	SM 18-20 4500HB	7.76		7.55				7.52
Spec. Conductance	Oakton CON 6+	EPA 120.1	1127		633				1125
Temperature	emi 550	SM 18-20 2550B	51		51				51
Eh	ORP tester	ASTM D1498	-24		-34				-91
Turbidity	Hach 2100P	EPA 180.1	7.60		4.41				13.8
Appearance	--	--	Clear		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 25.16 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: Dup

Sampling Personnel: David Harty

Sampling Personnel Signature: DH

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: FA-10-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 16.56 ft 2well = 0.17 gallons per foot

Depth to Water Surface: 6.58 ft

Depth of Water Column: 10.28 ft

Volume of Standing Water in Well: 1.74 gallons

Start of Purge – Time: 3:30pm

End of Purge – Time: 3:58

Total Volume Purged: 4.0 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.5				5/13/20
Time	--	--	3:29		3:35				1:50pm
pH	Oakton pH 300	SM 18-20 4500HB	7.25		7.25				7.43
Spec. Conductance	Oakton CON 5	EPA 120.1	1930		1960				1394
Temperature	Oakton CON 5	SM 18-20 2550B	49		50				51
Eh	ORP tester	ASTM D1498	-61		-69				-82
Turbidity	Hach 2100P	EPA 180.1	201		203				15.8
Appearance	--	--	Reddish		Clear				Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 9.50 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Harty

Sampling Personnel Signature: DH

Adirondack Environmental Services Inc

Experience is the solution

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

May 26, 2020

Kathy Wager
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221

TEL: (716) 634-2293

Work Order No: 200514014

RE: Plant ND GW
CCR

Dear Kathy Wager:

Adirondack Environmental Services, Inc received 11 samples on 5/14/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Christopher Hess
QA Manager

Adirondack Environmental Services, Inc — CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:** *26-May-20*
Project:	Plant ND GW	
Lab Order:	200514014	

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-6-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 1:44:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 3:50:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-12-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 1:48:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:01:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-13-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-003
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 1:52:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:05:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-15-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-004
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 2:04:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:08:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-005
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**0.208**	0.050		mg/L	1	5/22/2020 2:38:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**0.211**	0.050		mg/L	1	5/22/2020 4:12:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-5-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-006
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**9.94**	0.050		mg/L	1	5/22/2020 2:50:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**10.1**	0.050		mg/L	1	5/22/2020 4:16:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-7-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-007
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 2:55:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:20:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-11-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-008
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 3:00:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:33:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-19-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-009
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**ND**	0.050		mg/L	1	5/22/2020 3:04:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**ND**	0.050		mg/L	1	5/22/2020 4:36:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-20-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-010
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**0.095**	0.050		mg/L	1	5/22/2020 3:09:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**0.060**	0.050		mg/L	1	5/22/2020 4:40:00 PM

Adirondack Environmental Services, Inc

Date: *26-May-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	FA-10-DG
Work Order:	**200514014**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW / CCR	**Lab Sample ID:**	200514014-011
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium	**0.336**	0.050		mg/L	1	5/22/2020 3:19:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Lithium, Dissolved	**0.313**	0.050		mg/L	1	5/22/2020 4:43:00 PM

Adirondack Environmental Services Inc.®

EXPERIENCE IS THE SOLUTION

314 North Pearl Street
Albany, NY 12207
518-434-4546 / FAX: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#: 200514014

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: Kathy Wager	Project Name (Location): PLWT WD LF CCR	Samplers Name: Dave Hanby / Kathy Wager
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature: Kath Wager
Client Email: kathy.wager@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type Matrix	C	G	# of Cont's	Preser-vative	Analysis
001	BR-6-DG	5/13/20	12:11 AP	GW		X	2	2	T D D Li
002	BR-12-DG		12:34 AP						
003	BR-13-DG		12:50 AP						
004	BR-15-DG		1:40 AP						
005	BR-20-DG		1:15 AP						
006	OB-5-DG		10:57 AP						
007	OB-7-DG		11:58 AP						
008	OB-11-DG		11:30 AP						
009	OB-19-DG		12:39 AP						
010	OB-20-DG		12:57 AP						
011	FA-10-DG		1:50 AP						
			AP						
			AP						
			AP						
			AP						
			AP						

Shipment Arrived Via: FedEx UPS Client AES Other:

Special Instructions/Remarks: Dissolved Li field filtered.

Turnaround Time Requested:

1 Day 2 Day 3 Day 5 Day Standard

NOTE: Samples received after 3:30pm are considered next business day.

Relinquished by: (Signature) Kath Wager	Received by: (Signature) FED X	Date 5/13/20	Time 4:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by: Kmag	Date 5/14/20	Time 1007am

Sample Temperature

Ambient ~ Chilled ~ Chilling Begun

Notes: 13°C

Properly Preserved: Y / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Othe

Received Within Holding Times: Y / N

Notes:

Custody Seal Intact: Y N

Bottles AES: Y / N

Demo
200514014

Appendix F

2nd Quarter 2020 CCR Assessment Monitoring Report (May 2020)

FRONTIER TECHNICAL ASSOCIATES INC.

ATTORNEY CLIENT PRIVILEGED

QUARTERLY SAMPLING AND ANALYSIS REPORT FOR CCR PARAMETERS DUNKIRK FLYASH LANDFILL (Second Quarter 2020)

FTA Report CCR-D-20-02
DUN LF CCR 2 QTR 2020

June 12, 2020

Prepared for:

Mr. Gregory M. Brown, Esq.
BROWN DUKE & FOGEL, P.C.
100 Madison Street, AXA Tower 1, Ste. 1820
Syracuse, New York 13202

Prepared by:

Frontier Technical Associates, Inc.
8675 Main Street
Williamsville, New York 14221

The analytical test results reported herein were performed to professional standards of the NYSDOH ELAP program. The analytical data are for management use only, and except for regulatory compliance reporting, are not intended for any other purpose.

TABLE OF CONTENTS

FRONTIER TECHNICAL ASSOCIATES INC.

QUARTERLY SAMPLING AND ANALYSIS REPORT
DUNKIRK FLYASH LANDFILL
(Second Quarter 2020)

INTRODUCTION

NRG Dunkirk Power, LLC owns and operates the Dunkirk Solid Waste Management Facility (Dunkirk Flyash Landfill) for their exclusive use in the Town of Pomfret, New York. Wastes received at the landfill were limited to flyash, bottom ash, pyrites and wastewater treatment sludges from NRG Dunkirk fossil fuel combustion facilities.

The landfill is located on a 339.6 acre property (9 parcels) of land at the location shown on Figure 1. Figure 2 is an aerial photograph of the site. The landfill is on the south side of Van Buren Road and is surrounded by railroads, industrial, farmland and vacant properties. Landfill activities in the southern portion of the site as shown are complete as these cells are closed (Phase 1). The active cells (Phase 2) are in the north side of the site.

In response to the requirements of the EPA Coal Combustion Residue requirements, Frontier Technical Associates, Inc. has completed groundwater monitoring report for the Second Quarter of 2020 for the Dunkirk Landfill. This analytical data report provides the information for reporting to the USEPA and NYSDEC. The monitoring included five monitoring wells.

SCOPE

This report presents the sampling and analytical results for the quarterly monitoring event at the NRG Dunkirk Landfill. Groundwater sampling and field measurements were performed by Frontier Technical Associates, Inc. and laboratory measurements were performed by Adirondack Environmental Services, Inc. Adirondack Environmental Services is a NYSDOH ELAP certified laboratory (ELAP No. 10709). Pace Analytical performed the radium testing and they are a NYSDOH ELAP certified laboratory (ELAP No. 10888). This report includes the following elements:

- Figures showing the location of the sampling points.
- Field data sheets showing the purging and sampling information and field measurements for pH, specific conductance, temperature and turbidity.

Figure 1. Site Location

Scale 1:72,224

0 8,100 16,200 Feet

0 1.5 3 Miles

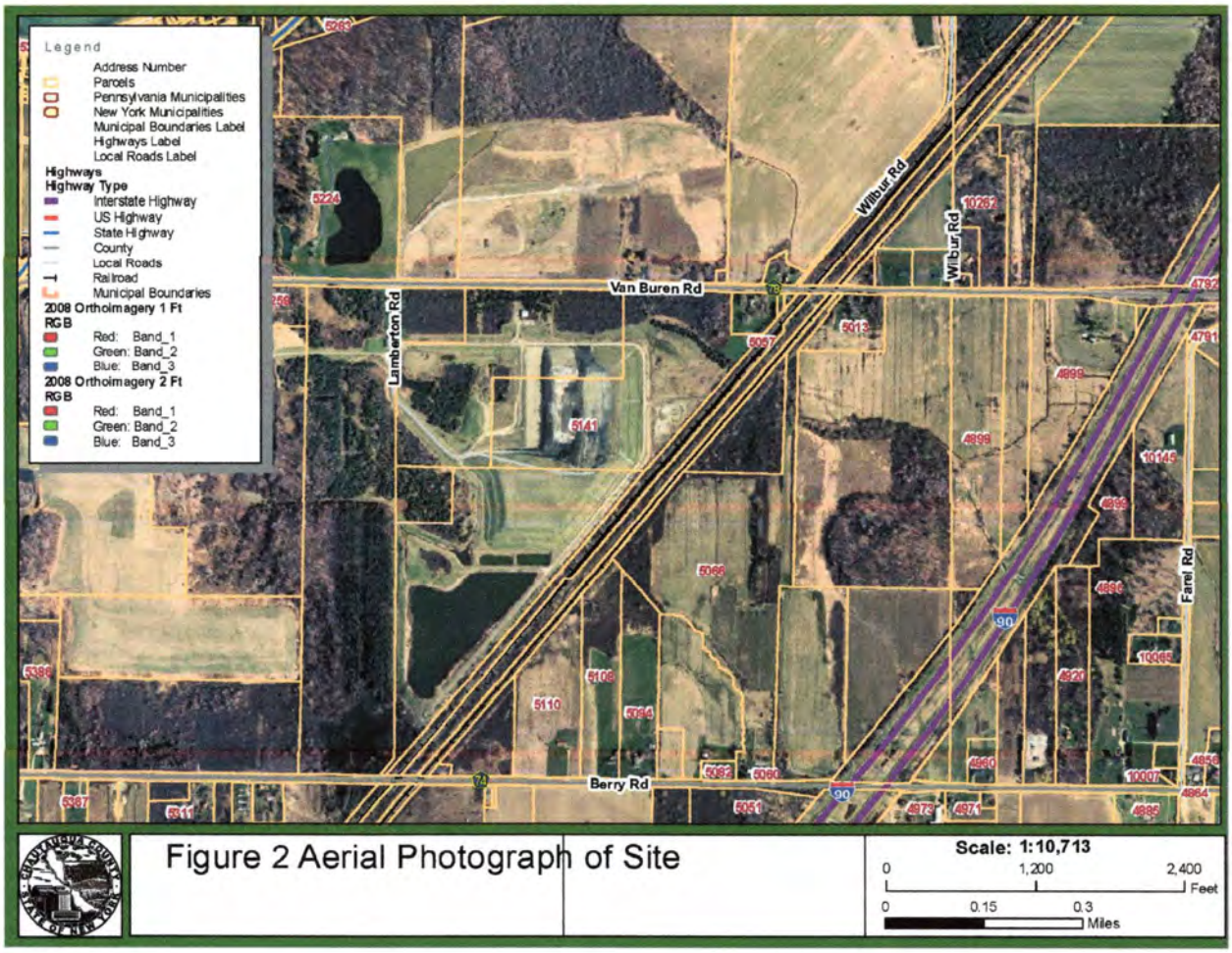


Figure 2 Aerial Photograph of Site

- Analytical methods and laboratories used.
- Data summary tables.
- Quality control and quality assurance data.
- Chain-of-custody records.
- Monitoring Point Assessment Forms

DATA QUALITY OBJECTIVES

The primary data quality objectives of the monitoring program are to obtain representative samples and accurate analytical results of the groundwater at the Dunkirk Landfill. The results are to be used in the assessment of the groundwater.

SITE HISTORY

NRG Dunkirk has operated this facility since 1999 and prior to that the site was owned and operated by Niagara Mohawk from 1988 to 1999. Over its operating history the facility has been developed in phases. Phase I of the facility located in the southern portion of the site consists of two cells. The two cells A & B, approximately 18.8 acres, have been filled to capacity and are closed and capped. Phase I is monitored by three (3) wells, OB-19-DG, OB-20-DG, and BR-20-DG, all located in a cluster northwest of Phase I.

Phase II is located immediately north of the Phase I development and consists of approximately 35 acres which is divided into three (3) cells. Phase II Cell A consists of approximately 11.4 acres and was constructed in 1993. This cell is nearing its capacity and was partially capped in 2001 and 2008. Phase II Cell B-1 was constructed in 2004 and Phase II Cell B-2 was constructed in 2010. The total acreage of Cell B is 11.6 acres and it is adjacent to and west of Phase II Cell A. Leachate from both Phase I and Phase II development drains to the sedimentation basins on the south side of the site.

MONITORING LOCATIONS

The locations of the monitoring points are shown on Figure 3. These wells are also used for monitoring under the NYSDEC Part 360 requirements. The NYSDEC monitoring includes additional soil profile wells, leachate collection monitoring, leachate monitoring and surface water

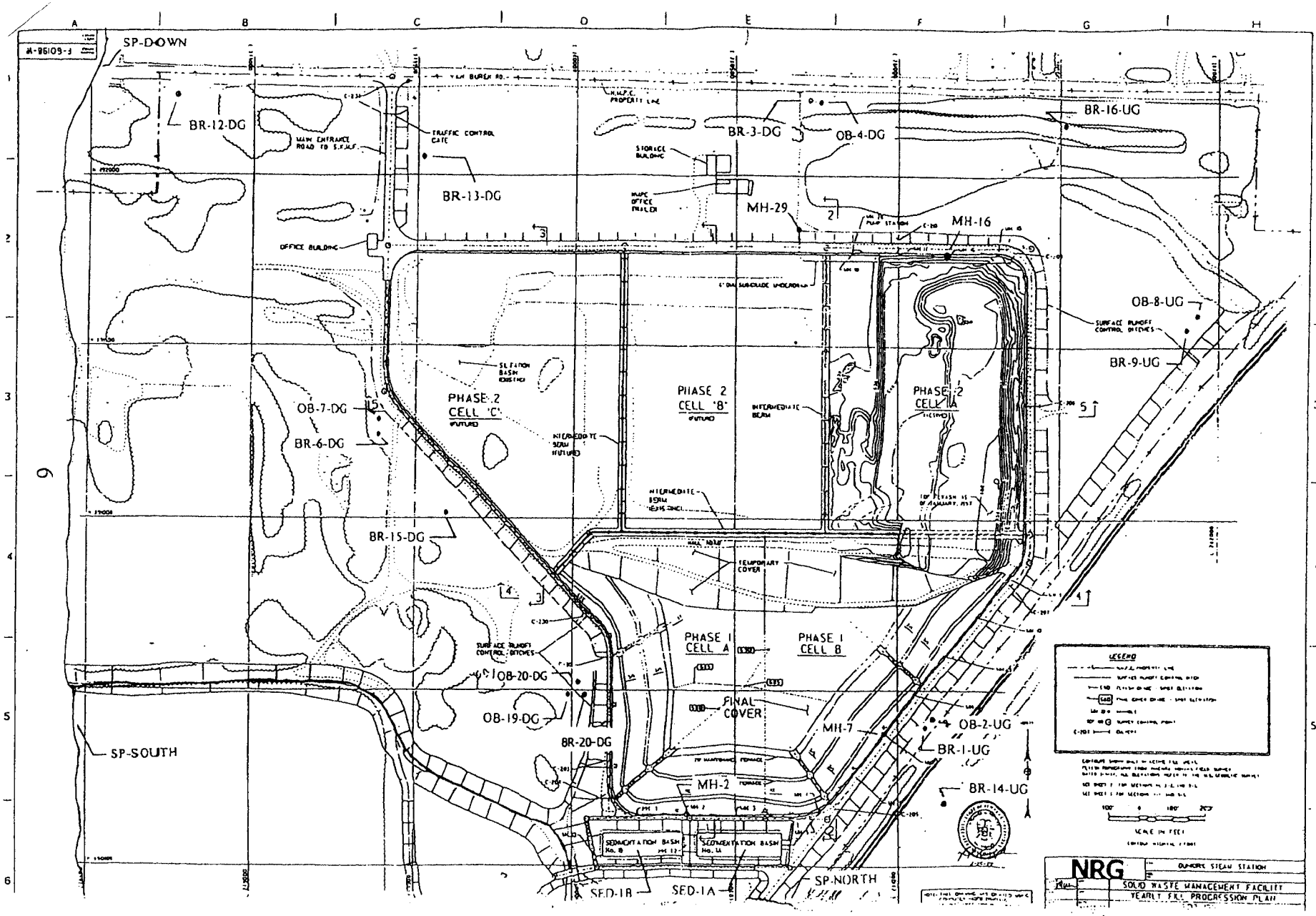


Figure 3- Monitoring Locations

monitoring. This additional data is reported to the NYSDEC under the provision of the Landfill Permit. The groundwater monitoring is sampled at the following locations:

BR-14-UG (up-gradient well of Phase 1 and Phase 2) – Bedrock Well

Downgradient Wells

BR-20-DG	Bedrock Well
BR-3-DG	Bedrock Well
BR-12-DG	Bedrock Well
BR-13-DG	Bedrock Well

GROUNDWATER ELEVATIONS

Groundwater elevations are measured quarterly in each of the wells. Table 1 is a summary of the groundwater elevations this quarter. Well BR-14-UG is the up-gradient well. Graphical representation of historical groundwater elevations can be found in the Appendix.

SAMPLING PERSONNEL

Field Crew – Kathy Wager and David Harty
Frontier Technical Associates, Inc.

SAMPLING EQUIPMENT AND CONTAINERS

The sampling equipment is constructed of inert materials. Dedicated tubing is used to obtain the samples. The tubing used is polyethylene food grade tubing. The tubing is stored in the well casing.

The sample containers are polyethylene or glass as required by the analytical protocols and are prepared by the laboratory performing the analysis. The samples are preserved as required by the analytical methods immediately in the field. The samples collected are placed under chain-of-custody and a chain-of-custody record is shipped with the samples. The sample date, time of collection, analytical parameters to be tested, sampler identification and times of possession are marked on the chain-of-custody record.

TABLE 1
GROUNDWATER ELEVATION DATA
NRG DUNKIRK LANDFILL CCR
SECOND QUARTER 2020

MONITORING WELL	DATE	CASING ELEVATION (feet)	DEPTH TO WATER (feet)	WATER ELEVATION (feet)	WELL LENGTH (feet)	HEIGHT OF WATER COLUMN (feet)
BR-14-UG	5/13/2020	629.01	4.64	624.37	26.25	21.61
BR-3-DG	5/12/2020	618.20	4.25	613.95	18.75	14.50
BR-12-DG	5/12/2020	600.62	5.05	595.57	17.37	12.32
BR-13-DG	5/12/2020	607.41	3.94	603.47	19.21	15.27
BR-20-DG	5/12/2020	625.74	10.42	615.32	35.99	25.57

MONITORING POINT ASSESSMENT

Prior to purging and sampling at each of the wells, a physical assessment of the well is made to determine if the well is suitable. These monitoring point assessment forms are presented in the Appendix. All wells were determined to be in good condition.

WELL PURGING

The wells were purged with a peristaltic or submersible pump prior to sampling. The wells were purged to remove three standing well volumes of water or to dryness. The well purging information is recorded on the Field Observations Forms in the Appendix.

LABORATORIES

In accordance with the requirements of this project and the NYSDEC, Adirondack Environmental Services, Inc., (ELAP No. 10709) a NYSDOH ELAP certified laboratory, was contracted to perform the analyses for the samples collected. The EPA and Standard Methods analytical methods used are present in the laboratory report. The radium 226 and radium 228 are determined by Pace Analytical Services, Greensburg PA (ELAP No. 10888) under contract to Frontier Technical Associates.

FIELD INFORMATION

Field analyses were completed for pH, specific conductance, Eh, temperature and turbidity for each of the samples. These field data are summarized on Table 2. In general, the field parameters, pH, specific conductance, Eh, temperature and turbidity were typical of previous sampling episodes.

ANALYTICAL TESTING

The analytical parameters, results and test methods used are summarized in the Appendix. The appendices provide the following information:

- Laboratory Data Sheets
- QA/QC Documentation
- Field Data Sheets
- Chain-of-Custody Records

The complete data laboratory report for this sampling event is attached.

QA/QC

The elements of the QA/QC program for this round of sampling include the following:

- Case Narrative (See Appendix)
- Blind Duplicate (Well BR-20-DG)
- Method Blanks
- Matrix Spike/Matrix Spike Duplicate (Well BR-14-UG)

The impact these quality control samples had is discussed in the Case Narrative (See Appendix).

RESULTS

The analytical results are summarized in Table 2. The well samples were analyzed for the CCR Appendix IV parameters. The QA/QC on the data is acceptable. The data is to be evaluated after all the data under this program is gathered.

SUMMARY

The well monitoring was completed in accordance with the agreed on scope of work. The data will be summarized further for use under the CCR requirements.

FRONTIER TECHNICAL ASSOCIATES INC.

TABLE 2
SUMMARY OF ANALYSIS OF CCR PARAMETERS
NRG Dunkirk Landfill
SECOND QUARTER 2020 - May 13, 2020

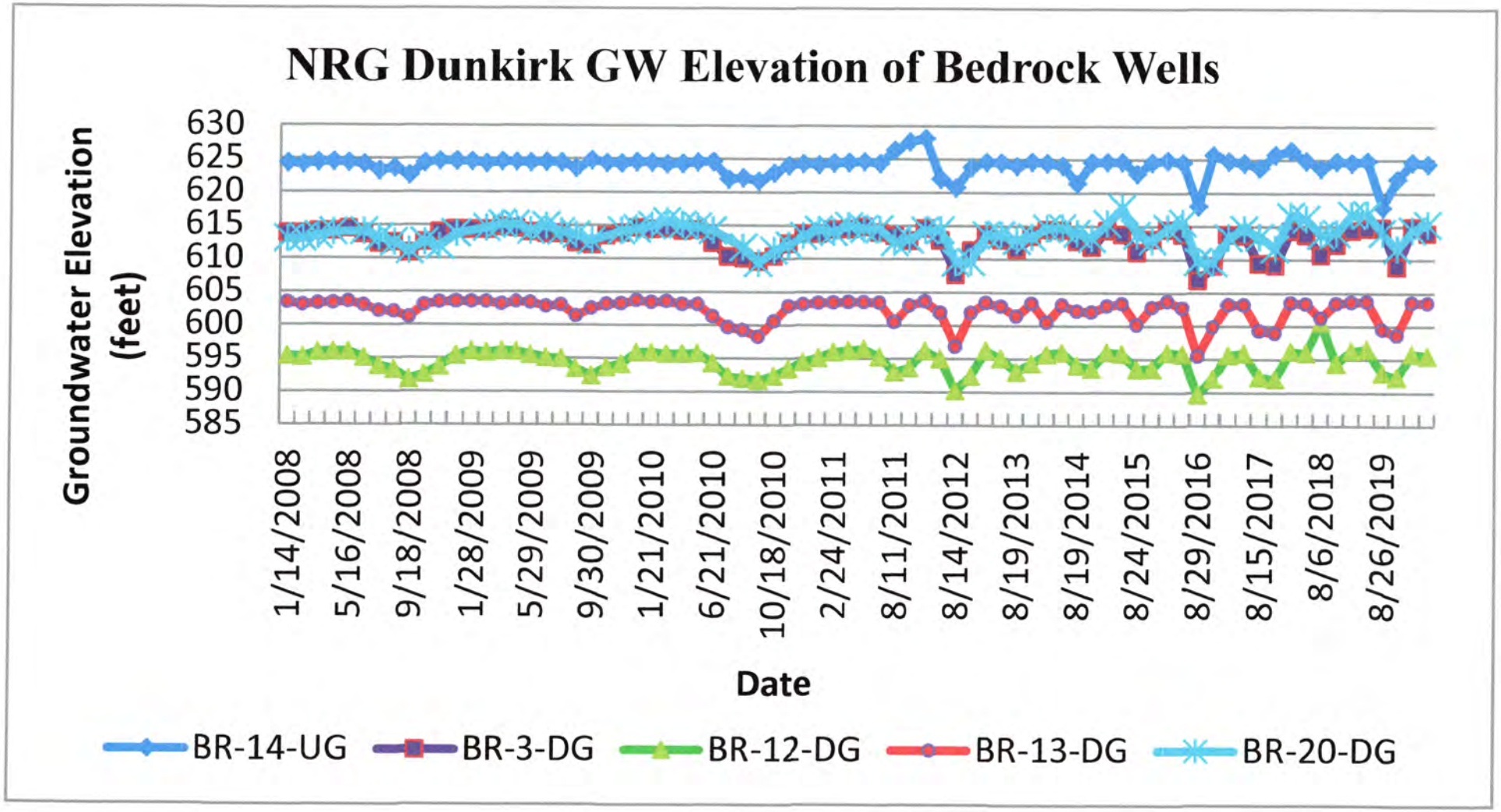
	CONCENTRATION (mg/l) unless noted					
	BR-14-UG	BR-3-DG	BR-12-DG	BR-13-DG	BR-20-DG	Field Dup BR-20-DG
Casing Elevation (feet)	629.01	618.20	600.62	607.41	625.74	*
Depth to Water (feet)	4.64	4.25	5.05	3.94	10.42	*
Water Elevation (feet)	624.37	613.95	595.57	603.47	615.32	*
Well Length (feet)	26.25	18.75	17.37	19.21	35.99	*
Height of Water Column (feet)	21.61	14.5	12.32	15.27	25.57	*
pH (SU)	7.38	7.52	7.05	7.21	7.52	**
Specific Conductance (umhos/cm)	516	580	982	633	1125	**
Temp (F)	56	52	52	54	51	**
Turbidity (NTU)	44.9	24.4	13.5	12.7	13.8	**
Eh (MV)	-100	-108	-144	-89	-91	**
Chloride	2.83	21.5	183	7.91	18.1	17.5
Fluoride	< 0.20	< 0.20	< 0.20	< 0.20	0.31	0.32
Sulfate	67.4	230	194	159	< 4.00	< 4.00
TDS	420	625	815	545	635	595
Antimony	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005	0.0005
Barium	0.175	0.032	0.038	0.077	1.95	2.00
Boron	0.164	0.097	0.079	0.153	1.47	1.50
Calcium	91.7	140	179	125	25.8	26.3
Lithium	< 0.050	< 0.050	< 0.050	< 0.050	0.266	0.292
Mercury, ng/l	0.8 N	0.9	< 0.5	< 0.5	2.4	2.4
Radium 226, pCi/l	0.998	0.657	0.143	0.607	0.941	0.203
Radium 228, pCi/l	0.229	0.237	0.324	0.573	0.128	1.02

N: Matrix spike was below acceptable limits.

*: See parent sample

APPENDIX

Graphical Representation of Groundwater Elevations
Well Monitoring Field Forms
Laboratory Reports
Chain-of-Custody Records


NRG Dunkirk GW Elevation of Bedrock Wells
Groundwater Elevation (feet)
630
625
620
615
610
605
600
595
590
585
1/14/2008
5/16/2008
9/18/2008
1/28/2009
5/29/2009
9/30/2009
1/21/2010
6/21/2010
10/18/2010
2/24/2011
8/11/2011
8/14/2012
8/19/2013
8/19/2014
8/24/2015
8/29/2016
8/15/2017
8/6/2018
8/26/2019
Date
BR-14-UG
BR-3-DG
BR-12-DG
BR-13-DG
BR-20-DG

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: BR-3-DG Date: 5/12/10

Purge Information Purge Method: Bailer (Peristaltic) Pump

Depth to Bottom of Well: 18.75 ft

Depth to Water Surface: 4.25 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 14.5 ft Elevation of Casing: 618.15

Volume of Standing Water in Well: 9.6 gallons

Start of Purge – Time: 9:27

End of Purge – Time: 10:46

Total Volume Purged: 28.8 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					9.6	19.2	28.8		5/13/10
Time	--	--	9:27		9:48	10:17	10:46		1:10
pH	Oakton pH 300	SM 18-20 4500HB	7.32		7.36	7.39	7.42		7.52
Spec. Conductance	Oakton COM 5	EPA 120.1	691		630	609	607		588
Temperature C	Oakton COM 5	SM 18-20 2550B	9.5		10.6	12.8	15.8		11.7 (53°F)
Eh	ORP tester	ASTM D1498	-112		-87	-141	-161		-168
Turbidity	Hach 2100P	EPA 180.1	31.5		97.6	50.8	112		24.4
Appearance	--	--	sl. cloudy		cloudy	sl. cloudy	sl. cloudy		sl. turb

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 7.68 ft. Sample Method: Bailer (Peristaltic) Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: Kathy Wager

Sampling Personnel Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase II Well Project No.: ET-1066

Sample Point I.D.: BR-12-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 17.37 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 5.05 ft

Depth of Water Column: 12.32 ft Elevation of Casing: 600.65

Volume of Standing Water in Well: 2.1 gallons

Start of Purge – Time: 11:30

End of Purge – Time: 11:47

Total Volume Purged: 6.3 gallons Well Purged Dry: Yes (No)

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.1	4.2	6.3		5/13/20
Time	--	--	11:32		11:37	11:42	11:47		12:35
pH	Oakton pH 300	SM 18-20 4500HB	7.17		7.18	7.18	7.26		7.05
Spec. Conductance	Oakton CON 5	EPA 120.1	758		755	762	756		982
Temperature	Oakton CON 5	SM 18-20 2550B	10.1		10.1	11.3	10.5		12.2 (54F)
Eh	ORP tester	ASTM D1498	-107		-131	-139	-137		-144
Turbidity	Hach 2100P	EPA 180.1	3.36		3.05	1.41	2.36		13.5
Appearance	--	--	clear		clear	clear	clear		clear

NYSDOH ELAP No. 10475. Values in parenthesis are duplicate values

Depth to Water: 6.34 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: Kathy Wagner

Sampling Personnel Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sed. Basin No. 2 Well Project No.: ET-1066

Sample Point I.D.: BR-13-DG Date: 5/12/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 19.21 ft

Depth to Water Surface: 3.94 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 15.27 ft Elevation of Casing: 607.42

Volume of Standing Water in Well: 10 gallons

Start of Purge – Time: 11:54

End of Purge – Time: 12:58

Total Volume Purged: 12.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					10				5/13/20
Time	--	--	11:54		12:08				12:58
pH	Oakton pH 300	SM 18-20 4500HB	7.26		7.23				7.21
Spec. Conductance	Oakton CON 5	EPA 120.1	666		674				633
Temperature	Oakton CON 5	SM 18-20 2550B	10.8		10.1				12.2 (54F)
Eh	ORP tester	ASTM D1498	-116		-135				-89
Turbidity	Hach 2100P	EPA 180.1	6.6		15.0				12.7
Appearance	--	--	clear		clear				clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 6.14 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: Kathy Wager

Sampling Personnel Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I & II Well Project No.: ET-1066

Sample Point I.D.: BR-14-UG Date: 5/13/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 26.25 ft

Depth to Water Surface: 4.64 ft 4" well = 0.66 gallons per foot

Depth of Water Column: 21.61 ft Elevation of Casing: 629.01

Volume of Standing Water in Well: 14.3 gallons

Start of Purge – Time: 11:15

End of Purge – Time: 11:45

Total Volume Purged: 27.5 gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					14.3	28.6 KW			
Time	--	--	11:15		11:31				12:03
pH	Oakton pH 300	SM 18-20 4500HB	7.19		7.37				7.38 (7.38)
Spec. Conductance	Oakton CON 5	EPA 120.1	731		539				516
Temperature	Oakton CON 5	SM 18-20 2550B	13.3		12.3			(56°F)	13.2 (13.2)
Eh	ORP tester	ASTM D1498	-102		-106				-188
Turbidity	Hach 2100P	EPA 180.1	3.90		4.28				44.9
Appearance	--	--	clear		clear				SL. cloudy

NYSDOH ELAP No. 10475. Values in parenthesis are duplicate values

Depth to Water: 16.57 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: Sunny mid 40's

MS/MSD

Sampling Personnel: Kathy Wagner

Sampling Personnel Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: OB-20-DG Date: 5/12/20

Purge Information Purge Method: Bailer, (Peristaltic Pump)

Depth to Bottom of Well: 17.61 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 3.02 ft

Depth of Water Column: 14.59 ft Elevation of Casing: 625.35

Volume of Standing Water in Well: 2.5 gallons

Start of Purge – Time: 10:42 am

End of Purge – Time: 11:34 am

Total Volume Purged: 6.5 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
					2.5		4.0	6.5	5/13/20
Time	--	--	10:42		10:52		11:04	11:34	12:57
pH	Oakton pH 300	SM 18-20 4500HB	6.82		7.02		7.06	7.23	7.20
Spec. Conductance	Oakton COM 6=	EPA 120.1	1393		1322		1308	1108	945
Temperature	emi 550	SM 18-20 2550B	49		50		50	50	50
Eh	ORP tester	ASTM D1498	-6		5		1	-34	-94
Turbidity	Hach 2100P	EPA 180.1	7200		18.1		9.97	9.68	38.7
Appearance	--	--	Rock Flow		Clear		Clear	Clear	Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 8.69 ft. Sample Method: Bailer (Peristaltic Pump)

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: _____

Sampling Personnel: David Hartz

Sampling Personnel Signature: _____

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-3-DG Date: 5/12/20

Inspectors Name (Print): Kathy Wagy
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:

flush mothballs inside well CASING

Inspector's Signature: Kathy Wagy

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-12-DG Date: 5/12/20

Inspectors Name (Print): Kathy Wager
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:

Fresh mothballs inside well casing.

Inspector's Signature: Kathy Wager

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-13-DG Date: 5/12/20

Inspectors Name (Print): Kathy Wagner
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:

Fresh mothballs inside well casing

Inspector's Signature: Kathy Wagner

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-14-UG Date: 5/13/20

Inspectors Name (Print): Kathy Wagar
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:

Fresh moth balls inside well casing

Inspector's Signature: Kathy Wagar

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293

MONITORING POINT ASSESSMENT FORM
NRG – DUNKIRK LANDFILL WELLS

Monitoring Point: BR-20-DG **Date:** 5/12/20

Inspectors Name (Print): David Hart
Inspector's Company: Frontier Technical Associates, Inc.
Address: 8675 Main Street, Williamsville, New York 14221

Well Locked:	(Yes)	No	NA	
Lock Functioning:	(Yes)	No	NA	
Bailer and Rope OK:	Yes	No	(NA)	
Tubing OK:	(Yes)	No	NA	
Protective Casing OK:	(Yes)	No	NA	
Concrete Pad in Good Condition:	(Yes)	No	NA	
Heaving of Well or Casing:	Yes	(No)	NA	
Well Sand in Purge Water:	Yes	(No)	NA	
Well Constricted:	Yes	(No)	NA	
Debris in Well:	Yes	(No)	NA	
Insects in Well:	Yes	(No)	NA	Type:_____
Wind Blown Dust inside Protective Casing:	Yes	(No)	NA	

Other Observations or Details on Conditions Identified Above:_____

_____

_____

Inspector's Signature: D. Hart

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

June 09, 2020

David Harty
Frontier Technical Associates
8675 Main Street
Buffalo, NY 14221

RE: Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Dear David Harty:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rebeka K. Smith
rebeka.smith@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Kathy Wager, Frontier Technical Associates, Inc.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70131260001	**BR-14-UG**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70131260002	**BR-13-DG**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70131260003	**BR-12-DG**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70131260004	**BR-3-DG**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70131260005	**BR-20-DG**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
70131260006	**DUP**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: BR-14-UG **Lab ID: 70131260001** Collected: 05/13/20 12:03 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.998 ± 0.636 (0.799) C:NA T:86%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.229 ± 0.415 (0.907) C:77% T:77%**	pCi/L	06/08/20 14:12	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: BR-13-DG **Lab ID: 70131260002** Collected: 05/13/20 12:50 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.607 ± 0.550 (0.811) C:NA T:83%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.573 ± 0.587 (1.23) C:75% T:84%**	pCi/L	06/08/20 14:16	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: BR-12-DG **Lab ID: 70131260003** Collected: 05/13/20 12:34 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.143 ± 0.343 (0.664) C:NA T:80%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.324 ± 0.440 (0.943) C:72% T:89%**	pCi/L	06/08/20 14:16	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: BR-3-DG **Lab ID: 70131260004** Collected: 05/13/20 13:10 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.657 ± 0.567 (0.842) C:NA T:89%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.237 ± 0.470 (1.03) C:77% T:86%**	pCi/L	06/08/20 14:16	15262-20-1	

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: BR-20-DG **Lab ID: 70131260005** Collected: 05/13/20 13:15 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.941 ± 0.600 (0.754) C:NA T:90%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.128 ± 0.530 (1.19) C:74% T:78%**	pCi/L	06/08/20 14:16	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Sample: DUP **Lab ID: 70131260006** Collected: 05/13/20 00:00 Received: 05/15/20 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.203 ± 0.479 (0.888) C:NA T:94%**	pCi/L	06/08/20 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.424 (0.664) C:75% T:91%**	pCi/L	06/08/20 14:12	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

QC Batch: 397243
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 70131260001, 70131260002, 70131260003, 70131260004, 70131260005, 70131260006

METHOD BLANK: 1924013 Matrix: Water
Associated Lab Samples: 70131260001, 70131260002, 70131260003, 70131260004, 70131260005, 70131260006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.103 ± 0.378 (0.726) C:NA T:85%	pCi/L	06/08/20 14:00	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

QC Batch: 397244
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 70131260001, 70131260002, 70131260003, 70131260004, 70131260005, 70131260006

METHOD BLANK: 1924014 Matrix: Water
Associated Lab Samples: 70131260001, 70131260002, 70131260003, 70131260004, 70131260005, 70131260006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.522 ± 0.355 (0.679) C:75% T:84%	pCi/L	06/08/20 10:59	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT ND LANDFILL 5/13
Pace Project No.: 70131260

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70131260001	**BR-14-UG**	EPA 903.1	397243		
70131260002	**BR-13-DG**	EPA 903.1	397243		
70131260003	**BR-12-DG**	EPA 903.1	397243		
70131260004	**BR-3-DG**	EPA 903.1	397243		
70131260005	**BR-20-DG**	EPA 903.1	397243		
70131260006	**DUP**	EPA 903.1	397243		
70131260001	**BR-14-UG**	EPA 904.0	397244		
70131260002	**BR-13-DG**	EPA 904.0	397244		
70131260003	**BR-12-DG**	EPA 904.0	397244		
70131260004	**BR-3-DG**	EPA 904.0	397244		
70131260005	**BR-20-DG**	EPA 904.0	397244		
70131260006	**DUP**	EPA 904.0	397244		

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

WO# : 70131260

70131260

Company: Frontier Technical Associates, Inc.	Billing Information: same
Address: 8675 Main Street, Williamsville, NY 14221	
Report To: Kathy Wager	Email To: kathy.wager@frontiertechnical.com
Copy To:	Site Collection Info/Address: PLANT ND LF
Customer Project Name/Number: Plant ND Landfill	State: NY County/City: / Time Zone Collected: [ ]PT [ ]MT [ ]CT [X
Phone: 716-634-2293 Email:	Site/Facility ID #:
Collected By (print): Kathy Wager	Purchase Order # : Quote #:
Collected By (signature):	Turnaround Date Required: STANDARD
Sample Disposal: [x] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [X] Yes [ ] No

DW PWS ID #:

DW Location Code:

Immediately Packed on Ice: [ ] Yes [X] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Radium 226/228
BR-14-UG	GW	G	5/13/20	1203				1	X
BR-13-DG	GW	G		1250				1	X
BR-12-DG	GW	G		1234				1	X
BR-3-DG	GW	G		110				1	X
BR-20-DG	GW	G		115				1	X
Dup	GW	G		—				1	X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: Ziplock

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #: 7701 0754 3390

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: THo91
Cooler 1 Temp Upon Receipt: 1.4°C
Cooler 1 Therm Corr. Factor: 0.2°C
Cooler 1 Corrected Temp: 1.6°C
Comments:

Relinquished by/Company: (Signature) Kathy Wager / FTA	Date/Time: 5/14/20 1038	Received by/Company: (Signature)	Date/Time: 5.14.20 1038
Relinquished by/Company: (Signature)	Date/Time: 5.14.20 1700	Received by/Company: (Signature)	Date/Time: 5/15/20 10.10
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

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

June 09, 2020

Kathy Wager
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221

TEL: (716) 634-2293

Work Order No: 200514015

RE: Plant ND GW

Dear Kathy Wager:

Adirondack Environmental Services, Inc received 23 samples on 5/14/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Christopher Hess
QA Manager

CC:
MS/MSD Report

Adirondack Environmental Services, Inc — CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:**	*09-Jun-20*
Project:	Plant ND GW		
Lab Order:	200514015		

Sample containers were supplied by Adirondack Environmental Services.

This report has been reissued to include Total Lithium results for samples 200514015-001 through -006 and Dissolved Lead results for samples 200514015-007 through -011.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-14-UG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:03:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**0.8**	0.5	N	ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**ND**	0.0004		mg/L	1	5/21/2020 3:42:28 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**386**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005	N	mg/L	1	5/28/2020 11:58:00 AM
Barium	**0.175**	0.010		mg/L	1	5/28/2020 11:58:00 AM
Boron	**0.164**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 11:58:00 AM
Calcium	**91.7**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Iron	**0.196**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Lead	**ND**	0.005		mg/L	1	5/28/2020 11:58:00 AM
Lithium	**ND**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Magnesium	**38.1**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Manganese	**0.029**	0.020		mg/L	1	5/28/2020 11:58:00 AM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 11:58:00 AM
Potassium	**3.98**	0.050		mg/L	1	5/28/2020 11:58:00 AM
Selenium	**ND**	0.005	N	mg/L	1	5/28/2020 11:58:00 AM
Sodium	**23.6**	0.050		mg/L	1	5/28/2020 11:58:00 AM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005	N	mg/L	1	5/28/2020 1:45:00 PM
Barium, Dissolved	**0.187**	0.010		mg/L	1	5/28/2020 1:45:00 PM
Boron, Dissolved	**0.173**	0.050		mg/L	1	5/28/2020 1:45:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 1:45:00 PM
Calcium, Dissolved	**90.4**	0.050		mg/L	1	5/28/2020 1:45:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 1:45:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 1:45:00 PM
Magnesium, Dissolved	**37.7**	0.050		mg/L	1	5/28/2020 1:45:00 PM
Manganese, Dissolved	**0.025**	0.020		mg/L	1	5/28/2020 1:45:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 1:45:00 PM
Potassium, Dissolved	**4.02**	0.050		mg/L	1	5/28/2020 1:45:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-14-UG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:03:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-001
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 1:45:00 PM
Sodium, Dissolved	**24.5**	0.050		mg/L	1	5/28/2020 1:45:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	5/14/2020 11:28:31 PM
Chloride	**2.83**	2.00		mg/L	2	5/14/2020 11:28:31 PM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/14/2020 11:28:31 PM
Sulfate	**67.4**	4.00		mg/L	2	5/14/2020 11:28:31 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**350**	10		mgCaCO3/L	1	5/18/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.5**	0.1	N	mg/L	1	5/20/2020 10:01:54 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/26/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004	N	mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**420**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.1**	1.0		mg/L	1	5/19/2020 4:10:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-3-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:10:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**0.9**	0.5		ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**ND**	0.0004		mg/L	1	5/21/2020 3:57:27 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**544**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/28/2020 12:16:00 PM
Barium	**0.032**	0.010		mg/L	1	5/28/2020 12:16:00 PM
Boron	**0.097**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 12:16:00 PM
Calcium	**140**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Iron	**1.38**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Lead	**ND**	0.005		mg/L	1	5/28/2020 12:16:00 PM
Lithium	**ND**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Magnesium	**47.0**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Manganese	**0.260**	0.020		mg/L	1	5/28/2020 12:16:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 12:16:00 PM
Potassium	**3.08**	0.050		mg/L	1	5/28/2020 12:16:00 PM
Selenium	**ND**	0.005		mg/L	1	5/28/2020 12:16:00 PM
Sodium	**15.8**	0.050		mg/L	1	5/28/2020 12:16:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:08:00 PM
Barium, Dissolved	**0.029**	0.010		mg/L	1	5/28/2020 2:08:00 PM
Boron, Dissolved	**0.099**	0.050		mg/L	1	5/28/2020 2:08:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:08:00 PM
Calcium, Dissolved	**135**	0.050		mg/L	1	5/28/2020 2:08:00 PM
Iron, Dissolved	**0.617**	0.050		mg/L	1	5/28/2020 2:08:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:08:00 PM
Magnesium, Dissolved	**45.9**	0.050		mg/L	1	5/28/2020 2:08:00 PM
Manganese, Dissolved	**0.267**	0.020		mg/L	1	5/28/2020 2:08:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:08:00 PM
Potassium, Dissolved	**3.02**	0.050		mg/L	1	5/28/2020 2:08:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-3-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:10:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-002
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:08:00 PM
Sodium, Dissolved	**15.6**	0.050		mg/L	1	5/28/2020 2:08:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	5/15/2020 12:25:55 AM
Chloride	**21.5**	2.00		mg/L	2	5/15/2020 12:25:55 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 12:25:55 AM
Sulfate	**230**	20.0		mg/L	10	5/28/2020 3:18:48 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**290**	10		mgCaCO3/L	1	5/18/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.1**	0.1		mg/L	1	5/20/2020 10:10:05 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/26/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**625**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.3**	1.0		mg/L	1	5/19/2020 5:01:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-12-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:34:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-003
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**ND**	0.5		ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**ND**	0.0004		mg/L	1	5/21/2020 4:01:12 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**720**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/28/2020 12:20:00 PM
Barium	**0.038**	0.010		mg/L	1	5/28/2020 12:20:00 PM
Boron	**0.079**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 12:20:00 PM
Calcium	**179**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Iron	**ND**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Lead	**ND**	0.005		mg/L	1	5/28/2020 12:20:00 PM
Lithium	**ND**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Magnesium	**66.5**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Manganese	**0.226**	0.020		mg/L	1	5/28/2020 12:20:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 12:20:00 PM
Potassium	**4.07**	0.050		mg/L	1	5/28/2020 12:20:00 PM
Selenium	**ND**	0.005		mg/L	1	5/28/2020 12:20:00 PM
Sodium	**19.7**	0.050		mg/L	1	5/28/2020 12:20:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:12:00 PM
Barium, Dissolved	**0.038**	0.010		mg/L	1	5/28/2020 2:12:00 PM
Boron, Dissolved	**0.080**	0.050		mg/L	1	5/28/2020 2:12:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:12:00 PM
Calcium, Dissolved	**175**	0.050		mg/L	1	5/28/2020 2:12:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:12:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:12:00 PM
Magnesium, Dissolved	**66.4**	0.050		mg/L	1	5/28/2020 2:12:00 PM
Manganese, Dissolved	**0.216**	0.020		mg/L	1	5/28/2020 2:12:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:12:00 PM
Potassium, Dissolved	**4.10**	0.050		mg/L	1	5/28/2020 2:12:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-12-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:34:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-003
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:12:00 PM
Sodium, Dissolved	**19.7**	0.050		mg/L	1	5/28/2020 2:12:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	5/15/2020 12:44:57 AM
Chloride	**183**	2.00		mg/L	2	5/15/2020 12:44:57 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 12:44:57 AM
Sulfate	**194**	4.00		mg/L	2	5/15/2020 12:44:57 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**300**	10		mgCaCO3/L	1	5/19/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.2**	0.1		mg/L	1	5/20/2020 10:11:42 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/26/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**815**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.3**	1.0		mg/L	1	5/19/2020 5:17:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-13-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:50:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-004
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**ND**	0.5		ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**ND**	0.0004		mg/L	1	5/21/2020 4:04:58 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**489**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/28/2020 12:24:00 PM
Barium	**0.077**	0.010		mg/L	1	5/28/2020 12:24:00 PM
Boron	**0.153**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 12:24:00 PM
Calcium	**125**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Iron	**0.053**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Lead	**ND**	0.005		mg/L	1	5/28/2020 12:24:00 PM
Lithium	**ND**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Magnesium	**43.2**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Manganese	**0.106**	0.020		mg/L	1	5/28/2020 12:24:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 12:24:00 PM
Potassium	**3.65**	0.050		mg/L	1	5/28/2020 12:24:00 PM
Selenium	**ND**	0.005		mg/L	1	5/28/2020 12:24:00 PM
Sodium	**44.0**	0.050		mg/L	1	5/28/2020 12:24:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:17:00 PM
Barium, Dissolved	**0.078**	0.010		mg/L	1	5/28/2020 2:17:00 PM
Boron, Dissolved	**0.153**	0.050		mg/L	1	5/28/2020 2:17:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:17:00 PM
Calcium, Dissolved	**126**	0.050		mg/L	1	5/28/2020 2:17:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:17:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:17:00 PM
Magnesium, Dissolved	**43.2**	0.050		mg/L	1	5/28/2020 2:17:00 PM
Manganese, Dissolved	**0.103**	0.020		mg/L	1	5/28/2020 2:17:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:17:00 PM
Potassium, Dissolved	**3.64**	0.050		mg/L	1	5/28/2020 2:17:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-13-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:50:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-004
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:17:00 PM
Sodium, Dissolved	**44.0**	0.050		mg/L	1	5/28/2020 2:17:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**ND**	0.20		mg/L	2	5/15/2020 1:03:59 AM
Chloride	**7.91**	2.00		mg/L	2	5/15/2020 1:03:59 AM
Nitrate, Nitrogen (As N)	**0.10**	0.04		mg/L	2	5/15/2020 1:03:59 AM
Sulfate	**159**	4.00		mg/L	2	5/15/2020 1:03:59 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**390**	10		mgCaCO3/L	1	5/19/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.2**	0.1		mg/L	1	5/20/2020 10:13:20 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/26/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**545**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**4.2**	1.0		mg/L	1	5/19/2020 5:34:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:15:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-005
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**2.4**	0.5		ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**0.0005**	0.0004		mg/L	1	5/21/2020 4:18:30 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**99**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/28/2020 12:27:00 PM
Barium	**1.95**	0.010		mg/L	1	5/28/2020 12:27:00 PM
Boron	**1.47**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 12:27:00 PM
Calcium	**25.8**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Iron	**0.092**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Lead	**ND**	0.005		mg/L	1	5/28/2020 12:27:00 PM
Lithium	**0.266**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Magnesium	**8.47**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Manganese	**ND**	0.020		mg/L	1	5/28/2020 12:27:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 12:27:00 PM
Potassium	**8.52**	0.050		mg/L	1	5/28/2020 12:27:00 PM
Selenium	**ND**	0.005		mg/L	1	5/28/2020 12:27:00 PM
Sodium	**264**	0.500		mg/L	10	5/28/2020 12:32:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:22:00 PM
Barium, Dissolved	**1.89**	0.010		mg/L	1	5/28/2020 2:22:00 PM
Boron, Dissolved	**1.46**	0.050		mg/L	1	5/28/2020 2:22:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:22:00 PM
Calcium, Dissolved	**25.5**	0.050		mg/L	1	5/28/2020 2:22:00 PM
Iron, Dissolved	**0.050**	0.050		mg/L	1	5/28/2020 2:22:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:22:00 PM
Magnesium, Dissolved	**8.35**	0.050		mg/L	1	5/28/2020 2:22:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	5/28/2020 2:22:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:22:00 PM
Potassium, Dissolved	**8.74**	0.050		mg/L	1	5/28/2020 2:22:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:15:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-005
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:22:00 PM
Sodium, Dissolved	**262**	0.500		mg/L	10	5/28/2020 2:25:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**0.31**	0.20		mg/L	2	5/15/2020 1:23:01 AM
Chloride	**18.1**	2.00		mg/L	2	5/15/2020 1:23:01 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 1:23:01 AM
Sulfate	**ND**	4.00		mg/L	2	5/15/2020 1:23:01 AM
ALKALINITY - SM 2320B-2011						Analyst: **DAA**
Alkalinity, Bicarbonate (As CaCO3)	**560**	10.0		mgCaCO3/L	1	5/21/2020
Alkalinity, Carbonate (As CaCO3)	**40**	10.0		mgCaCO3/L	1	5/21/2020
Alkalinity, Total (As CaCO3)	**600**	10.0		mgCaCO3/L	1	5/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**1.3**	0.1		mg/L	1	5/20/2020 10:15:01 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/26/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**635**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**3.1**	1.0		mg/L	1	5/19/2020 5:50:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	DUP
Work Order:	**200514015**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-006
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
LOW LEVEL MERCURY - EPA 1631E						Analyst: **WB**
(Prep: 1631E - 5/14/2020)						
Mercury	**2.4**	0.5		ng/L	1	5/15/2020
ICP/MS - EPA 200.8 REV 5.4						Analyst: **SM**
(Prep: - 5/15/2020)						
Antimony	**0.0005**	0.0004		mg/L	1	5/21/2020 4:22:16 PM
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**101**	5		mg/L CaCO3	1	5/28/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/28/2020 12:35:00 PM
Barium	**2.00**	0.010		mg/L	1	5/28/2020 12:35:00 PM
Boron	**1.50**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/28/2020 12:35:00 PM
Calcium	**26.3**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Iron	**0.093**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Lead	**ND**	0.005		mg/L	1	5/28/2020 12:35:00 PM
Lithium	**0.292**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Magnesium	**8.67**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Manganese	**0.020**	0.020		mg/L	1	5/28/2020 12:35:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/28/2020 12:35:00 PM
Potassium	**8.74**	0.050		mg/L	1	5/28/2020 12:35:00 PM
Selenium	**ND**	0.005		mg/L	1	5/28/2020 12:35:00 PM
Sodium	**232**	0.500		mg/L	10	5/28/2020 12:40:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:30:00 PM
Barium, Dissolved	**1.88**	0.010		mg/L	1	5/28/2020 2:30:00 PM
Boron, Dissolved	**1.47**	0.050		mg/L	1	5/28/2020 2:30:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:30:00 PM
Calcium, Dissolved	**24.9**	0.050		mg/L	1	5/28/2020 2:30:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:30:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:30:00 PM
Magnesium, Dissolved	**8.37**	0.050		mg/L	1	5/28/2020 2:30:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	5/28/2020 2:30:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:30:00 PM
Potassium, Dissolved	**8.74**	0.050		mg/L	1	5/28/2020 2:30:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	DUP
Work Order:	**200514015**	**Collection Date:**	5/13/2020
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-006
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:30:00 PM
Sodium, Dissolved	**272**	0.500		mg/L	10	5/28/2020 2:33:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Fluoride	**0.32**	0.20		mg/L	2	5/15/2020 1:42:04 AM
Chloride	**17.5**	2.00		mg/L	2	5/15/2020 1:42:04 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 1:42:04 AM
Sulfate	**ND**	4.00		mg/L	2	5/15/2020 1:42:04 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**610**	10		mgCaCO3/L	1	5/19/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**1.3**	0.1		mg/L	1	5/20/2020 10:16:40 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/26/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**595**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**2.0**	1.0		mg/L	1	5/19/2020 6:07:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-2-UG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 11:48:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-007
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**985**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 1:22:00 PM
Barium	**0.028**	0.010		mg/L	1	5/26/2020 1:22:00 PM
Boron	**0.053**	0.050		mg/L	1	5/26/2020 1:22:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 1:22:00 PM
Calcium	**294**	0.500		mg/L	10	5/26/2020 1:27:00 PM
Iron	**0.090**	0.050		mg/L	1	5/26/2020 1:22:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 1:22:00 PM
Magnesium	**61.0**	0.050		mg/L	1	5/26/2020 1:22:00 PM
Manganese	**0.028**	0.020		mg/L	1	5/26/2020 1:22:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 1:22:00 PM
Potassium	**1.21**	0.050		mg/L	1	5/26/2020 1:22:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 1:22:00 PM
Sodium	**11.4**	0.050		mg/L	1	5/26/2020 1:22:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:37:00 PM
Barium, Dissolved	**0.028**	0.010		mg/L	1	5/28/2020 2:37:00 PM
Boron, Dissolved	**0.054**	0.050		mg/L	1	5/28/2020 2:37:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:37:00 PM
Calcium, Dissolved	**230**	0.500		mg/L	10	5/28/2020 2:46:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:37:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:37:00 PM
Magnesium, Dissolved	**60.1**	0.050		mg/L	1	5/28/2020 2:37:00 PM
Manganese, Dissolved	**0.025**	0.020		mg/L	1	5/28/2020 2:37:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:37:00 PM
Potassium, Dissolved	**1.24**	0.050		mg/L	1	5/28/2020 2:37:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:37:00 PM
Sodium, Dissolved	**11.6**	0.050		mg/L	1	5/28/2020 2:37:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**5.01**	2.00		mg/L	2	5/15/2020 2:01:07 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 2:01:07 AM
Sulfate	**462**	40.0		mg/L	20	5/28/2020 3:37:50 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-2-UG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 11:48:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-007
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**310**	10		mgCaCO3/L	1	5/19/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.2**	0.1		mg/L	1	5/20/2020 10:18:21 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (Prep: Method - 5/26/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**890**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	5/19/2020 7:16:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-4-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:20:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-008
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**285**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 1:31:00 PM
Barium	**0.072**	0.010		mg/L	1	5/26/2020 1:31:00 PM
Boron	**ND**	0.050		mg/L	1	5/26/2020 1:31:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 1:31:00 PM
Calcium	**83.5**	0.050		mg/L	1	5/26/2020 1:31:00 PM
Iron	**0.132**	0.050		mg/L	1	5/26/2020 1:31:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 1:31:00 PM
Magnesium	**18.7**	0.050		mg/L	1	5/26/2020 1:31:00 PM
Manganese	**0.052**	0.020		mg/L	1	5/26/2020 1:31:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 1:31:00 PM
Potassium	**2.14**	0.050		mg/L	1	5/26/2020 1:31:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 1:31:00 PM
Sodium	**4.54**	0.050		mg/L	1	5/26/2020 1:31:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:52:00 PM
Barium, Dissolved	**0.073**	0.010		mg/L	1	5/28/2020 2:52:00 PM
Boron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:52:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:52:00 PM
Calcium, Dissolved	**87.7**	0.050		mg/L	1	5/28/2020 2:52:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 2:52:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:52:00 PM
Magnesium, Dissolved	**19.0**	0.050		mg/L	1	5/28/2020 2:52:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	5/28/2020 2:52:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 2:52:00 PM
Potassium, Dissolved	**2.11**	0.050		mg/L	1	5/28/2020 2:52:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 2:52:00 PM
Sodium, Dissolved	**4.77**	0.050		mg/L	1	5/28/2020 2:52:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**3.09**	2.00		mg/L	2	5/15/2020 3:39:34 AM
Nitrate, Nitrogen (As N)	**0.18**	0.04		mg/L	2	5/15/2020 3:39:34 AM
Sulfate	**57.7**	4.00		mg/L	2	5/15/2020 3:39:34 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-4-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 1:20:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-008
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**240**	10		mgCaCO3/L	1	5/19/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:19:59 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (Prep: Method - 5/26/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**235**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**2.7**	1.0		mg/L	1	5/19/2020 7:33:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-7-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 11:58:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-009
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**1085**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 1:35:00 PM
Barium	**0.019**	0.010		mg/L	1	5/26/2020 1:35:00 PM
Boron	**0.398**	0.050		mg/L	1	5/26/2020 1:35:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 1:35:00 PM
Calcium	**344**	0.500		mg/L	10	5/26/2020 1:41:00 PM
Iron	**0.086**	0.050		mg/L	1	5/26/2020 1:35:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 1:35:00 PM
Magnesium	**54.8**	0.050		mg/L	1	5/26/2020 1:35:00 PM
Manganese	**0.027**	0.020		mg/L	1	5/26/2020 1:35:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 1:35:00 PM
Potassium	**1.53**	0.050		mg/L	1	5/26/2020 1:35:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 1:35:00 PM
Sodium	**9.91**	0.050		mg/L	1	5/26/2020 1:35:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:20:00 PM
Barium, Dissolved	**0.019**	0.010		mg/L	1	5/28/2020 3:20:00 PM
Boron, Dissolved	**0.399**	0.050		mg/L	1	5/28/2020 3:20:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:20:00 PM
Calcium, Dissolved	**247**	0.500		mg/L	10	5/28/2020 3:24:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 3:20:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:20:00 PM
Magnesium, Dissolved	**52.6**	0.050		mg/L	1	5/28/2020 3:20:00 PM
Manganese, Dissolved	**0.022**	0.020		mg/L	1	5/28/2020 3:20:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 3:20:00 PM
Potassium, Dissolved	**1.43**	0.050		mg/L	1	5/28/2020 3:20:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:20:00 PM
Sodium, Dissolved	**9.52**	0.050		mg/L	1	5/28/2020 3:20:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**ND**	2.00		mg/L	2	5/15/2020 3:58:48 AM
Nitrate, Nitrogen (As N)	**ND**	0.04		mg/L	2	5/15/2020 3:58:48 AM
Sulfate	**481**	40.0		mg/L	20	5/28/2020 3:56:51 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-7-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 11:58:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-009
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**350**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:21:36 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (Prep: Method - 5/26/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**940**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.5**	1.0		mg/L	1	5/19/2020 7:49:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-19-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:39:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-010
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**1244**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 1:47:00 PM
Barium	**0.011**	0.010		mg/L	1	5/26/2020 1:47:00 PM
Boron	**0.113**	0.050		mg/L	1	5/26/2020 1:47:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 1:47:00 PM
Calcium	**337**	0.500		mg/L	10	5/26/2020 1:51:00 PM
Iron	**0.074**	0.050		mg/L	1	5/26/2020 1:47:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 1:47:00 PM
Magnesium	**97.9**	0.050		mg/L	1	5/26/2020 1:47:00 PM
Manganese	**ND**	0.020		mg/L	1	5/26/2020 1:47:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 1:47:00 PM
Potassium	**2.05**	0.050		mg/L	1	5/26/2020 1:47:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 1:47:00 PM
Sodium	**9.42**	0.050		mg/L	1	5/26/2020 1:47:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:27:00 PM
Barium, Dissolved	**0.012**	0.010		mg/L	1	5/28/2020 3:27:00 PM
Boron, Dissolved	**0.114**	0.050		mg/L	1	5/28/2020 3:27:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:27:00 PM
Calcium, Dissolved	**423**	0.500		mg/L	10	5/28/2020 3:31:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 3:27:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:27:00 PM
Magnesium, Dissolved	**98.9**	0.050		mg/L	1	5/28/2020 3:27:00 PM
Manganese, Dissolved	**ND**	0.020		mg/L	1	5/28/2020 3:27:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 3:27:00 PM
Potassium, Dissolved	**2.04**	0.050		mg/L	1	5/28/2020 3:27:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:27:00 PM
Sodium, Dissolved	**10.1**	0.050		mg/L	1	5/28/2020 3:27:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**ND**	2.00		mg/L	2	5/15/2020 4:17:50 AM
Nitrate, Nitrogen (As N)	**0.06**	0.04		mg/L	2	5/15/2020 4:17:50 AM
Sulfate	**959**	40.0		mg/L	20	5/28/2020 4:15:53 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-19-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:39:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-010
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**380**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:23:14 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (Prep: Method - 5/28/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**1640**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.5**	1.0		mg/L	1	5/19/2020 8:05:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-20-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:51:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-011
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**290**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 2:04:00 PM
Barium	**0.154**	0.010		mg/L	1	5/26/2020 2:04:00 PM
Boron	**0.973**	0.050		mg/L	1	5/26/2020 2:04:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:04:00 PM
Calcium	**69.9**	0.050		mg/L	1	5/26/2020 2:04:00 PM
Iron	**0.199**	0.050		mg/L	1	5/26/2020 2:04:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:04:00 PM
Magnesium	**28.1**	0.050		mg/L	1	5/26/2020 2:04:00 PM
Manganese	**0.189**	0.020		mg/L	1	5/26/2020 2:04:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 2:04:00 PM
Potassium	**8.22**	0.050		mg/L	1	5/26/2020 2:04:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:04:00 PM
Sodium	**142**	0.500		mg/L	10	5/26/2020 2:07:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:34:00 PM
Barium, Dissolved	**0.132**	0.010		mg/L	1	5/28/2020 3:34:00 PM
Boron, Dissolved	**0.977**	0.050		mg/L	1	5/28/2020 3:34:00 PM
Cadmium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:34:00 PM
Calcium, Dissolved	**71.1**	0.050		mg/L	1	5/28/2020 3:34:00 PM
Iron, Dissolved	**ND**	0.050		mg/L	1	5/28/2020 3:34:00 PM
Lead, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:34:00 PM
Magnesium, Dissolved	**27.9**	0.050		mg/L	1	5/28/2020 3:34:00 PM
Manganese, Dissolved	**0.172**	0.020		mg/L	1	5/28/2020 3:34:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	5/28/2020 3:34:00 PM
Potassium, Dissolved	**8.05**	0.050		mg/L	1	5/28/2020 3:34:00 PM
Selenium, Dissolved	**ND**	0.005		mg/L	1	5/28/2020 3:34:00 PM
Sodium, Dissolved	**93.5**	0.500		mg/L	10	5/28/2020 3:39:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**2.30**	2.00		mg/L	2	5/15/2020 4:36:53 AM
Nitrate, Nitrogen (As N)	**0.05**	0.04		mg/L	2	5/15/2020 4:36:53 AM
Sulfate	**58.4**	4.00		mg/L	2	5/15/2020 4:36:53 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-20-DG
Work Order:	**200514015**	**Collection Date:**	5/13/2020 12:51:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-011
PO#:		**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**480**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.7**	0.1		mg/L	1	5/20/2020 10:24:51 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (Prep: Method - 5/28/2020)						Analyst: **KB**
Phenolics, Total Recoverable	**0.004**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**580**	5		mg/L	1	5/20/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	5/19/2020 8:21:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-2
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:20:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-012
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**1081**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**0.008**	0.005		mg/L	1	5/26/2020 2:11:00 PM
Barium	**0.028**	0.010		mg/L	1	5/26/2020 2:11:00 PM
Boron	**7.28**	0.050		mg/L	1	5/26/2020 2:11:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:11:00 PM
Calcium	**270**	0.500		mg/L	10	5/26/2020 2:16:00 PM
Iron	**0.702**	0.050		mg/L	1	5/26/2020 2:11:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:11:00 PM
Magnesium	**99.0**	0.050		mg/L	1	5/26/2020 2:11:00 PM
Manganese	**1.40**	0.020		mg/L	1	5/26/2020 2:11:00 PM
Molybdenum	**0.426**	0.010		mg/L	1	5/26/2020 2:11:00 PM
Potassium	**19.5**	0.050		mg/L	1	5/26/2020 2:11:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:11:00 PM
Sodium	**64.5**	0.500		mg/L	10	5/26/2020 2:16:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**6.45**	2.00		mg/L	2	5/28/2020 4:53:58 PM
Chloride	**ND**	20.0		mg/L	20	5/28/2020 6:49:59 PM
Sulfate	**933**	40.0		mg/L	20	5/28/2020 6:49:59 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**340**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:31:19 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/28/2020)						
Phenolics, Total Recoverable	**0.006**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**1600**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-2
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:20:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-012
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**5.0**	1.0		mg/L	1	5/19/2020 8:38:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-7
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:28:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-013
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Total Hardness (As CaCO3)	**2143**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 5/15/2020**)						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 2:20:00 PM
Barium	**0.014**	0.010		mg/L	1	5/26/2020 2:20:00 PM
Boron	**0.306**	0.050		mg/L	1	5/26/2020 2:20:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:20:00 PM
Calcium	**574**	0.500		mg/L	10	5/26/2020 2:27:00 PM
Iron	**ND**	0.050		mg/L	1	5/26/2020 2:20:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:20:00 PM
Magnesium	**172**	0.050		mg/L	1	5/26/2020 2:20:00 PM
Manganese	**ND**	0.020		mg/L	1	5/26/2020 2:20:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 2:20:00 PM
Potassium	**7.57**	0.050		mg/L	1	5/26/2020 2:20:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:20:00 PM
Sodium	**74.9**	0.500		mg/L	10	5/26/2020 2:27:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**36.5**	2.00		mg/L	2	5/28/2020 7:09:01 PM
Sulfate	**1990**	100		mg/L	50	5/28/2020 7:28:03 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**360**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.1**	0.1		mg/L	1	5/20/2020 10:32:56 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 (**Prep: Method - 5/28/2020**)						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**3070**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-7
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:28:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-013
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**4.7**	1.0		mg/L	1	5/19/2020 8:54:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-16 PR
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:10:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-014
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**1463**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 2:31:00 PM
Barium	**0.033**	0.010		mg/L	1	5/26/2020 2:31:00 PM
Boron	**38.9**	0.050		mg/L	1	5/26/2020 2:31:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:31:00 PM
Calcium	**522**	5.00		mg/L	100	5/26/2020 2:34:00 PM
Iron	**0.114**	0.050		mg/L	1	5/26/2020 2:31:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:31:00 PM
Magnesium	**38.4**	0.050		mg/L	1	5/26/2020 2:31:00 PM
Manganese	**ND**	0.020		mg/L	1	5/26/2020 2:31:00 PM
Molybdenum	**2.79**	0.010		mg/L	1	5/26/2020 2:31:00 PM
Potassium	**98.3**	5.00		mg/L	100	5/26/2020 2:34:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:31:00 PM
Sodium	**514**	5.00		mg/L	100	5/26/2020 2:34:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**23.5**	2.00		mg/L	2	5/28/2020 7:47:06 PM
Sulfate	**2680**	200		mg/L	100	5/28/2020 8:06:08 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**160**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.2**	0.1		mg/L	1	5/20/2020 10:34:37 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/29/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**3840**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-16 PR
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:10:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-014
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**ND**	1.0		mg/L	1	5/19/2020 9:11:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-16
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:58:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-015
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**1371**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/26/2020 2:38:00 PM
Barium	**0.026**	0.010		mg/L	1	5/26/2020 2:38:00 PM
Boron	**3.55**	0.050		mg/L	1	5/26/2020 2:38:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:38:00 PM
Calcium	**442**	0.500		mg/L	10	5/26/2020 2:42:00 PM
Iron	**0.131**	0.050		mg/L	1	5/26/2020 2:38:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:38:00 PM
Magnesium	**64.8**	0.050		mg/L	1	5/26/2020 2:38:00 PM
Manganese	**ND**	0.020		mg/L	1	5/26/2020 2:38:00 PM
Molybdenum	**0.223**	0.010		mg/L	1	5/26/2020 2:38:00 PM
Potassium	**17.3**	0.050		mg/L	1	5/26/2020 2:38:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:38:00 PM
Sodium	**194**	0.500		mg/L	10	5/26/2020 2:42:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**19.7**	2.00		mg/L	2	5/28/2020 8:25:10 PM
Sulfate	**890**	40.0		mg/L	20	5/28/2020 10:02:27 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**410**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:36:16 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**1650**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-16
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:58:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-015
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**2.5**	1.0		mg/L	1	5/19/2020 9:27:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-19
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:48:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-016
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**447**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic	**0.008**	0.005		mg/L	1	5/26/2020 2:57:00 PM
Barium	**0.102**	0.010		mg/L	1	5/26/2020 2:57:00 PM
Boron	**0.281**	0.050		mg/L	1	5/26/2020 2:57:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 2:57:00 PM
Calcium	**130**	0.050		mg/L	1	5/26/2020 2:57:00 PM
Iron	**0.098**	0.050		mg/L	1	5/26/2020 2:57:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 2:57:00 PM
Magnesium	**29.9**	0.050		mg/L	1	5/26/2020 2:57:00 PM
Manganese	**ND**	0.020		mg/L	1	5/26/2020 2:57:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/26/2020 2:57:00 PM
Potassium	**9.18**	0.050		mg/L	1	5/26/2020 2:57:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 2:57:00 PM
Sodium	**27.7**	0.050		mg/L	1	5/26/2020 2:57:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**6.84**	2.00		mg/L	2	5/28/2020 10:40:49 PM
Sulfate	**253**	20.0		mg/L	10	5/28/2020 10:59:52 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**210**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:37:53 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/29/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/1/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**645**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-19
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:48:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-016
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**3.2**	1.0		mg/L	1	5/19/2020 9:43:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SED-1A
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:28:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-017
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**1537**	5		mg/L CaCO3	1	5/26/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**0.008**	0.005		mg/L	1	5/26/2020 3:01:00 PM
Barium	**0.032**	0.010		mg/L	1	5/26/2020 3:01:00 PM
Boron	**4.14**	0.050		mg/L	1	5/26/2020 3:01:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/26/2020 3:01:00 PM
Calcium	**457**	0.500		mg/L	10	5/26/2020 3:05:00 PM
Iron	**3.53**	0.050		mg/L	1	5/26/2020 3:01:00 PM
Lead	**ND**	0.005		mg/L	1	5/26/2020 3:01:00 PM
Magnesium	**96.4**	0.050		mg/L	1	5/26/2020 3:01:00 PM
Manganese	**0.697**	0.020		mg/L	1	5/26/2020 3:01:00 PM
Molybdenum	**0.159**	0.010		mg/L	1	5/26/2020 3:01:00 PM
Potassium	**23.1**	0.050		mg/L	1	5/26/2020 3:01:00 PM
Selenium	**ND**	0.005		mg/L	1	5/26/2020 3:01:00 PM
Sodium	**110**	0.500		mg/L	10	5/26/2020 3:05:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**7.15**	2.00		mg/L	2	5/28/2020 11:18:54 PM
Sulfate	**1210**	40.0		mg/L	20	5/28/2020 11:37:56 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**260**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.3**	0.1		mg/L	1	5/20/2020 10:39:29 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**1850**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SED-1A
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:28:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-017
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**1.8**	1.0		mg/L	1	5/19/2020 11:11:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SED-1B
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:47:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-018
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**1167**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**0.020**	0.005		mg/L	1	5/27/2020 2:25:00 PM
Barium	**0.029**	0.010		mg/L	1	5/27/2020 2:25:00 PM
Boron	**17.9**	0.050		mg/L	1	5/27/2020 2:25:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 2:25:00 PM
Calcium	**328**	0.500		mg/L	10	5/27/2020 2:31:00 PM
Iron	**4.23**	0.050		mg/L	1	5/27/2020 2:25:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 2:25:00 PM
Magnesium	**84.4**	0.050		mg/L	1	5/27/2020 2:25:00 PM
Manganese	**0.469**	0.020		mg/L	1	5/27/2020 2:25:00 PM
Molybdenum	**1.22**	0.010		mg/L	1	5/27/2020 2:25:00 PM
Potassium	**78.1**	0.050		mg/L	1	5/27/2020 2:25:00 PM
Selenium	**0.012**	0.005		mg/L	1	5/27/2020 2:25:00 PM
Sodium	**351**	0.500		mg/L	10	5/27/2020 2:31:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**13.7**	2.00		mg/L	2	5/28/2020 11:56:59 PM
Sulfate	**1640**	100		mg/L	50	5/29/2020 12:16:00 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**280**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.3**	0.1		mg/L	1	5/20/2020 10:41:06 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**2560**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SED-1B
Work Order:	**200514015**	**Collection Date:**	5/12/2020 12:47:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-018
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**6.2**	1.0		mg/L	1	5/19/2020 11:27:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-D
Work Order:	**200514015**	**Collection Date:**	5/12/2020 2:02:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-019
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**194**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Arsenic	**ND**	0.005		mg/L	1	5/27/2020 2:40:00 PM
Barium	**0.059**	0.010		mg/L	1	5/27/2020 2:40:00 PM
Boron	**0.578**	0.050		mg/L	1	5/27/2020 2:40:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 2:40:00 PM
Calcium	**59.3**	0.050		mg/L	1	5/27/2020 2:40:00 PM
Iron	**0.451**	0.050		mg/L	1	5/27/2020 2:40:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 2:40:00 PM
Magnesium	**11.0**	0.050		mg/L	1	5/27/2020 2:40:00 PM
Manganese	**0.068**	0.020		mg/L	1	5/27/2020 2:40:00 PM
Molybdenum	**0.017**	0.010		mg/L	1	5/27/2020 2:40:00 PM
Potassium	**4.75**	0.050		mg/L	1	5/27/2020 2:40:00 PM
Selenium	**ND**	0.005		mg/L	1	5/27/2020 2:40:00 PM
Sodium	**29.0**	0.050		mg/L	1	5/27/2020 2:40:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**41.8**	2.00		mg/L	2	5/29/2020 12:35:03 AM
Sulfate	**86.5**	4.00		mg/L	2	5/29/2020 12:35:03 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**110**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:42:43 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978 **(Prep: Method - 5/29/2020)**						Analyst: **KB**
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**200**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-D
Work Order:	**200514015**	**Collection Date:**	5/12/2020 2:02:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-019
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**5.7**	1.0		mg/L	1	5/19/2020 11:44:00 PM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-N
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:16:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-020
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**158**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/27/2020 2:50:00 PM
Barium	**0.086**	0.010		mg/L	1	5/27/2020 2:50:00 PM
Boron	**ND**	0.050		mg/L	1	5/27/2020 2:50:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 2:50:00 PM
Calcium	**49.3**	0.050		mg/L	1	5/27/2020 2:50:00 PM
Iron	**0.709**	0.050		mg/L	1	5/27/2020 2:50:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 2:50:00 PM
Magnesium	**8.52**	0.050		mg/L	1	5/27/2020 2:50:00 PM
Manganese	**0.100**	0.020		mg/L	1	5/27/2020 2:50:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/27/2020 2:50:00 PM
Potassium	**3.22**	0.050		mg/L	1	5/27/2020 2:50:00 PM
Selenium	**ND**	0.005		mg/L	1	5/27/2020 2:50:00 PM
Sodium	**33.7**	0.050		mg/L	1	5/27/2020 2:50:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**63.0**	2.00		mg/L	2	5/29/2020 2:32:43 AM
Sulfate	**31.7**	4.00		mg/L	2	5/29/2020 2:32:43 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**110**	10		mgCaCO3/L	1	5/20/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:44:22 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**220**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-N
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:16:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-020
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**4.4**	1.0		mg/L	1	5/20/2020 12:01:00 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-S
Work Order:	**200514015**	**Collection Date:**	5/12/2020 11:55:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-021
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Total Hardness (As CaCO3)	**135**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 5/15/2020)						
Arsenic	**ND**	0.005		mg/L	1	5/27/2020 2:55:00 PM
Barium	**0.069**	0.010		mg/L	1	5/27/2020 2:55:00 PM
Boron	**0.092**	0.050		mg/L	1	5/27/2020 2:55:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 2:55:00 PM
Calcium	**40.8**	0.050		mg/L	1	5/27/2020 2:55:00 PM
Iron	**1.26**	0.050		mg/L	1	5/27/2020 2:55:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 2:55:00 PM
Magnesium	**8.15**	0.050		mg/L	1	5/27/2020 2:55:00 PM
Manganese	**0.235**	0.020		mg/L	1	5/27/2020 2:55:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/27/2020 2:55:00 PM
Potassium	**2.74**	0.050		mg/L	1	5/27/2020 2:55:00 PM
Selenium	**ND**	0.005		mg/L	1	5/27/2020 2:55:00 PM
Sodium	**15.8**	0.050		mg/L	1	5/27/2020 2:55:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**26.1**	2.00		mg/L	2	5/29/2020 3:10:48 AM
Sulfate	**39.5**	4.00		mg/L	2	5/29/2020 3:10:48 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**92**	5		mgCaCO3/L	1	5/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**0.2**	0.1		mg/L	1	5/20/2020 10:49:17 AM
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**150**	5		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	SP-S
Work Order:	**200514015**	**Collection Date:**	5/12/2020 11:55:00 AM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-021
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**5.0**	1.0		mg/L	1	5/20/2020 12:17:00 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-13
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:03:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-022
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**1044**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Aluminum	**ND**	0.100		mg/L	1	5/27/2020 3:03:00 PM
Arsenic	**0.029**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Barium	**0.037**	0.010		mg/L	1	5/27/2020 3:03:00 PM
Boron	**27.5**	0.500		mg/L	10	5/27/2020 3:42:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Calcium	**290**	0.500		mg/L	10	5/27/2020 3:42:00 PM
Chromium	**0.005**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Copper	**ND**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Iron	**0.091**	0.050		mg/L	1	5/27/2020 3:03:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Magnesium	**77.7**	0.050		mg/L	1	5/27/2020 3:03:00 PM
Manganese	**0.127**	0.020		mg/L	1	5/27/2020 3:03:00 PM
Molybdenum	**1.83**	0.010		mg/L	1	5/27/2020 3:03:00 PM
Nickel	**ND**	0.020		mg/L	1	5/27/2020 3:03:00 PM
Potassium	**79.6**	0.500		mg/L	10	5/27/2020 3:42:00 PM
Selenium	**0.028**	0.005		mg/L	1	5/27/2020 3:03:00 PM
Sodium	**483**	0.500		mg/L	10	5/27/2020 3:42:00 PM
Zinc	**ND**	0.010		mg/L	1	5/27/2020 3:03:00 PM
MERCURY - EPA 245.1 REV 3.0 **(Prep: E245.1 - 5/19/2020)**						Analyst: **AVB**
Mercury	**ND**	0.0002		mg/L	1	5/19/2020 1:17:47 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**16.7**	2.00		mg/L	2	5/29/2020 3:29:50 AM
Sulfate	**1720**	100		mg/L	50	5/29/2020 3:48:52 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**280**	10		mgCaCO3/L	1	5/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1		mg/L	1	5/20/2020 10:50:57 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-13
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:03:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-022
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**2690**	5		mg/L	1	5/18/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**8.3**	1.0		mg/L	1	5/20/2020 12:53:00 AM
TOTAL SUSPENDED SOLIDS - SM 2540D-2011						Analyst: **JW**
(Prep: Gen Prep - 5/18/2020)						
TSS (Residue, Non-Filterable)	**16.6**	2.0		mg/L	1	5/18/2020

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-29
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:45:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-023
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HARDNESS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Total Hardness (As CaCO3)	**1318**	5		mg/L CaCO3	1	5/27/2020
ICP METALS - EPA 200.7 REV 4.4 **(Prep: - 5/15/2020)**						Analyst: **KH**
Aluminum	**ND**	0.100		mg/L	1	5/27/2020 3:45:00 PM
Arsenic	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Barium	**0.046**	0.010		mg/L	1	5/27/2020 3:45:00 PM
Boron	**0.137**	0.050		mg/L	1	5/27/2020 3:45:00 PM
Cadmium	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Calcium	**365**	0.500	Z	mg/L	10	5/27/2020 3:50:00 PM
Chromium	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Copper	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Iron	**0.104**	0.050	Z	mg/L	1	5/27/2020 3:45:00 PM
Lead	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Magnesium	**98.6**	0.050		mg/L	1	5/27/2020 3:45:00 PM
Manganese	**1.05**	0.020		mg/L	1	5/27/2020 3:45:00 PM
Molybdenum	**ND**	0.010		mg/L	1	5/27/2020 3:45:00 PM
Nickel	**ND**	0.020		mg/L	1	5/27/2020 3:45:00 PM
Potassium	**2.29**	0.050		mg/L	1	5/27/2020 3:45:00 PM
Selenium	**ND**	0.005		mg/L	1	5/27/2020 3:45:00 PM
Sodium	**27.9**	0.050		mg/L	1	5/27/2020 3:45:00 PM
Zinc	**ND**	0.010		mg/L	1	5/27/2020 3:45:00 PM
MERCURY - EPA 245.1 REV 3.0 **(Prep: E245.1 - 5/15/2020)**						Analyst: **AVB**
Mercury	**ND**	0.0002		mg/L	1	5/15/2020 10:47:37 AM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CS**
Chloride	**19.2**	2.00		mg/L	2	5/29/2020 4:07:54 AM
Sulfate	**533**	40.0		mg/L	20	5/29/2020 4:26:56 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **DAA**
Alkalinity, Total (As CaCO3)	**560**	10		mgCaCO3/L	1	5/21/2020
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: **NK**
Nitrogen, Ammonia (As N)	**ND**	0.1	N	mg/L	1	5/20/2020 10:52:35 AM

Adirondack Environmental Services, Inc

Date: *09-Jun-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-29
Work Order:	**200514015**	**Collection Date:**	5/12/2020 1:45:00 PM
Reference:	Plant ND GW /	**Lab Sample ID:**	200514015-023
PO#:		**Matrix:**	LEACHATE

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PHENOLS, TOTAL - EPA 420.1 REV 1978						Analyst: **KB**
(Prep: Method - 5/29/2020)						
Phenolics, Total Recoverable	**ND**	0.004		mg/L	1	6/4/2020
TOTAL DISSOLVED SOLIDS - SM 2540C-2011						Analyst: **CC**
TDS (Residue, Filterable)	**1310**	5		mg/L	1	5/19/2020
TOTAL ORGANIC CARBON - SM 5310C-2011						Analyst: **NK**
Total Organic Carbon	**5.0**	1.0		mg/L	1	5/20/2020 1:10:00 AM
TOTAL SUSPENDED SOLIDS - SM 2540D-2011						Analyst: **JW**
(Prep: Gen Prep - 5/18/2020)						
TSS (Residue, Non-Filterable)	**ND**	1.0		mg/L	1	5/18/2020

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79491

MS

SeqNo: **2842122** ***PrepDate:5/14/2020*** TestNo: **E1631** RunNo: ***182842***
Samp ID: **200514015-001** ***(BR-14-UG)*** ***PrepRef:(1631E)*** Units: **ng/L** Analysis Date: **5/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.62	0.500	12.5	0.777	62.7	71	125	0	0		S

MSD

SeqNo: **2842123** ***PrepDate:5/14/2020*** TestNo: **E1631** RunNo: ***182842***
Samp ID: **200514015-001** ***(BR-14-UG)*** ***PrepRef:(1631E)*** Units: **ng/L** Analysis Date: **5/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.54	0.500	12.5	0.777	62.1	71	125	8.62	0.932	24	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79495

ms

SeqNo: **2841609** *PrepDate:5/15/2020* TestNo: **E245.1** RunNo: ***182836***
Samp ID: **200514073-001** *PrepRef:(E245.1)* Units: **mg/L** Analysis Date: **5/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002133	0.000200	0.002	0	107	75.8	125	0	0		

dup

SeqNo: **2841608** *PrepDate:5/15/2020* TestNo: **E245.1** RunNo: ***182836***
Samp ID: **200514073-001** *PrepRef:* Units: **mg/L** Analysis Date: **5/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000200	0	0	0	0	0	0	0	16.5	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79500

MS

SeqNo: **2848358** *PrepDate:5/15/2020* TestNo: **E200.7F** RunNo: ***183203***
Samp ID: **200514015-001F** ***(BR-14-UG)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	0.03207	0.00500	0.04	0.003373	71.7	75	123	0	0		S
Barium, Dissolved	2.264	0.0100	2	0.1874	104	75	124	0	0		
Cadmium, Dissolved	0.05017	0.00500	0.05	0	100	75	125	0	0		
Iron, Dissolved	1.005	0.0500	1	0.01588	98.9	75	120	0	0		
Lead, Dissolved	0.0196	0.00500	0.02	0.001003	93	75	125	0	0		
Manganese, Dissolved	0.5033	0.0200	0.5	0.02549	95.6	75	115	0	0		
Selenium, Dissolved	0.008088	0.00500	0.01	0	80.9	75	125	0	0		

DUP

SeqNo: **2848357** *PrepDate:5/15/2020* TestNo: **E200.7F** RunNo: ***183203***
Samp ID: **200514015-001F** *PrepRef:* Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic, Dissolved	ND	0.00500	0	0	0	0	0	0.003373	0	17.3	
Barium, Dissolved	0.1845	0.0100	0	0	0	0	0	0.1874	1.57	15.4	
Boron, Dissolved	0.1702	0.0500	0	0	0	0	0	0.1729	1.59	18.9	
Cadmium, Dissolved	ND	0.00500	0	0	0	0	0	0	0	20	
Calcium, Dissolved	92.04	0.0500	0	0	0	0	0	90.42	1.78	13.9	
Iron, Dissolved	ND	0.0500	0	0	0	0	0	0.01588	0	17.9	
Lead, Dissolved	ND	0.00500	0	0	0	0	0	0.001003	0	22	
Magnesium, Dissolved	38.09	0.0500	0	0	0	0	0	37.72	0.974	13.7	
Manganese, Dissolved	0.02536	0.0200	0	0	0	0	0	0.02549	0.496	17.2	
Molybdenum, Dissolved	ND	0.0100	0	0	0	0	0	0	0	17.3	
Potassium, Dissolved	4.021	0.0500	0	0	0	0	0	4.017	0.0946	15.2	
Selenium, Dissolved	ND	0.00500	0	0	0	0	0	0	0	16.6	
Sodium, Dissolved	24.31	0.0500	0	0	0	0	0	24.54	0.950	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79502

MS

SeqNo: **2845675** *PrepDate:5/15/2020* TestNo: **E200.8** RunNo: ***183046***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.3674	0.000400	0.5	0.00007343	73.5	70	130	0	0		
Arsenic	0.03945	0.00100	0.04	0.005748	84.2	70	130	0	0		
Barium	1.617	0.00200	2	0.1582	72.9	70	130	0	0		
Cadmium	0.04421	0.00100	0.05	0	88.4	70	130	0	0		
Lead	0.01956	0.00100	0.02	0.0002019	96.8	70	130	0	0		
Selenium	0.007367	0.00100	0.01	0	73.7	70	130	0	0		

MS

SeqNo: **2845676** *PrepDate:5/15/2020* TestNo: **E200.8** RunNo: ***183046***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.412	0.200	1	0.2537	116	70	130	0	0		
Manganese	0.6191	0.0500	0.5	0.02041	120	70	130	0	0		

DUP

SeqNo: **2845674** *PrepDate:5/15/2020* TestNo: **E200.8** RunNo: ***183046***
Samp ID: **200514015-001** *PrepRef:* Units: **mg/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.000400	0	0	0	0	0	0.00007343	0	20	
Arsenic	0.005702	0.00100	0	0	0	0	0	0.005748	0.806	20	
Barium	0.1623	0.00200	0	0	0	0	0	0.1582	2.56	20	
Cadmium	ND	0.00100	0	0	0	0	0	0	0	20	
Iron	0.2409	0.0200	0	0	0	0	0	0.2537	5.20	20	
Lead	ND	0.00100	0	0	0	0	0	0.0002019	0	20	
Manganese	0.02001	0.00500	0	0	0	0	0	0.02041	1.95	20	
Selenium	ND	0.00100	0	0	0	0	0	0	0	20	

MS

SeqNo: **2848284** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183203***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.5138	0.0600	0.5	0	103	80.6	120	0	0		
Arsenic	0.03244	0.00500	0.04	0.003709	71.8	75	125	0	0		S
Barium	2.331	0.0100	2	0.1752	108	75	119	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79502

MS

SeqNo: **2848284** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183203***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.05077	0.00500	0.05	0	102	75	118	0	0		
Iron	1.225	0.0500	1	0.1964	103	75	122	0	0		
Lead	0.01994	0.00500	0.02	0.001194	93.7	75	125	0	0		
Manganese	0.5137	0.0200	0.5	0.02901	96.9	75	123	0	0		
Selenium	0.007083	0.00500	0.01	0	70.8	75	125	0	0		S

DUP

SeqNo: **2848283** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183203***
Samp ID: **200514015-001** *PrepRef:* Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0600	0	0	0	0	0	0	0	20	
Arsenic	ND	0.00500	0	0	0	0	0	0.003709	0	20	
Barium	0.1881	0.0100	0	0	0	0	0	0.1752	7.12	20	
Boron	0.1734	0.0500	0	0	0	0	0	0.1641	5.52	20	
Cadmium	ND	0.00500	0	0	0	0	0	0	0	20	
Calcium	91.04	0.0500	0	0	0	0	0	91.66	0.685	13.9	
Iron	0.1818	0.0500	0	0	0	0	0	0.1964	7.73	19.4	
Lead	ND	0.00500	0	0	0	0	0	0.001194	0	18.9	
Lithium	ND	0.0500	0	0	0	0	0	0	0	18.8	
Magnesium	37.94	0.0500	0	0	0	0	0	38.12	0.486	15.6	
Manganese	0.02851	0.0200	0	0	0	0	0	0.02901	1.75	16.6	
Molybdenum	ND	0.0100	0	0	0	0	0	0	0	15.3	
Potassium	4.023	0.0500	0	0	0	0	0	3.979	1.09	15.2	
Selenium	ND	0.00500	0	0	0	0	0	0	0	15	
Sodium	24.54	0.0500	0	0	0	0	0	23.64	3.72	15.7	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79503

MS

SeqNo: **2847660** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183173***
Samp ID: **200514015-023** ***(MH-29)*** *PrepRef:* Units: **mg/L** Analysis Date: **5/27/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.884	0.100	2	0	94.2	75	124	0	0		
Arsenic	0.03198	0.00500	0.04	0.001169	77	75	125	0	0		
Barium	2.113	0.0100	2	0.04636	103	75	119	0	0		
Cadmium	0.05081	0.00500	0.05	0	102	75	118	0	0		
Chromium	0.2137	0.00500	0.2	0	107	75	124	0	0		
Copper	0.2799	0.00500	0.25	0.003871	110	75	125	0	0		
Iron	1.089	0.0500	1	0.1039	98.5	75	122	0	0		
Lead	0.01712	0.00500	0.02	0	85.6	75	125	0	0		
Manganese	1.609	0.0200	0.5	1.054	111	75	123	0	0		
Nickel	0.4923	0.0200	0.5	0.001913	98.1	75.9	121	0	0		
Selenium	0.00774	0.00500	0.01	0	77.4	75	125	0	0		
Zinc	0.543	0.0100	0.5	0	109	76.9	125	0	0		

DUP

SeqNo: **2847658** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183173***
Samp ID: **200514015-023** *PrepRef:* Units: **mg/L** Analysis Date: **5/27/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.100	0	0	0	0	0	0	0	13.1	
Arsenic	ND	0.00500	0	0	0	0	0	0.001169	0	20	
Barium	0.04704	0.0100	0	0	0	0	0	0.04636	1.47	20	
Boron	0.1355	0.0500	0	0	0	0	0	0.1368	0.970	20	
Cadmium	ND	0.00500	0	0	0	0	0	0	0	20	
Chromium	ND	0.00500	0	0	0	0	0	0	0	20	
Copper	ND	0.00500	0	0	0	0	0	0.003871	0	20	
Iron	0.165	0.0500	0	0	0	0	0	0.1039	45.4	19.4	Z
Lead	ND	0.00500	0	0	0	0	0	0	0	18.9	
Magnesium	99.33	0.0500	0	0	0	0	0	98.57	0.770	15.6	
Manganese	1.057	0.0200	0	0	0	0	0	1.054	0.275	16.6	
Molybdenum	ND	0.0100	0	0	0	0	0	0.0005437	0	15.3	
Nickel	ND	0.0200	0	0	0	0	0	0.001913	0	13	
Potassium	2.323	0.0500	0	0	0	0	0	2.294	1.22	15.2	
Selenium	ND	0.00500	0	0	0	0	0	0	0	15	
Sodium	28.25	0.0500	0	0	0	0	0	27.88	1.29	15.7	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79503

DUP

SeqNo: **2847658** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183173***
Samp ID: **200514015-023** *PrepRef:* Units: **mg/L** Analysis Date: **5/27/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.0100	0	0	0	0	0	0	0	16.2	

DUP

SeqNo: **2847659** *PrepDate:5/15/2020* TestNo: **E200.7** RunNo: ***183173***
Samp ID: **200514015-023** *PrepRef:* Units: **mg/L** Analysis Date: **5/27/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	308.7	0.500	0	0	0	0	0	365.5	16.9	13.9	Z

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79533

DUP

SeqNo: **2843360** *PrepDate:5/18/2020* TestNo: **SM2540D** RunNo: ***182933***
Samp ID: **200512022-003** *PrepRef:* Units: **mg/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TSS (Residue, Non-Filterable)	398	10.0	0	0	0	0	0	367	8.10	10	

DUP

SeqNo: **2843370** *PrepDate:5/18/2020* TestNo: **SM2540D** RunNo: ***182933***
Samp ID: **200513022-001** *PrepRef:* Units: **mg/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TSS (Residue, Non-Filterable)	1640	100	0	0	0	0	0	1810	9.86	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79556

ms

SeqNo: **2843350** *PrepDate:5/19/2020* TestNo: **E245.1** RunNo: ***182932***
Samp ID: **200518007-001** *PrepRef:(E245.1)* Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.001962	0.000200	0.002	0	98.1	75.8	125	0	0		

dup

SeqNo: **2843349** *PrepDate:5/19/2020* TestNo: **E245.1** RunNo: ***182932***
Samp ID: **200518007-001** *PrepRef:* Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000200	0	0	0	0	0	0	0	16.5	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79641

MS

SeqNo: **2849897** *PrepDate:5/26/2020* TestNo: **E420.1** RunNo: ***183309***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:(Method)* Units: **mg/L** Analysis Date: **6/1/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.035	0.00400	0.04	0.003	80	81	119	0	0		S

MSD

SeqNo: **2849898** *PrepDate:5/26/2020* TestNo: **E420.1** RunNo: ***183309***
Samp ID: **200514015-001** ***(BR-14-UG)*** *PrepRef:(Method)* Units: **mg/L** Analysis Date: **6/1/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.035	0.00400	0.04	0.003	80	81	119	0.035	0	16	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79661

MS

SeqNo: **2849334** *PrepDate:5/28/2020* TestNo: **E420.1** RunNo: ***183276***
Samp ID: **200521040-001** *PrepRef:(Method)* Units: **mg/L** Analysis Date: **5/29/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.034	0.00400	0.04	0.003	77.5	81	119	0	0		S

DUP

SeqNo: **2849338** *PrepDate:5/28/2020* TestNo: **E420.1** RunNo: ***183276***
Samp ID: **200521042-002** *PrepRef:* Units: **mg/L** Analysis Date: **5/29/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	0.00400	0	0	0	0	0	0.003	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 79696

MS

SeqNo: **2851952** *PrepDate:6/1/2020 1* TestNo: **E420.1** RunNo: ***183424***
Samp ID: **200522026-001** *PrepRef:(Method)* Units: **mg/L** Analysis Date: **6/4/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.04	0.00400	0.04	0	100	81	119	0	0		

DUP

SeqNo: **2851950** *PrepDate:6/1/2020 1* TestNo: **E420.1** RunNo: ***183424***
Samp ID: **200519040-001** *PrepRef:* Units: **mg/L** Analysis Date: **6/4/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.06375	0.00500	0	0	0	0	0	0.0625	1.98	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182817

MS

SeqNo: **2841246** TestNo: **E300** RunNo: ***182817***
Samp ID: **200514015-001a *(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.16	2.00	20	2.83	102	90	110	0	0		
Nitrate, Nitrogen (As N)	4.712	0.0400	4.5	0	105	90	110	0	0		
Sulfate	89.82	4.00	20	67.37	112	90	110	0	0		S

MS

SeqNo: **2841271** TestNo: **E300** RunNo: ***182817***
Samp ID: **200430012-004a** Units: **mg/L** Analysis Date: **5/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	85.14	2.00	20	64.77	102	90	110	0	0		
Fluoride	10.39	0.200	10	0.536	98.6	90	110	0	0		

MS

SeqNo: **2841274** TestNo: **E300** RunNo: ***182817***
Samp ID: **200430012-004a** Units: **mg/L** Analysis Date: **5/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	639.8	10.0	100	535.4	104	90	110	0	0		

MSD

SeqNo: **2841247** TestNo: **E300** RunNo: ***182817***
Samp ID: **200514015-001a *(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.33	2.00	20	2.83	103	90	110	23.16	0.740	20	
Nitrate, Nitrogen (As N)	4.724	0.0400	4.5	0	105	90	110	4.712	0.254	20	
Sulfate	85.65	4.00	20	67.37	91.4	90	110	89.82	4.75	20	

MSD

SeqNo: **2841272** TestNo: **E300** RunNo: ***182817***
Samp ID: **200430012-004a** Units: **mg/L** Analysis Date: **5/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	85.02	2.00	20	64.77	101	90	110	85.14	0.141	20	
Fluoride	10.21	0.200	10	0.536	96.8	90	110	10.39	1.77	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182817

MSD

SeqNo: **2841275** TestNo: **E300** RunNo: ***182817***
Samp ID: **200430012-004a** Units: **mg/L** Analysis Date: **5/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	632.9	10.0	100	535.4	97.5	90	110	639.8	1.10	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182900

MS

SeqNo: **2842772** TestNo: **SM2320B** RunNo: ***182900***
Samp ID: **200508018-001** Units: **mgCaCO3/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	870	10.0	500	350	104	80	120	0	0		

MS

SeqNo: **2842806** TestNo: **SM2320B** RunNo: ***182900***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mgCaCO3/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	860	10.0	500	350	102	80	120	0	0		

MSD

SeqNo: **2842773** TestNo: **SM2320B** RunNo: ***182900***
Samp ID: **200508018-001** Units: **mgCaCO3/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	850	10.0	500	350	100	80	120	870	2.33	15	

MSD

SeqNo: **2842807** TestNo: **SM2320B** RunNo: ***182900***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mgCaCO3/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	850	10.0	500	350	100	80	120	860	1.17	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182957

MS

SeqNo: **2843842** TestNo: **SM5310C** RunNo: ***182957***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.95	1.00	25	1.072	99.5	82	120	0	0		

MSD

SeqNo: **2843843** TestNo: **SM5310C** RunNo: ***182957***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	25.15	1.00	25	1.072	96.3	82	120	25.95	3.14	21.2	

DUP

SeqNo: **2843871** TestNo: **SM5310C** RunNo: ***182957***
Samp ID: **200514015-023** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	4.977	1.00	0	0	0	0	0	5.015	0.759	14.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182972

MS

SeqNo: **2844127** TestNo: **E350.1** RunNo: ***182972***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.117	0.100	1	0.4564	66	90	110	0	0		S

MS

SeqNo: **2844158** TestNo: **E350.1** RunNo: ***182972***
Samp ID: **200514015-023** ***(MH-29)*** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.106	0.100	1	0	111	90	110	0	0		S

MS

SeqNo: **2844180** TestNo: **E350.1** RunNo: ***182972***
Samp ID: **200519001-001** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.444	0.500	1	1.274	117	90	110	0	0		S

MSD

SeqNo: **2844128** TestNo: **E350.1** RunNo: ***182972***
Samp ID: **200514015-001** ***(BR-14-UG)*** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.11	0.100	1	0.4564	65.4	90	110	1.117	0.557	20	S

DUP

SeqNo: **2844171** TestNo: **E350.1** RunNo: ***182972***
Samp ID: **200519047-001** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.100	0	0	0	0	0	0	0	11.1	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182973

DUP

SeqNo: **2844186** TestNo: **SM2540C** RunNo: ***182973***
Samp ID: **200513049-002** Units: **mg/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	ND	5.00	0	0	0	0	0	5	0	10	

DUP

SeqNo: **2844198** TestNo: **SM2540C** RunNo: ***182973***
Samp ID: **200514015-013** Units: **mg/L** Analysis Date: **5/18/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	3030	5.00	0	0	0	0	0	3075	1.47	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182988

DUP

SeqNo: **2844999** TestNo: **SM2540C** RunNo: ***182988***
Samp ID: **200514015-001** Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	445	5.00	0	0	0	0	0	420	5.78	10	

DUP

SeqNo: **2845022** TestNo: **SM2540C** RunNo: ***182988***
Samp ID: **200514015-003** Units: **mg/L** Analysis Date: **5/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	790	5.00	0	0	0	0	0	815	3.12	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R182997

DUP

SeqNo: **2844476** TestNo: **SM2320B** RunNo: ***182997***
Samp ID: **200514015-016** Units: **mgCaCO3/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	220	10.0	0	0	0	0	0	210	4.65	9.9	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R183043

MS

SeqNo: **2845616** TestNo: **SM2320B** RunNo: ***183043***
Samp ID: **200515038-003F** Units: **mgCaCO3/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	640	10.0	500	140	100	80	120	0	0		

MS

SeqNo: **2845620** TestNo: **SM2320B** RunNo: ***183043***
Samp ID: **200519003-001** Units: **mgCaCO3/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	770	10.0	500	260	102	80	120	0	0		

MSD

SeqNo: **2845617** TestNo: **SM2320B** RunNo: ***183043***
Samp ID: **200515038-003F** Units: **mgCaCO3/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	640	10.0	500	140	100	80	120	640	0	15	

MSD

SeqNo: **2845621** TestNo: **SM2320B** RunNo: ***183043***
Samp ID: **200519003-001** Units: **mgCaCO3/L** Analysis Date: **5/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	760	10.0	500	260	100	80	120	770	1.31	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R183061

DUP

SeqNo: **2845925** TestNo: **SM2540C** RunNo: ***183061***
Samp ID: **200515038-001** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	1300	5.00	0	0	0	0	0	1325	1.90	10	

DUP

SeqNo: **2845941** TestNo: **SM2540C** RunNo: ***183061***
Samp ID: **200519002-001** Units: **mg/L** Analysis Date: **5/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TDS (Residue, Filterable)	1455	5.00	0	0	0	0	0	1420	2.43	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 200514015
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R183228

MS

SeqNo: **2848648** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-010** ***(OB-19-DG)*** Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1177	40.0	200	958.8	109	90	110	0	0		

MS

SeqNo: **2848664** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-015a** ***(MH-16)*** Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1106	40.0	200	889.5	108	90	110	0	0		

MS

SeqNo: **2848675** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-019a** ***(SP-D)*** Units: **mg/L** Analysis Date: **5/29/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.75	2.00	20	41.84	110	90	110	0	0		
Sulfate	107.9	4.00	20	86.5	107	90	110	0	0		

DUP

SeqNo: **2848653** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-012a** Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	6.47	2.00	0	0	0	0	0	6.448	0.341	19.6	

DUP

SeqNo: **2848660** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-015** Units: **mg/L** Analysis Date: **5/28/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.61	2.00	0	0	0	0	0	19.66	0.265	19.6	

DUP

SeqNo: **2848677** TestNo: **E300** RunNo: ***183228***
Samp ID: **200514015-020a** Units: **mg/L** Analysis Date: **5/29/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.28	2.00	0	0	0	0	0	63.01	1.16	19.6	
Sulfate	31.31	4.00	0	0	0	0	0	31.67	1.17	10.9	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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

EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 200514015

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: Kathy Wager	Project Name (Location): PLANT NO LF	Samplers Name: DAVE Hanly / Kathy Wager
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature: Kathy Wager
Client Email: kathy.wager@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm		Sample Type: Matrix	C	G	# of Cont's	Preservative	Analysis
001	BR-14-UG	5/13/20	1203	AP	GW		X	2	2	T. metals, D-metals, Hard
				AP				2	1	T. phenols, NH3, KW
				AP				2	0	Cl, SO4, TDS, ~~NO3~~ NO3, F, Alk
				AP				1	10	TOC
				AP				3	3	LL Hg 5/14/20
002	BR-3-DG		110	AP						
003	BR-12-DG		1234	AP						
004	BR-13-DG		1250	AP						
005	BR-20-DG *		1:15	AP						
				AP						
006	DUP			AP						
001	MS/MSD BR-14-UG		1203	AP						
				AP						
	Antimony DL <0.0004			AP	*	Total		Alkalinity AND		
				AP				Bicarbonate Alkalinity		

Shipment Arrived Via: FedEx UPS Client AES Other:

Turnaround Time Requested:

1 Day 2 Day 3 Day 5 Day Standard

NOTE: Samples received after 3:30pm are considered ~~next~~ business day.

Special Instructions/Remarks:

T metals: As, B, Ba, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na, Sb, ~~Tl, Sn, Li~~ Ru

D metals: As, B, Ba, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na

Relinquished by: (Signature) Kathy Wager	Received by: (Signature) FED X	Date 5/13/20	Time 4:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by: Knag	Date 5/14/20	Time 1100am

Sample Temperature

Ambient ~Chilled~ Chilling Begun

Notes: 4°C

Custody Seal Intact: Y / N

Bottles AES: Y / N

Properly Preserved: Y / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other

Received Within Holding Times: Y / N

Notes:

Demo
200514015

Adirondack Environmental Services, Inc.

EXPERIENCE IS THE SOLUTION

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Albany, NY 12207
518-434-4546 / FAX: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#: 200514015

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: Kathy Wager	Project Name (Location): PINT NO LF	Samplers Name: DAVE Hrnady / Kathy Wager
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature: Kathy Wager
Client Email: kathy.wager@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type: Matrix	C	G	# of Cont's	Preservative	Analysis
007	OB-3-UG	5/13/20	11:48 AP	GW		X	2	2	T-metals, D-metals, HARD
			AP				2	1	T. phenols, NH_3
			AP				2	0	Cl, SO_4, TDS, ~~NO_3~~, ALK
			AP				1	10	TOC KW RBS Jan 5/14/20
008	OB-4-DG		12:0 P						
009	OB-7-DG		11:58 A						
010	OB-19-DG		12:39 A						
011	OB-20-DG		12:54 A						
			AP						
			AP						
			AP						
			AP						
			AP						
			AP						
			AP						
			AP						

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

Turnaround Time Requested:
1 Day 2 Day 3 Day 5 Day Standard
NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:
metals (T & D) - As, B, Ba, Cd, Ca, Fe, Pb, Mg, Mn, Mo, K, Se, Na

Relinquished by: (Signature) Kathy Wager	Received by: (Signature) FedEx	Date 5/13/20	Time 4:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by: Knaz	Date 5/14/20	Time 1007 am

Sample Temperature
Ambient ~ Chilled ~ Chilling Begun
Notes: 4°

Custody Seal Intact: Y / N

Bottles AES: Y / N

Properly Preserved: Y / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other H_3PO_4

Received Within Holding Times: Y / N

Notes:

Adirondack Environmental Services, Inc.

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Albany, NY 12207
518-434-4546 / FAX: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#: 20051491 5

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.

Address: 8675 Main Street, Williamsville, NY 14221

Send Report to: Kathy Wager

Project Name (Location): Plant ND LF

Samplers Name: DAVE Hartz / Kathy Wager

Client Phone #: 716-634-2293

Client PO #:

Samplers Signature: Kathy Wagg

Client Email: kathy.wager@frontiertechnical.com

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type Matrix	C	G	# of Cont's	Preservative	Analysis KW
012	MH-2	5/12/20	1220 A P	leach		X	2	2	T metals, ~~D metals~~, Hard
			A P				2	1	T. phenols; NH_3
			A P				2	a	Cl, SO4, TDS, ~~Hard~~, Alk
			A P				1	10	TOC J-m.
013	MH-7		1238 P						5/14/20
014	MH-16 DR		110 A P						
015	MH-16		1258 A P						
016	MH-19		1248 A P						
017	SED-1A		1228 A P						
018	SED-1B		1247 A P						
019	SP-D		202 A P	SW					
020	SP-N		116 A P						
021	SP-S		1155 A P						
			A P						
			A P						

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

Turnaround Time Requested:
1 Day 2 Day 3 Day 5 Day Standard
NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:
metals (T ~~D~~) - As, B, Ba, Cd, Ca, Fe, Pb, Mg
Mn, Mo, K, Se, Na

		Date	Time
Relinquished by: (Signature) Kathy Wagg	Received by: (Signature) FedX	5/12/20	4:00
Relinquished by: (Signature)	Received by: (Signature)		
Relinquished by: (Signature)	Received for Laboratory by: KMcG	5/14/20	1007 am

Sample Temperature
Ambient ~ Chilled ~ Chilling Begun
Notes: 4°c

Custody Seal Intact: Y / N

Bottles AES: Y / N

Properly Preserved: Y / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other H_3PO_4

Received Within Holding Times: Y / N

Notes:

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

CHAIN OF CUSTODY RECORD

AES Work Order # 20051401S

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Client Name:	Address:	
Frontier Technical Associates	8675 Main Street, Williamsville, NY 14221	
Send Report To: Kathy Wager	**Project Name (Location)** Plant ND LF	**Samplers: (Names)** David Harty/Kathy Wager
Client Phone No: 716-634-2293	**Client Email:** kathy.wager@frontiertechnical.com	**PO Number:**
		Samplers: (Signature) Kath Wagn

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
002	MH-13	5/12/20	1035	A P	leach		X	7	Ammonia, Chloride,
003	MH-29	5/12/20	1455	A P	leach		X	6	Hard.,Nitrate,Sulfate,
				A P					TDS,TOC,Alkalinity,
				A P					Phenols , TSS,
				A P					Total metals
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

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

CC Report To / Special Instructions/Remarks:
Total metals: Ba, B, Cd, Ca, Fe, Pb,
Mg, Mn, Mo, K, Se, Na, Al, As, Cr6+, Cr, Cu,
Hg, Ni, Zn
5/14/20

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Kath Wagn	FedX	5/12/20 4:00
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time
	Knaf	5/14/20 1007am

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or (Chilled) 4°c	Y ☑ N ☐	(Y) N	(Y) N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

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

TERMS, CONDITIONS & LIMITATIONS

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

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

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

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

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

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

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

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

Appendix G

Water Level Survey Report (June 2020)

FRONTIER TECHNICAL ASSOCIATES, INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293
Environmental Monitoring and Consulting

June 24, 2020

Mr. George Streit
NRG Dunkirk Power, LLC
Dunkirk Generating Station
106 Point Drive North
Dunkirk, NY 14048-1099

Re: Survey of Dunkirk Landfill Impacts on Well BR-20-DG

Dear Mr. Streit:

On June 22, 2020, Frontier Technical surveyed the potential sources that could be influencing the groundwater surface in Well BR-20-DG. The results are graphically presented on the attached plot. The following water surfaces have a downward gradient to towards Well BR-20-DG:

Manhole 1 Leachate Collection
Manhole 1 Leak Detection System
Sedimentation Basin Leak Detection before Pumps replaced
Sedimentation Basin 1 (Typical Level)
Sedimentation Basin 2 (Current Level)
Hydraulic Basin
Beaver Pond (Discharge Creek)

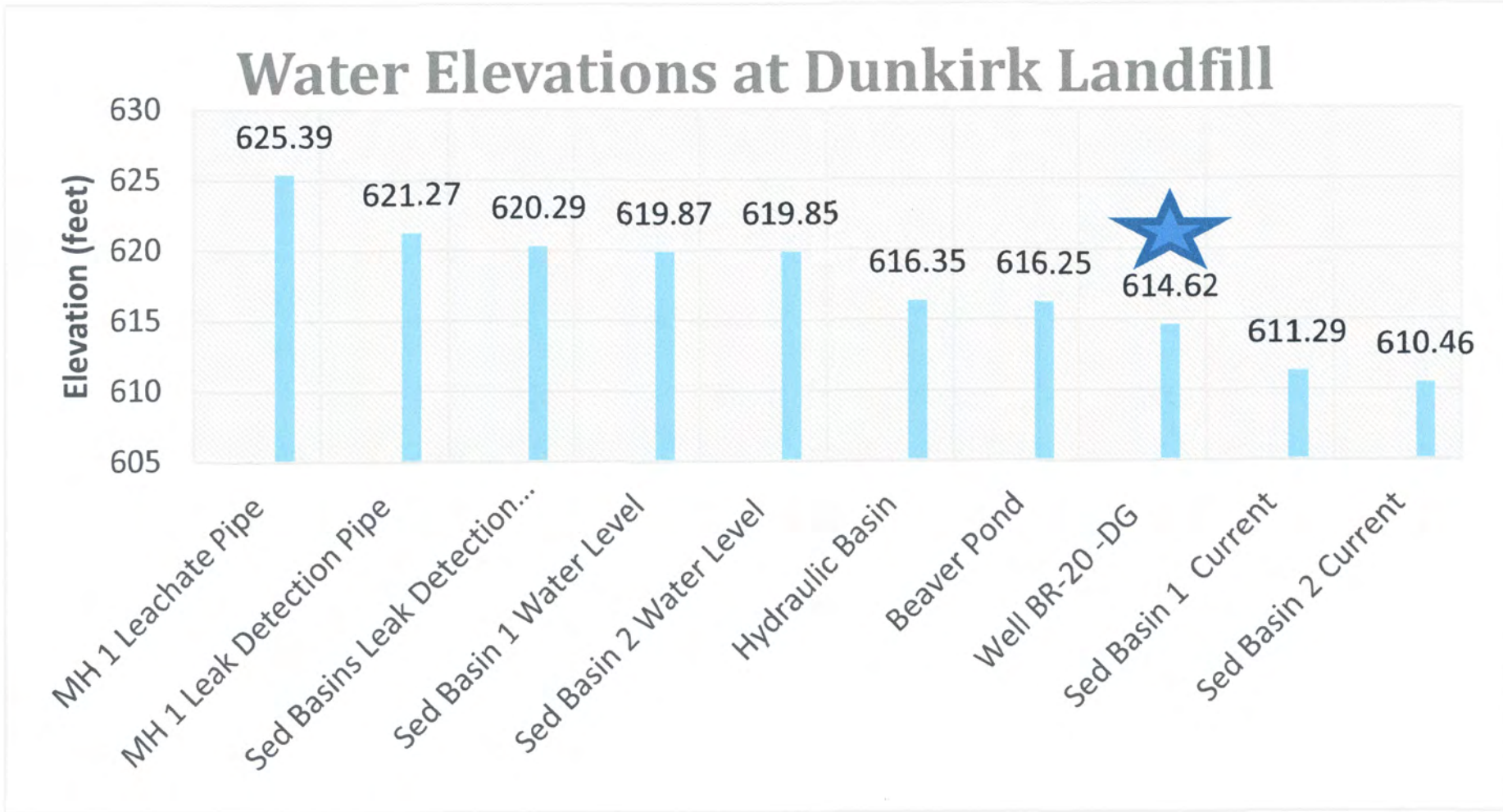
The Sedimentation Basins have recently undergone repairs/replacement of the pump and the current water levels are not hydraulically upgradient of the Well.

Thank you for the opportunity to be service.

Sincerely,

David M. Harty, P.E.
President

DMH:20-164


Water Elevations at Dunkirk Landfill
Elevation (feet)
630
625
620
615
610
605
625.39
621.27
620.29
619.87
619.85
616.35
616.25
614.62
611.29
610.46
MH 1 Leachate Pipe
MH 1 Leak Detection Pipe
Sed Basins Leak Detection...
Sed Basin 1 Water Level
Sed Basin 2 Water Level
Hydraulic Basin
Beaver Pond
Well BR-20 -DG
Sed Basin 1 Current
Sed Basin 2 Current

Appendix H

Laboratory Results for Beaver Dam Surface Water (July 2020)

FRONTIER TECHNICAL ASSOCIATES, INC.
8675 Main Street, Williamsville, New York 14221 (716) 634-2293
Environmental Monitoring and Consulting

July 24, 2020

Mr. George Streit, P.E.
NRG Dunkirk Power, LLC
106 Point Drive North
Dunkirk, New York 14048

RE: Beaver Pond REVISED

Dear Mr. Streit:

Please find the analytical results from the SPDES sample that we picked up on July 17, 2020.

Sample: BD071620 Sample Date: 7/16/20
Beaver Dam

Parameter	Concentration, mg/l
Aluminum, Total	<0.100
Arsenic, Total	0.024
Barium, Total	0.101
Chromium, Total	<0.005
Iron, Total	0.481
Lithium, Total	0.799
Manganese, Total	0.525
Nickel, Total	<0.020
Zinc, Total	<0.010

If you have any questions, please don't hesitate to contact me. Thank you for this opportunity to be of service.

Sincerely,

Kathy Wager
Vice President

KAW: 20-434
Report: 200722023

Appendix I

Soil Sampling Report (September 2020)

FRONTIER TECHNICAL ASSOCIATES, INC.
8675 Main Street, Williamsville, New York 14221, (716) 634-2293
Environmental Monitoring and Consulting

October 19, 2020
ET-544

Mr. George Streit
NRG Huntley Operations.
3500 River Road
Tonawanda, N.Y. 14150

Re: Soil Sampling at Dunkirk Landfill

Dear Mr. Streit:

Attached are the results of the soil sampling conducted by Frontier at the NRG Dunkirk Landfill. The work was in support of the CCR investigation at the site. Figure 1 shows the locations of the samples. The results of the sampling and analysis are summarized below:

Results of Soil Sampling and Analysis at Dunkirk Landfill				
Sample Location	Latitude	Longitude	Soil Concentration of Lithium (ppm)	Leachate Extraction Concentration of Lithium (mg/l)
Well Pad Area	42.4416	-79.3979	41.4	< 0.5
Lined Ditch	42.4404	-79.3982	125	< 0.5
Discharge Mixing Zone	42.4401	-79.3979	74.3	< 0.5

Photographs of the locations of the sampling are attached. The soil samples were obtained September 30, 2020 from zero to six inches below grade at the specified locations.

If you have any questions, please do not hesitate to call me at (716) 634-2293.

Sincerely,

David M. Harty, P.E.
President

DMH:20-253

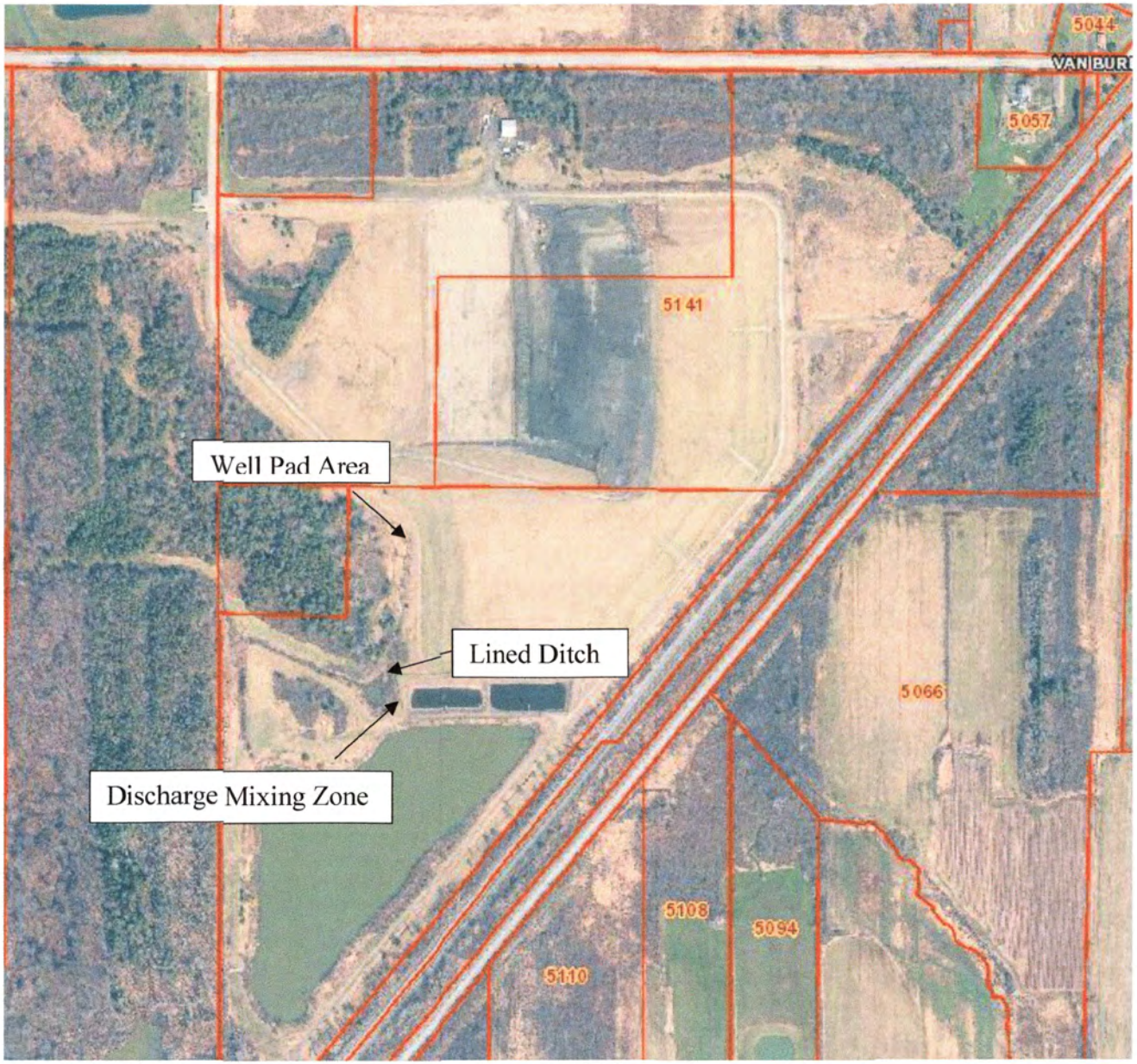


Figure 1. Soil Sampling Locations at Dunkirk Landfill

Discharge to Mixing Zone

Lined Ditch

Well Pad Area

Adirondack Environmental Services, Inc.

Experience is the solution

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

October 15, 2020

Dave Harty
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221

TEL: (716) 634-2293

Work Order No: 201001032

RE: Plant ND-Plant SPDES
Plant ND

Dear Dave Harty:

Adirondack Environmental Services, Inc received 3 samples on 10/1/2020 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Christopher Hess
QA Manager

Adirondack Environmental Services, Inc

CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:**	*15-Oct-20*
Project:	Plant ND-Plant SPDES		
Lab Order:	201001032		

Sample containers were supplied by Adirondack Environmental Services.

This is an updated report to include the Total Lithium results.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *15-Oct-20*

CLIENT: Frontier Technical Associates
Project: Plant ND-Plant SPDES
Plant ND

LabWork Order: **201001032**
PO#:

Lab SampleID: 201001032-001 **Collection Date:** 9/29/2020
Client Sample ID: Lined Ditch **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS-EPA 6010C (**Prep: SW3050B - 10/2/2020**)						Analyst: **KH**
Lithium	**125**	51.0		µg/g-dry	1	10/15/2020 10:59:00 AM
SPLP METALS - SW1312/6010C (**Prep: SW1312 - 10/2/2020**)						Analyst: **KH**
Lithium-SPLP	**ND**	0.500		mg/L	1	10/15/2020 10:29:00 AM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**75.3**	0.1		wt%	1	10/13/2020

Lab SampleID: 201001032-002 **Collection Date:** 9/29/2020
Client Sample ID: Discharge Mixing Zone **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS-EPA 6010C (**Prep: SW3050B - 10/2/2020**)						Analyst: **KH**
Lithium	**74.3**	41.0		µg/g-dry	1	10/15/2020 11:13:00 AM
SPLP METALS - SW1312/6010C (**Prep: SW1312 - 10/2/2020**)						Analyst: **KH**
Lithium-SPLP	**ND**	0.500		mg/L	1	10/15/2020 10:41:00 AM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**69.3**	0.1		wt%	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *15-Oct-20*

CLIENT: Frontier Technical Associates
Project: Plant ND-Plant SPDES
Plant ND

LabWork Order: **201001032**
PO#:

Lab SampleID: 201001032-003 **Collection Date:** 9/29/2020
Client Sample ID: Wellpad Area **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS-EPA 6010C (**Prep: SW3050B - 10/2/2020**)						Analyst: **KH**
Lithium	**41.4**	18.0		µg/g-dry	1	10/15/2020 11:17:00 AM
SPLP METALS - SW1312/6010C (**Prep: SW1312 - 10/2/2020**)						Analyst: **KH**
Lithium-SPLP	**ND**	0.500		mg/L	1	10/15/2020 10:46:00 AM
MOISTURE CONTENT-ASTM D2216 (NOT ELAP CERTIFIED)						Analyst: **TSZ**
Percent Moisture	**29.1**	0.1		wt%	1	10/13/2020

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

EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 20 [illegible]52

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: David Harty	Project Name (Location): Plant ND	Samplers Name:
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature:
Client Email: David.harty@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type: Matrix	C	G	# of Cont's	Preservative	Analysis
[illegible]1	Lined Ditch	9/29/20	1[illegible]30 AAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAP	S		X	2	0	Total Lithium SPLP for Lithium
[illegible]2	Discharge Mixing Zone	9/29/20	1[illegible]20 AAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAP	S		X	2	0	Total Lithium SPLP for Li
[illegible]3	Wellpad Area	9/29/20	2[illegible]30 AAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAPAAP	S		X	2	0	Total Lithium SPLP for Lithium

Shipment Arrived Via: FedEx UPS Client AES Other:_____

Turnaround Time Requested:

☐1 Day ☐2 Day 3 Day 5 Day Standard

NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:

		Date	Time
Relinquished by: (Signature)	Received by: (Signature) FED EX	9/30/20	4:00 pm
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by:	Date 10/1/20	Time 11:02am

Sample Temperature

Ambient (Chilled) Chilling Begun

Notes: 5 C

Custody Seal Intact: (Y) / N

Bottles AES: (Y) / N

Properly Preserved: (Y) / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other

Received Within Holding Times: (Y) / N

Notes:

Demo
201001032

Appendix J

Groundwater/Surface Water Sampling Report (September 2020)

FRONTIER TECHNICAL ASSOCIATES INC.

ATTORNEY CLIENT PRIVILEGED

SUPPLEMENTAL SAMPLING AND ANALYSIS REPORT FOR CCR INVESTIGATION DUNKIRK FLYASH LANDFILL (September 29, 2020)

FTA Report CCR-D-20-03
DUN LF CCR 3 QTR 2020

October 29, 2020

Prepared for:

Mr. Gregory M. Brown, Esq.
BROWN DUKE & FOGEL, P.C.
100 Madison Street, AXA Tower 1, Ste. 1820
Syracuse, New York 13202

Prepared by:

Frontier Technical Associates, Inc.
8675 Main Street
Williamsville, New York 14221

The analytical test results reported herein were performed to professional standards of the NYSDOH ELAP program. The analytical data are for management use only, and except for regulatory compliance reporting, are not intended for any other purpose.

FRONTIER TECHNICAL ASSOCIATES INC.

SUPPLEMENTAL SAMPLING AND ANALYSIS REPORT
DUNKIRK FLYASH LANDFILL
(September 29, 2020)

INTRODUCTION

NRG Dunkirk Power, LLC owns and operates the Dunkirk Solid Waste Management Facility (Dunkirk Flyash Landfill) for their exclusive use in the Town of Pomfret, New York. Wastes received at the landfill were limited to flyash, bottom ash, pyrites and wastewater treatment sludges from NRG Dunkirk fossil fuel combustion facilities.

The landfill is located on a 339.6 acre property (9 parcels) of land at the location shown on Figure 1. Figure 2 is the location of the sample sites. The landfill is on the south side of Van Buren Road and is surrounded by railroads, industrial, farmland and vacant properties. Landfill activities in the southern portion of the site as shown are complete as these cells are closed (Phase 1). The active cells (Phase 2) are in the north side of the site.

Frontier Technical Associates, Inc. has completed groundwater and leachate monitoring program to better understand the water and groundwater quality at the Dunkirk Landfill.

SCOPE

This report presents the sampling and analytical results for the supplemental monitoring event at the NRG Dunkirk Landfill. Groundwater, leak detection water, leachate and surface water sampling and field measurements were performed by Frontier Technical Associates, Inc. Laboratory measurements were performed by Adirondack Environmental Services, Inc. Adirondack Environmental Services is a NYSDOH ELAP certified laboratory (ELAP No. 10709).

The scope of the supplemental monitoring was directed by NRG and was focused on developing a better understanding of the water quality at the site. The sampling and analysis was limited and included groundwater, leak detection water, leachate and surface water.

This report includes the following elements:

- Figure showing the location of the sampling points.
- Field data sheets showing the purging and sampling information and field measurements for pH, specific conductance, temperature and turbidity.

Figure 1. Site Location

Scale 1:72,224

0 8,100 16,200 Feet

0 1.5 3 Miles

Figure 2. Location of Sample Points at Dunkirk Landfill

- Analytical methods and laboratories used.
- Data summary tables.
- Quality control and quality assurance data.
- Chain-of-custody records.

DATA QUALITY OBJECTIVES

The primary data quality objectives of the monitoring program are to obtain representative samples and accurate analytical results of the groundwater, leak detection water, leachate and surface water at the Dunkirk Landfill. The results are to be used in the assessment of the site under the provision of the CCR regulations.

MONITORING LOCATIONS

The locations of the monitoring points are shown on Figure 2. The following locations were monitored during this supplemental monitoring:

Groundwater

Well OB-20-DG
Well BR-20-DG

Leak Detection Water

Sedimentation Basin 1 Leak Detection Water
Sedimentation Basin 2 Leak Detection Water
Manhole 1 Leak Detection Water
Manhole 3 Leak Detection Water

Leachate

Manhole 1 Leachate
Manhole 3 Leachate (commingled with Manhole 1)
Manhole 5 Leachate

Surface Water

Lined Ditch (stagnant water from ditch along edge of landfill)

Hydraulic Basin

Beaver Dam (includes leachate and hydraulic basin water)

SAMPLING PERSONNEL

Field Crew – David Harty and Ron Blinston
Frontier Technical Associates, Inc.

SAMPLING EQUIPMENT AND CONTAINERS

The sampling equipment is constructed of inert materials. Dedicated tubing is used to obtain the samples. The tubing used is polyethylene food grade tubing. The sample containers are polyethylene or glass as required by the analytical protocols and are prepared by the laboratory performing the analysis. The samples are preserved as required by the analytical methods immediately in the field. The samples collected are placed under chain-of-custody and a chain-of-custody record is shipped with the samples. The sample date, time of collection, analytical parameters to be tested, sampler identification and times of possession are marked on the chain-of-custody record.

WELL PURGING

The wells were purged with a peristaltic or submersible pump prior to sampling. The wells were purged to remove three standing well volumes of water or to dryness. The well purging information is recorded on the Field Observations Forms in the Appendix.

LABORATORIES

In accordance with the requirements of this project and the NYSDEC, Adirondack Environmental Services, Inc., (ELAP No. 10709) a NYSDOH ELAP certified laboratory, was contracted to perform the analyses for the samples collected. The EPA and Standard Methods analytical methods used are present in the laboratory report.

FIELD INFORMATION

Field analyses were completed for pH, specific conductance, Eh, temperature and turbidity for each of the samples. These field data are summarized on Table 1.

ANALYTICAL TESTING

The analytical parameters, results and test methods used are summarized in the Appendix. The appendices provide the following information:

FRONTIER TECHNICAL ASSOCIATES INC.

TABLE 1
SUMMARY OF ANALYSIS OF CCR PARAMETERS
NRG Dunkirk Landfill
Supplemental Monitoring on September 29, 2020

PARAMETER	CONCENTRATION (mg/l) unless noted											
	OB-20-DG	BR-20-DG	Sed 1A	Sed 1B	MH-1 Leachate	MH-1 Leak Detection	MH-3 Leachate	MH-3 Leak Detection	MH-5 Leachate	Lined Ditch	Hydraulic Basin	Beaver Dam
Casing Elevation (feet)	625.64	625.74	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Depth to Water (feet)	6.79	14.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Water Elevation (feet)	618.85	611.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Length (feet)	17.61	35.99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Height of Water Column (feet)	10.82	21.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (SU)	7.59	7.80	7.88	7.99	7.89	7.07	8.03	7.48	8.24	8.23	8.91	8.14
Specific Conductance (umhos/cm)	884	1,003	3,290	3,220	3,420	3,000	4,460	4,870	4,750	1,088	452	1,654
Temp (F)	59	57	66	65	58	58	59	59	61	65	69	66
Turbidity (NTU)	OR	8.5	89.5	42.4	4.73	21.6	3.82	8.93	8.47	35.3	7.48	40.2
Boron	1.07	1.54	20.3	21.2	38.7	5.12	65.3	44.5	59.8	7.83	0.702	10.1
Calcium	114	23.9	378	393	380	532	549	425	496	123	35.7	103
Lithium	< 0.05	< 0.05	1.17	0.949	3.03	0.924	3.98	3.10	3.58	<0.05	<0.05	0.25
Magnesium	38.5	7.70	101	88.8	278	161	264	146	180	36.7	9.26	37.3
Molybdenum	< 0.010	< 0.010	0.246	0.306	2.32	< 0.010	5.96	1.46	4.70	0.032	0.030	0.232
Potassium	9.95	7.69	83.0	61.4	75.0	4.80	173	108	135	25.4	6.64	51.4
Sodium	103	318	385	467	99.3	118	419	574	723	120	44.1	289
Dissolved Boron	0.976	1.4	25.1	19.0	44.1	6.20	65.5	55.9	63.3	7.44	0.632	12.6
Dissolved Lithium	< 0.05	< 0.05	1.16	1.16	3.28	0.971	4.28	3.70	4.29	<0.050	<0.050	0.27
Dissolved Molybdenum	< 0.01	< 0.01	0.309	0.363	2.80	< 0.010	5.55	1.62	5.79	0.032	0.029	0.293
Chloride	2.20	10.9	19.5	20.1	3.42	13.4	16.7	32.6	31.9	48.5	48.4	40.9
Sulfate	91.1	< 2.0	1,860	1,820	1,880	1,600	2,670	2,830	2,970	243	53	604
Alkalinity	440	600	280	280	520	450	400	420	300	360	84	300

- Laboratory Data Sheets
- QA/QC Documentation
- Field Data Sheets
- Chain-of-Custody Records

The complete data laboratory report for this sampling event is attached.

QA/QC

The elements of the QA/QC program for this round of sampling include the following:

- Case Narrative (See Appendix)
- Blind Duplicate (Well BR-20-DG)
- Method Blanks
- Matrix Spike/Matrix Spike Duplicate (Well BR-14-UG)

The impact these quality control samples had is discussed in the Case Narrative (See Appendix).

RESULTS

The analytical results are summarized in Table 1. The QA/QC on the data is acceptable. The data is to be evaluated after all the data under this program is gathered.

SUMMARY

The monitoring was completed in accordance with the agreed on scope of work. The data will be summarized further for use under the CCR requirements.

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sedimentation Basin 1B Project No.: ET-1066

Sample Point I.D.: sed-1B Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							12:46
pH	Oakton pH 300	SM 18-20 4500HB							7.99
Spec. Conductance	Oakton CON 5	EPA 120.1							3200
Temperature	Oakton CON 5	SM 18-20 2550B							65
Eh	ORP tester	ASTM D1498							–
Turbidity	HACH 2100P	EPA 180.1							42.4
Appearance	--	--							TURBID

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: RON BRINSTON

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sedimentation Basin 1A Project No.: ET-1066

Sample Point I.D.: sed-1A Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							12:31
pH	Oakton pH 300	SM 18-20 4500HB							7.88
Spec. Conductance	Oakton CON 5	EPA 120.1							3290
Temperature	Oakton CON 5	SM 18-20 2550B							66
Eh	ORP tester	ASTM D1498							-
Turbidity	HACH 2100P	EPA 180.1							89.5
Appearance	--	--							TURBID

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: RON BLINSTON

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: BR-20-DG Date: 9/29/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 35.99 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 14.69 ft

Depth of Water Column: 21.30 ft Elevation of Casing: 625.43

Volume of Standing Water in Well: 3.7 gallons

Start of Purge – Time: 11:31

End of Purge – Time: 11:41

Total Volume Purged: 4.7 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
				3.7	7.4				
Time	--	--	11:31	11:38					11:55
pH	Oakton pH 300	SM 18-20 4500HB	7.67	7.65					7.80 (7.88)
Spec. Conductance	Oakton CON 6+	EPA 120.1	1024	1031					1003
Temperature	emi 550	SM 18-20 2550B	59	56					57
Eh	ORP tester	ASTM D1498	-	-					-
Turbidity	Hach 2100P	EPA 180.1	16.6	3.86					8.51
Appearance	--	--	CLEAR	CLEAR					CLEAR

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 33.68 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: Tom Blinstrom

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Well Project No.: ET-1066

Sample Point I.D.: OB-20-DG Date: 9/29/20

Purge Information Purge Method: Bailer, Peristaltic Pump

Depth to Bottom of Well: 17.61 ft 2" well = 0.17 gallons per foot

Depth to Water Surface: 6.79 ft

Depth of Water Column: 10.82 ft Elevation of Casing: 625.35

Volume of Standing Water in Well: 1.9 gallons

Start of Purge – Time: 11:00

End of Purge – Time: 11:25

Total Volume Purged: 4 1/2 gallons Well Purged Dry: (Yes) No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
				2gal	4gal				
Time	--	--	11:16	11:19	11:22				11:50
pH	Oakton pH 300	SM 18-20 4500HB	6.95	7.07	7.17	~~7.59~~			7.59
Spec. Conductance	Oakton COM 6=	EPA 120.1	1156	1129	1102				884
Temperature	emi 550	SM 18-20 2550B	60	59	58				59
Eh	ORP tester	ASTM D1498	-	-	-				-
Turbidity	Hach 2100P	EPA 180.1	194	389	OR	~~OR~~			OR
Appearance	--	--	TURBID	TURBID	TURBID	~~TURBID~~			TURBID

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: 15.69 ft. Sample Method: Bailer Peristaltic Pump

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: RON BEINSTOCK

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Cell B Project No.: ET-1066

Sample Point I.D.: MH-5 Leachate Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							12:57
pH	Oakton pH 300	SM 18-20 4500HB							8.24
Spec. Conductance	Oakton CON 5	EPA 120.1							4750
Temperature	Oakton CON 5	SM 18-20 2550B							61
Eh	ORP tester	ASTM D1498							-
Turbidity	HACH 2100	EPA 180.1							8.47
Appearance	--	--							CLEAR

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: _____

Sampling Personnel: Ron Bidston

Sampling Personnel Signature: _____

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Cell A Project No.: ET-1066

Sample Point I.D.: MH-1 Leachate Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							12:17
pH	Oakton pH 300	SM 18-20 4500HB							7.89
Spec. Conductance	Oakton CON 5	EPA 120.1							3420
Temperature	Oakton CON 5	SM 18-20 2550B							57.8
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							4.73
Appearance	--	--							Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: Sample turned from green in nitric acid.

Sampling Personnel: David Hanby

Sampling Personnel Signature: DHM

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Cell A Project No.: ET-1066

Sample Point I.D.: MH-1 Leak Detection Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							11:55
pH	Oakton pH 300	SM 18-20 4500HB							7.07
Spec. Conductance	Oakton CON 5	EPA 120.1							3006
Temperature	Oakton CON 5	SM 18-20 2550B							58
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							21.6
Appearance	--	--							Slightly Cloudy

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hartley

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
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WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Cell A Project No.: ET-1066

Sample Point I.D.: MH-3 Leachate Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							1:15
pH	Oakton pH 300	SM 18-20 4500HB							8.05
Spec. Conductance	Oakton CON 5	EPA 120.1							4460
Temperature	Oakton CON 5	SM 18-20 2550B							59
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							3.82
Appearance	--	--							clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: Commingled w/ MH1 + MH2

Sampling Personnel: David Harty

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Phase I Cell A Project No.: ET-1066

Sample Point I.D.: MH-3 Leak Detection Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							1:08pm
pH	Oakton pH 300	SM 18-20 4500HB							7.48
Spec. Conductance	Oakton CON 5	EPA 120.1							4870
Temperature	Oakton CON 5	SM 18-20 2550B							59
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							8.93
Appearance	--	--							Clear

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hagy

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sedimentation Basin 1B Project No.: ET-1066

Sample Point I.D.: Lined Ditch Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							1:36
pH	Oakton pH 300	SM 18-20 4500HB							8.23
Spec. Conductance	Oakton CON 5	EPA 120.1							1088
Temperature	Oakton CON 5	SM 18-20 2550B							65
Eh	ORP tester	ASTM D1498							-
Turbidity	HACH 2100P	EPA 180.1							35.3
Appearance	--	--							SLIGHTLY TURBID

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: SOILS WELL PAD AREA 2:00 PM

Sampling Personnel: David Hanby

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sedimentation Basin 1B Project No.: ET-1066

Sample Point I.D.: Hydraulic Basin Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							1:23
pH	Oakton pH 300	SM 18-20 4500HB							8.91
Spec. Conductance	Oakton CON 5	EPA 120.1							452
Temperature	Oakton CON 5	SM 18-20 2550B							69
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							7.48
Appearance	--	--							CLEAR

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather:

Sampling Personnel: David Hartz

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, N.Y. 14221 (716) 634-2293, Fax (716) 634-2344

WELL PURGING AND SAMPLING LOG

Site Location: NRG Dunkirk Landfill Sedimentation Basin 1B Project No.: ET-1066

Sample Point I.D.: Beaver Dam Date: 9/29/20

Purge Information Purge Method: None

Depth to Bottom of Well: NA ft

Depth to Water Surface: NA ft

Depth of Water Column: NA ft

Volume of Standing Water in Well: NA gallons

Start of Purge – Time: NA

End of Purge – Time: NA

Total Volume Purged: NA gallons Well Purged Dry: Yes No

Parameters	Meter	Method	Initial Sample	Accumulated Volume Purged (gallons)					Sample
Time	--	--							12-3
pH	Oakton pH 300	SM 18-20 4500HB							8.14
Spec. Conductance	Oakton CON 5	EPA 120.1							1654
Temperature	Oakton CON 5	SM 18-20 2550B							66
Eh	ORP tester	ASTM D1498							—
Turbidity	HACH 2100P	EPA 180.1							40.2
Appearance	--	--							Green

NYSDOH ELAP No. 10475, Values in parenthesis are duplicate values

Depth to Water: NA ft. Sample Method: Grab

Meters Calibrated: Yes Dedicated Sample Equipment: Yes

Notes/Weather: Low water level behind dam.

Sampling Personnel: David Hartz

Sampling Personnel Signature:

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Main Street, Williamsville, NY 14221

NRG Dunkirk Landfill
Calibration Record

Date: 9/29/20

				Standard Expires
pH Calibration: Temp: 21.2 °C	Buffers:	7.0	7.02	6/2021
Instrument ID: #2		10.0	10.05	6/2021
		Check 4.0	4.01	6/2021

Turbidity: Cal. Check Std: 20 NTU Reading: 21 4/2021

Instrument ID: C must be +/- 10% of true value

Specific Conductivity Cal. Check Std: 1413 umhos/cm

Instrument ID: Cos 6+(C) Reading: 1413 2/12/21

Field Analyst: DOM

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

October 21, 2020

Dave Harty
Frontier Technical Associates
8675 Main Street
Williamsville, NY 14221
TEL: (716) 634-2293

Work Order No: 201001034

RE: Plant ND GW
Plant ND

Dear Dave Harty:

Adirondack Environmental Services, Inc received 12 samples on 10/1/2020 for the analyses presented in the following report.

These samples were received outside the acceptable temperature range of 2-6 °C

Please see case narrative for specifics on analysis.

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

Sincerely,

ELAP#: 10709

Christopher Hess
QA Manager

CC:
MS/MSD Report

Adirondack Environmental Services, Inc — CASE NARRATIVE

CLIENT:	Frontier Technical Associates	**Date:** *21-Oct-20*
Project:	Plant ND GW	
Lab Order:	201001034	

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

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

Note : All Results are reported as wet weight unless noted

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

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH3 Leachate
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-001
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**65.3**	0.500		mg/L	10	10/14/2020 4:18:00 PM
Calcium	**549**	0.500		mg/L	10	10/14/2020 4:18:00 PM
Lithium	**3.98**	0.050		mg/L	1	10/14/2020 4:13:00 PM
Magnesium	**264**	0.500		mg/L	10	10/14/2020 4:18:00 PM
Molybdenum	**5.96**	0.010		mg/L	1	10/14/2020 4:13:00 PM
Potassium	**173**	0.500		mg/L	10	10/14/2020 4:18:00 PM
Sodium	**419**	0.500		mg/L	10	10/14/2020 4:18:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**65.5**	0.500		mg/L	10	10/15/2020 12:47:00 PM
Lithium, Dissolved	**4.28**	0.050		mg/L	1	10/15/2020 12:40:00 PM
Molybdenum, Dissolved	**5.55**	0.010		mg/L	1	10/15/2020 12:40:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**16.7**	2.00		mg/L	2	10/19/2020 7:05:43 PM
Sulfate	**2670**	50.0		mg/L	50	10/19/2020 7:24:44 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**400**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH3 LD
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-002
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**44.5**	0.500		mg/L	10	10/14/2020 4:58:00 PM
Calcium	**425**	0.500		mg/L	10	10/14/2020 4:58:00 PM
Lithium	**3.10**	0.050		mg/L	1	10/14/2020 4:55:00 PM
Magnesium	**146**	0.050		mg/L	1	10/14/2020 4:55:00 PM
Molybdenum	**1.46**	0.010		mg/L	1	10/14/2020 4:55:00 PM
Potassium	**108**	0.500		mg/L	10	10/14/2020 4:58:00 PM
Sodium	**574**	5.00		mg/L	100	10/14/2020 5:02:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**55.9**	5.00		mg/L	100	10/15/2020 1:14:00 PM
Lithium, Dissolved	**3.70**	0.050		mg/L	1	10/15/2020 4:05:00 PM
Molybdenum, Dissolved	**1.62**	0.010		mg/L	1	10/15/2020 4:05:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**32.6**	2.00		mg/L	2	10/19/2020 7:43:46 PM
Sulfate	**2830**	50.0		mg/L	50	10/19/2020 8:02:48 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**420**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Beaver Dam
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-003
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**10.1**	0.050		mg/L	1	10/14/2020 5:28:00 PM
Calcium	**103**	0.050		mg/L	1	10/14/2020 5:28:00 PM
Lithium	**0.250**	0.050		mg/L	1	10/14/2020 5:28:00 PM
Magnesium	**37.3**	0.050		mg/L	1	10/14/2020 5:28:00 PM
Molybdenum	**0.232**	0.010		mg/L	1	10/14/2020 5:28:00 PM
Potassium	**51.4**	0.050		mg/L	1	10/14/2020 5:28:00 PM
Sodium	**289**	0.500		mg/L	10	10/14/2020 5:32:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**12.6**	0.050		mg/L	1	10/15/2020 1:19:00 PM
Lithium, Dissolved	**0.270**	0.050		mg/L	1	10/15/2020 1:19:00 PM
Molybdenum, Dissolved	**0.293**	0.010		mg/L	1	10/15/2020 1:19:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**40.9**	2.00		mg/L	2	10/19/2020 8:21:50 PM
Sulfate	**604**	50.0		mg/L	50	10/19/2020 8:40:53 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**300**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH-1 Leachate
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-004
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 10/2/2020)						
Boron	**38.7**	0.500		mg/L	10	10/14/2020 5:40:00 PM
Calcium	**380**	0.500		mg/L	10	10/14/2020 5:40:00 PM
Lithium	**3.03**	0.050		mg/L	1	10/14/2020 5:35:00 PM
Magnesium	**278**	0.500		mg/L	10	10/14/2020 5:40:00 PM
Molybdenum	**2.32**	0.010		mg/L	1	10/14/2020 5:35:00 PM
Potassium	**75.0**	0.500		mg/L	10	10/14/2020 5:40:00 PM
Sodium	**99.3**	0.500		mg/L	10	10/14/2020 5:40:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 10/2/2020)						
Boron, Dissolved	**44.1**	0.500		mg/L	10	10/15/2020 1:33:00 PM
Lithium, Dissolved	**3.28**	0.050		mg/L	1	10/15/2020 1:29:00 PM
Molybdenum, Dissolved	**2.80**	0.010		mg/L	1	10/15/2020 1:29:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**3.42**	2.00		mg/L	2	10/19/2020 8:59:55 PM
Sulfate	**1880**	50.0		mg/L	50	10/19/2020 10:37:10 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**520**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH1 LD
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-005
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**5.12**	0.050		mg/L	1	10/14/2020 5:44:00 PM
Calcium	**532**	0.500		mg/L	10	10/14/2020 5:47:00 PM
Lithium	**0.924**	0.050		mg/L	1	10/14/2020 5:44:00 PM
Magnesium	**161**	0.050		mg/L	1	10/14/2020 5:44:00 PM
Molybdenum	**ND**	0.010		mg/L	1	10/14/2020 5:44:00 PM
Potassium	**4.80**	0.050		mg/L	1	10/14/2020 5:44:00 PM
Sodium	**118**	0.500		mg/L	10	10/14/2020 5:47:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**6.20**	0.050		mg/L	1	10/15/2020 1:36:00 PM
Lithium, Dissolved	**0.971**	0.050		mg/L	1	10/15/2020 1:36:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	10/15/2020 1:36:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**13.4**	2.00		mg/L	2	10/19/2020 11:15:31 PM
Sulfate	**1600**	50.0		mg/L	50	10/19/2020 11:34:33 PM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**450**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	MH5 Leachate
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-006
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**59.8**	5.00		mg/L	100	10/14/2020 5:54:00 PM
Calcium	**496**	5.00		mg/L	100	10/14/2020 5:54:00 PM
Lithium	**3.58**	0.050		mg/L	1	10/14/2020 5:51:00 PM
Magnesium	**180**	0.050		mg/L	1	10/14/2020 5:51:00 PM
Molybdenum	**4.70**	0.010		mg/L	1	10/14/2020 5:51:00 PM
Potassium	**135**	5.00		mg/L	100	10/14/2020 5:54:00 PM
Sodium	**723**	5.00		mg/L	100	10/14/2020 5:54:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**63.3**	0.500		mg/L	10	10/15/2020 1:50:00 PM
Lithium, Dissolved	**4.29**	0.050		mg/L	1	10/15/2020 1:44:00 PM
Molybdenum, Dissolved	**5.79**	0.010		mg/L	1	10/15/2020 1:44:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**31.9**	2.00		mg/L	2	10/19/2020 11:53:35 PM
Sulfate	**2970**	50.0		mg/L	50	10/20/2020 12:31:38 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**300**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Sed-1B
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-007
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**21.2**	0.500		mg/L	10	10/14/2020 6:03:00 PM
Calcium	**393**	0.500		mg/L	10	10/14/2020 6:03:00 PM
Lithium	**0.949**	0.050		mg/L	1	10/14/2020 5:58:00 PM
Magnesium	**88.8**	0.050		mg/L	1	10/14/2020 5:58:00 PM
Molybdenum	**0.306**	0.010		mg/L	1	10/14/2020 5:58:00 PM
Potassium	**61.4**	0.500		mg/L	10	10/14/2020 6:03:00 PM
Sodium	**467**	0.500		mg/L	10	10/14/2020 6:03:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**19.0**	0.050		mg/L	1	10/15/2020 2:32:00 PM
Lithium, Dissolved	**1.16**	0.050		mg/L	1	10/15/2020 2:32:00 PM
Molybdenum, Dissolved	**0.363**	0.010		mg/L	1	10/15/2020 2:32:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**20.1**	2.00		mg/L	2	10/20/2020 12:50:40 AM
Sulfate	**1820**	50.0		mg/L	50	10/20/2020 1:09:42 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**280**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Sed-1A
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-008
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**20.3**	0.500		mg/L	10	10/15/2020 11:40:00 AM
Calcium	**378**	0.500		mg/L	10	10/15/2020 11:40:00 AM
Lithium	**1.17**	0.050		mg/L	1	10/15/2020 11:36:00 AM
Magnesium	**101**	0.050		mg/L	1	10/15/2020 11:36:00 AM
Molybdenum	**0.246**	0.010		mg/L	1	10/15/2020 11:36:00 AM
Potassium	**83.0**	0.050		mg/L	1	10/15/2020 11:36:00 AM
Sodium	**385**	0.500		mg/L	10	10/15/2020 11:40:00 AM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**25.1**	0.500		mg/L	10	10/15/2020 2:59:00 PM
Lithium, Dissolved	**1.16**	0.050		mg/L	1	10/15/2020 2:55:00 PM
Molybdenum, Dissolved	**0.309**	0.010		mg/L	1	10/15/2020 2:55:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**19.5**	2.00		mg/L	2	10/20/2020 3:07:08 AM
Sulfate	**1860**	50.0		mg/L	50	10/20/2020 3:26:19 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**280**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	BR-20-DG
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-009
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**1.54**	0.050		mg/L	1	10/15/2020 11:44:00 AM
Calcium	**23.9**	0.050		mg/L	1	10/15/2020 11:44:00 AM
Lithium	**ND**	0.050		mg/L	1	10/15/2020 11:44:00 AM
Magnesium	**7.70**	0.050		mg/L	1	10/15/2020 11:44:00 AM
Molybdenum	**ND**	0.010		mg/L	1	10/15/2020 11:44:00 AM
Potassium	**7.69**	0.050		mg/L	1	10/15/2020 11:44:00 AM
Sodium	**318**	0.500		mg/L	10	10/15/2020 11:47:00 AM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**1.40**	0.050		mg/L	1	10/15/2020 3:04:00 PM
Lithium, Dissolved	**ND**	0.050		mg/L	1	10/15/2020 3:04:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	10/15/2020 3:04:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**10.9**	2.00		mg/L	2	10/20/2020 3:45:21 AM
Sulfate	**ND**	2.00		mg/L	2	10/20/2020 3:45:21 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**600**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	OB-20-DG
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-010
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**1.07**	0.050		mg/L	1	10/15/2020 12:11:00 PM
Calcium	**114**	0.050		mg/L	1	10/15/2020 12:11:00 PM
Lithium	**ND**	0.050		mg/L	1	10/15/2020 12:11:00 PM
Magnesium	**38.5**	0.050		mg/L	1	10/15/2020 12:11:00 PM
Molybdenum	**ND**	0.010		mg/L	1	10/15/2020 12:11:00 PM
Potassium	**9.95**	0.050		mg/L	1	10/15/2020 12:11:00 PM
Sodium	**103**	0.500		mg/L	10	10/15/2020 12:14:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**0.976**	0.050		mg/L	1	10/15/2020 3:09:00 PM
Lithium, Dissolved	**ND**	0.050		mg/L	1	10/15/2020 3:09:00 PM
Molybdenum, Dissolved	**ND**	0.010		mg/L	1	10/15/2020 3:09:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**2.20**	2.00		mg/L	2	10/20/2020 4:04:23 AM
Sulfate	**91.1**	2.00		mg/L	2	10/20/2020 4:04:23 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**440**	10		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Hydraulic Basin
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-011
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 10/2/2020)						
Boron	**0.702**	0.050		mg/L	1	10/15/2020 12:18:00 PM
Calcium	**35.7**	0.050		mg/L	1	10/15/2020 12:18:00 PM
Lithium	**ND**	0.050		mg/L	1	10/15/2020 12:18:00 PM
Magnesium	**9.26**	0.050		mg/L	1	10/15/2020 12:18:00 PM
Molybdenum	**0.030**	0.010		mg/L	1	10/15/2020 12:18:00 PM
Potassium	**6.64**	0.050		mg/L	1	10/15/2020 12:18:00 PM
Sodium	**44.1**	0.050		mg/L	1	10/15/2020 12:18:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4						Analyst: **KH**
(Prep: - 10/2/2020)						
Boron, Dissolved	**0.632**	0.050		mg/L	1	10/15/2020 3:13:00 PM
Lithium, Dissolved	**ND**	0.050		mg/L	1	10/15/2020 3:13:00 PM
Molybdenum, Dissolved	**0.029**	0.010		mg/L	1	10/15/2020 3:13:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**48.4**	2.00		mg/L	2	10/20/2020 4:42:27 AM
Sulfate	**53.4**	2.00		mg/L	2	10/20/2020 4:42:27 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**84**	4		mgCaCO3/L	1	10/13/2020

Adirondack Environmental Services, Inc

Date: *21-Oct-20*

CLIENT:	Frontier Technical Associates	**Client Sample ID:**	Lined Ditch
Work Order:	**201001034**	**Collection Date:**	9/29/2020
Reference:	Plant ND GW / Plant ND	**Lab Sample ID:**	201001034-012
PO#:		**Matrix:**	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron	**7.83**	0.050		mg/L	1	10/15/2020 12:21:00 PM
Calcium	**123**	0.050		mg/L	1	10/15/2020 12:21:00 PM
Lithium	**ND**	0.050		mg/L	1	10/15/2020 12:21:00 PM
Magnesium	**36.7**	0.050		mg/L	1	10/15/2020 12:21:00 PM
Molybdenum	**0.032**	0.010		mg/L	1	10/15/2020 12:21:00 PM
Potassium	**25.4**	0.050		mg/L	1	10/15/2020 12:21:00 PM
Sodium	**120**	0.500		mg/L	10	10/15/2020 12:25:00 PM
ICP DISSOLVED META L- EPA 200.7 REV 4.4 (**Prep: - 10/2/2020**)						Analyst: **KH**
Boron, Dissolved	**7.44**	0.050		mg/L	1	10/15/2020 3:18:00 PM
Lithium, Dissolved	**ND**	0.050		mg/L	1	10/15/2020 3:18:00 PM
Molybdenum, Dissolved	**0.032**	0.010		mg/L	1	10/15/2020 3:18:00 PM
ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1						Analyst: **CC**
Chloride	**48.5**	2.00		mg/L	2	10/20/2020 9:44:40 PM
Sulfate	**243**	50.0		mg/L	50	10/20/2020 5:20:31 AM
ALKALINITY TO PH 4.5 -SM 2320B-2011						Analyst: **JH**
Alkalinity, Total (As CaCO3)	**360**	10		mgCaCO3/L	1	10/13/2020

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 81818

DUP	SeqNo: **2930982**	PrepDate:**10/2/2020**	TestNo: **E200.7F**	RunNo: **187699**
	Samp ID: **201001034-012**	PrepRef:	Units: **mg/L**	Analysis Date: **10/15/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron, Dissolved	7.452	0.0500	0	0	0	0	0	7.445	0.0953	18.9	
Lithium, Dissolved	ND	0.0500	0	0	0	0	0	0	0	18.8	
Molybdenum, Dissolved	0.03155	0.0100	0	0	0	0	0	0.03155	0.0158	17.3	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: 81819

DUP SeqNo: **2930023** PrepDate:**10/2/2020** TestNo: **E200.7** RunNo: **187658**
Samp ID: **201001034-001** PrepRef: Units: **mg/L** Analysis Date: **10/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	3.969	0.0500	0	0	0	0	0	3.977	0.201	18.8	
Molybdenum	6.178	0.0100	0	0	0	0	0	5.957	3.64	15.3	

DUP SeqNo: **2930024** PrepDate:**10/2/2020** TestNo: **E200.7** RunNo: **187658**
Samp ID: **201001034-001** PrepRef: Units: **mg/L** Analysis Date: **10/14/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	65.92	0.500	0	0	0	0	0	65.28	0.979	20	
Calcium	566.9	0.500	0	0	0	0	0	548.5	3.30	13.9	
Magnesium	265.2	0.500	0	0	0	0	0	264.1	0.427	15.6	
Potassium	174.4	0.500	0	0	0	0	0	172.5	1.08	15.2	
Sodium	425.7	0.500	0	0	0	0	0	419.2	1.53	15.7	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R187611

DUP

SeqNo: **2928485** TestNo: **SM2320B** RunNo: **187611**
Samp ID: **201001034-001** Units: **mgCaCO3/L** Analysis Date: **10/13/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	400	10.0	0	0	0	0	0	400	0	9.9	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R187842

MS SeqNo: **2933598** Samp ID: **201009032-003** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	303.9	5.00	50	257.3	93.3	90	110	0	0		

MS SeqNo: **2933607** Samp ID: **201009047-001** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	58.85	4.00	20	39.97	94.4	90	110	0	0		

MS SeqNo: **2933626** Samp ID: **201001034-004 (MH-1 Leachate)** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2413	50.0	500	1885	106	90	110	0	0		

MS SeqNo: **2933634** Samp ID: **201001034-007 (Sed-1B)** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2301	50.0	500	1819	96.5	90	110	0	0		

DUP SeqNo: **2933595** Samp ID: **201009032-001** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	263.5	5.00	0	0	0	0	0	267.9	1.64	19.6	

DUP SeqNo: **2933605** Samp ID: **201009080-002** TestNo: **E300** Units: **mg/L** RunNo: **187842** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	88.11	2.00	0	0	0	0	0	88.13	0.0250	19.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R187842

DUP SeqNo: **2933622** TestNo: **E300** RunNo: **187842**
Samp ID: **201001034-004** Units: **mg/L** Analysis Date: **10/19/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3.446	2.00	0	0	0	0	0	3.416	0.874	19.6	

DUP SeqNo: **2933630** TestNo: **E300** RunNo: **187842**
Samp ID: **201001034-006** Units: **mg/L** Analysis Date: **10/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.25	2.00	0	0	0	0	0	31.86	1.91	19.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Frontier Technical Associates
Work Order: 201001034
Project: Plant ND GW

ANALYTICAL QC SUMMARY REPORT

BatchID: R187894

DUP SeqNo: **2934621** Samp ID: **201020010-001** TestNo: **E300** Units: **mg/L** RunNo: **187894** Analysis Date: **10/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00	0	0	0	0	0	0.551	0	19.6	

DUP SeqNo: **2934647** Samp ID: **201020031-001** TestNo: **E300** Units: **mg/L** RunNo: **187894** Analysis Date: **10/21/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.00	0	0	0	0	0	0.983	0	19.6	
Sulfate	5.258	1.00	0	0	0	0	0	5.303	0.842	10.9	

MS SeqNo: **2934631** Samp ID: **201007041-001** TestNo: **E300** Units: **mg/L** RunNo: **187894** Analysis Date: **10/20/2020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2453	50.0	500	1891	112	90	110	0	0		S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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

EXPERIENCE IS THE SOLUTION

CHAIN OF CUSTODY RECORD

AES Work Order#: 201001034

COC Reference:

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: Frontier Technical Associates, Inc.	Address: 8675 Main Street, Williamsville, NY 14221	
Send Report to: David Harty	Project Name (Location): Plant ND	Samplers Name: David Harty / Ron Blaston
Client Phone #: 716-634-2293	Client PO #:	Samplers Signature:
Client Email: David.harty@frontiertechnical.com		

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=am P=pm	Sample Type Matrix	C	G	# of Cont's	Preservative	Analysis
001	MH3 Leachate	9/29/20	1:15 P	W		X	4	2	Metals
002	MH3 LD		1:00 P	W		X	1	2	Dissolved Metals
003	Beaver Dam		12:35 P	W		X	1	0	Alkalinity
004	MH-1 Leachate		12:10 P	W		X	1	0	SO4, CL
005	MH1 LD		11:55 A	W		X			
006	MH5 Leachate		12:57 P	W		X			
007	Sed - 1B		12:46 P	W		X			
008	Sed - 1A		12:35 P	W		X			
009	BR-20-DG		11:55 A	W		X			
010	OB-20-D6		11:50 A	W		X			
011	Hydraulic Basin		1:25 P	W		X			
012	Lined Ditch		1:30 P	W		X			
			A P						
			A P						
			A P						
			A P						

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

Turnaround Time Requested:

1 Day 2 Day 3 Day 5 Day (Standard)

NOTE: Samples received after 3:30pm are considered next business day.

Special Instructions/Remarks:

Metals = Ca, Mg, Na, K, Li, B, Mo

Dissdved Metals = Li, B; Mo (field filtered)

		Date	Time
Relinquished by: (Signature)	Received by: (Signature) FedEx	9/30/20	4:00 pm
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for Laboratory by:	10/1/20	11:02am

Sample Temperature

Ambient ~ (Chilled) ~ Chilling Begun

Notes: 7 °C

Custody Seal Intact: (Y) / N

Bottles AES: (Y) / N

Properly Preserved: (Y) / N

0=None
1=H_2SO_4 pH<2
2=HNO_3 pH<2
3=HCl pH<2
4=$Na_2S_2O_3$
5=NH_4Cl
6=Ascorbic Acid
7=FAS
8=ZnAc/NaOH pH>9
9=NaOH pH>10
10=Other___

Received Within Holding Times: (Y) / N

Notes:

201001034