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# 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

## MERRIMACK STATION COAL ASH LANDFILL

*Bow, New Hampshire*

*Prepared for GSP Merrimack LLC*
*File No. 2025.10*
*January 2021*

Sanborn Head & Associates, Inc

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Mr. Allan Palmer
GSP Merrimack LLC
431 River Road
Bow, New Hampshire 03304

January 21, 2021
File No. 2025.10

Re: 2021 Annual Groundwater Monitoring and Corrective Action Report
Merrimack Station Coal Ash Landfill
Bow, New Hampshire

Dear Allan:

Groundwater monitoring at the Merrimack Station Coal Ash Landfill site (Site) in Bow, New Hampshire is required pursuant to 40 CFR Part 257.90. Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this 2021 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) for the Site as required by 40 CFR Part 257.90(e), and this Annual Report covers the reporting period from January 1, 2020 through December 31, 2020. This report and the services provided by Sanborn Head are subject to the Limitations provided in Attachment A.

## GROUNDWATER MONITORING AND CORRECTIVE ACTIONS OVERVIEW

As required under 40 CFR Part 257.90(e)(6), the following summarizes the groundwater monitoring and corrective action programs for the 2020 annual reporting period.

(i) The Site was operating under the detection monitoring program at the start of the annual reporting period.

(ii) The Site was operating under the detection monitoring program at the end of the annual reporting period, i.e., there was no need to implement assessment monitoring.

(iii) There were no determinations of statistically significant increases over background.

(iv) There were no determinations of statistically significant exceedances of groundwater protection standards.

(v) There were no remedy selections required pursuant to 40 CFR Part 257.97.

(vi) There were no initiated or ongoing remedial activities required pursuant to 40 CFR Part 257.98.

## REPORT REQUIREMENTS

As required under 40 CFR Part 257.90(e), this Annual Report includes the following information:

1. A map, aerial image, or diagram showing the Site and the background (or upgradient) and downgradient monitoring wells that are part of the groundwater monitoring program for the Site;

2. Identification of monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

3. Monitoring data obtained under 40 CFR Parts 257.90 through 257.98, including:
   a. the number of groundwater samples that were collected for analysis for each background and downgradient well;
   b. the dates the samples were collected; and
   c. whether the sample was required by the detection monitoring or assessment monitoring programs;

4. A narrative discussion of transitions, if any, 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);

5. Other information required to be included in the annual report as specified in 40 CFR Parts 257.90 through 257.98, including;
   a. Groundwater elevations measured in each well immediately prior to purging and the rate and direction of groundwater flow, as calculated by the owner or operator of the Site, each time groundwater is sampled (40 CFR Part 257.93(c)); and
   b. Written demonstrations prepared by a qualified professional engineer demonstrating that a source other than the Site caused the statistically significant increase (SSI) over background levels for a constituent or that the SSI resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (40 CFR Part 257.94(e)(2));

6. As provided in the groundwater monitoring and corrective actions overview above, a section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the Site.

## BACKGROUND

The Site has been operating since 1978 and was constructed in a former sand and gravel quarry on the property adjacent to the Merrimack Station electric power generation facility in Bow, New Hampshire. The landfill was constructed with a Hypalon geomembrane liner system and a leachate collection system, and it receives coal ash from the nearby Merrimack Station electric power generation facility. A portion of the landfill was filled to final grade and was capped with a final cover system. A Locus Plan for the Site is provided as Figure 1,

and the locations of the monitoring wells in relation to the landfill are indicated on the Facility Plan, Figure 2.

The groundwater quality at the Site has been routinely monitored since the 1980s under New Hampshire Department of Environmental Services (NHDES) regulations. The current groundwater monitoring program, as prescribed by the NHDES Groundwater Release Detection Permit No. GWP-198400065-B-006, dated March 16, 2017, requires measuring of static groundwater levels and laboratory analyses of groundwater samples from five (5) overburden monitoring wells (i.e., SB-1, SB-4, SB-6, SB-13, and SB-14) on a semi-annual basis.

As discussed in the Groundwater Monitoring Well Network Verification (Sanborn Head, January 14, 2016, available in the Site's operating record), the five monitoring wells were certified as an appropriate groundwater monitoring system and were constructed to meet the requirements of 40 CFR Part 257.91. No monitoring wells were installed or decommissioned at the Site during the reporting period.

## SUMMARY OF GROUNDWATER MONITORING

As specified in 40 CFR Part 257.94(b), a detection monitoring program was initiated in October 2015. A Sampling and Analysis Plan (Sanborn Head, last revised on October 7, 2016) was prepared to address the sampling and analysis requirements of 40 CFR part 257.93. Monitoring well SB-13 is the upgradient/background monitoring well for the Site. The other monitoring wells are considered downgradient or sidegradient to the landfill, although groundwater flow conditions at the Site vary over time. For the groundwater monitoring program, unfiltered groundwater samples were collected and analyzed by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire using low-flow sampling techniques, based on the U.S. Environmental Protection Agency (USEPA) Low Stress (Low Flow) Standard Operating Procedure, revised January 19, 2010.

As part of the detection monitoring program, eight independent samples for each background and downgradient well were collected and analyzed for the constituents listed in 40 CFR Part 257 Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids) and Appendix IV (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 and 228 combined). The initial eight, independent samples were collected in February 2016 through April 2017 for the five Site monitoring wells. The statistical analysis of the groundwater monitoring data after the eight initial samples indicated that a transition between monitoring programs (i.e., to assessment monitoring) was not required.

Semi-annual detection monitoring, as specified in 40 CFR Part 257.94, was initiated in November 2017. Detection monitoring at the Site includes sampling the five wells for analysis of the Appendix III constituents. For the current reporting period, the semi-annual detection monitoring rounds were in April 2020 and November 2020. Additional samples were collected on February 14, 2020 as part of a resampling routine for the November 2019 monitoring round and July 8, 2020 as part of a resampling routine for the April 2020 monitoring round. As described below, the data analyses completed during the reporting

period indicated that a transition between monitoring programs (i.e., to assessment monitoring) was not required.

Groundwater analytical data are summarized in Table 1 and analytical laboratory reports are provided in Attachment B. The groundwater level measurements and inferred general groundwater flow directions are summarized in Table 2.

## SUMMARY OF STATISTICAL ANALYSIS

As required under 40 CFR Part 257.90(b)(iv), Sanborn Head evaluated groundwater monitoring data for a statistically significant increase (SSI) over background levels for the constituents listed in 40 CFR Part 257 Appendix III at the five Site monitoring wells. On May 4, 2018, Sanborn Head issued a Statistical Method Selection Certification, applicable to the statistical analysis completed on the groundwater analytical data collected through July 8, 2020. The certification is available in the Site's operating record. Statistical analysis of the November 2020 data is ongoing.

The prediction interval procedure specified in 40 CFR Part 257.93(f)(3) was selected for evaluation of the most recent parameter values for the site wells (i.e., SB-1, SB-4, SB-6, SB-13, and SB-14). The prediction interval procedure was performed on parameters specified in Appendix III (i.e., boron, calcium, chloride, fluoride, pH, Sulfate, and total dissolved solids) using the multiple well and multiple parameter prediction limit equation. There were no determinations of statistically significant increases over background for data collected in 2020.

Data for the November 2020 groundwater detection monitoring round are included in Table 1; however, the statistical analysis for the November 2020 data is on-going. As stipulated in 40 CFR Part 257.93(h)(2), the Site operator has 90 days from completing the sampling and analysis to identify whether there is an SSI over background. The laboratory analyses were received November 30, 2020, and the statistical analysis is due by February 28, 2021.

## CLOSING

We understand that GSP Merrimack LLC will be responsible for placing this Annual Report in the Site's operating record by January 31, 2021. The next Annual Report will be due January 31, 2022 for the time period from January 1, 2021 through December 31, 2021.

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

Harrison R. Roakes, PE
*Project Manager*

Eric S. Steinhauser, PE, CPESC, CPSWQ
*Senior Vice President*

HRR/ESS: hrr

Enclosures: Table 1 Groundwater Analytical Results Summary
Table 2 Groundwater Level Measurements Summary

Figure 1 Locus Plan
Figure 2 Facility Plan

Attachment A Limitations
Attachment B Analytical Laboratory Reports

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# TABLES

**TABLE 1**
**Groundwater Analytical Results Summary**
**Merrimack Station Coal Ash Landfill**
**Bow, New Hampshire**

| Location | Date | Metals | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | | | | | | | | | | | | | s.u | pCi/L | | |
| | | Antimony | Arsenic | Barium | Beryllium | Boron | Cadmium | Calcium | Chromium | Cobalt | Lead | Lithium | Mercury | Molybdenum | Selenium | Thallium | Chloride | Fluoride | Sulfate | Total Dissolved Solids | pH | Radium 226 | Radium 228 | Radium 226+228 |
| **Drinking Water MCL** | | 6 | 10 | 2,000 | 4 | NS | 5 | NS | 100 | NS | 15* | NS | 2 | NS | 50 | 2 | NS | 4,000 | NS | NS | NS | NS | NS | 5 |
| **CCR Alt. Standards** | | NA | NA | NA | NA | NA | NA | NA | NA | 6 | 15 | 40 | NA | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **GW-1/(AGQS)** | | 6 ‡ | 10 ‡ | 2,000 ‡ | 4 ‡ | 6,000 ‡ | 5 ‡ | NS ‡ | 100 | NS ‡ | 15 ‡ | NS | 2 ‡ | NS | 50 ‡ | 2 ‡ | NS | 4,000 | 500,000 | NS | NS | NS | NS | NS |
| **GW-2** | | NA | NA | NA | NA | NA | NA | NS | NA | NS | NA | NS | NA | NS | NA | NA | NS | † | † | NS | NS | NS | NS | NS |
| SB-1 | 2/24/2016 | <1.0 | <1.0 | 14 | <1.0 | 60 | <1.0 | 7,200 | <1.0 | <1.0 | <1.0 | <1,000 | <0.10 | <1.0 | <1.0 | <1.0 | 44,000 | <100 | 8,000 | 96,000 | 5.21 | 0.2 ±0.1 | 0.6 ±0.6 | 0.8 ±0.6 |
| | 4/25/2016 | <1.0 | <1.0 | 18 | <1.0 | 100 | <1.0 | 10,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | 1.0 | <1.0 | <1.0 | 58,000 | <100 | 9,000 | 120,000 | 5.72 | 0.5 ±0.2 | 0.2 ±0.4 | 0.7 ±0.4 |
| | 6/6/2016 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 8,200 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 55,000 | <100 | 7,000 | 140,000 | 5.52 | 0.6 ±0.3 | 0.2 ±0.5 | 0.8 ±0.5 |
| | 7/18/2016 | <1.0 | <1.0 | 16 | <1.0 | 70 | <1.0 | 8,600 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 60,000 | <100 | 9,000 | 120,000 | 5.35 | 0.4 ±0.3 | 0.0 ±0.6 | 0.4 ±0.6 |
| | 8/30/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 7,900 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 49,000 | <100 | 7,000 | 120,000 | 5.23 | 0.4 ±0.3 | 0.3 ±0.4 | 0.7 ±0.4 |
| | 10/17/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 9,700 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 60,000 | <100 | 6,000 | 130,000 | 5.63 | 0.6 ±0.4 | 0.0 ±0.4 | 0.6 ±0.4 |
| | 11/29/2016 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 8,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 62,000 | <100 | 6,000 | 88,000 | 5.63 | 1.0 ±0.4 | 0.8 ±0.5 | 1.8 ±0.5 |
| | 4/19/2017 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 10,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 56,000 | <100 | 8,000 | 120,000 | 5.81 | 0.4 ±0.3 | 0.2 ±0.5 | 0.6 ±0.5 |
| | 11/17/2017 | | | | | 50 | | 12,000 | | | | | | | | | 68,000 | <100 | 8,000 | 120,000 | 5.70 | | | |
| | 1/31/2018 ¢ | | | | | | | 12,000 | | | | | | | | | | | | | | | | |
| | 4/9/2018 | | | | | 67 | | 12,000 | | | | | | | | | 55,000 | <100 | 10,000 | 160,000 | 5.90 | | | |
| | 7/25/2018 ¢ | | | | | | | 12,000 | | | | | | | | | 63,000 | | 13,000 | 140,000 | 5.94 | | | |
| | 11/29/2018 | | | | | 87 | | 13,000 | | | | | | | | | 66,000 | <100 | 10,000 | 100,000 | 6.07 | | | |
| | 4/26/2019 | | | | | 100 | | 13,000 | | | | | | | | | 55,000 | <100 | 12,000 | 140,000 | 5.78 | | | |
| | 11/15/2019 | | | | | 59 | | 11,000 | | | | | | | | | 68,000 | <100 | 10,000 | 140,000 | 5.56 | | | |
| | 4/23/2020 | | | | | 70 | | 14,000 | | | | | | | | | 53,000 | <100 | 11,000 | 150,000 | 5.94 | | | |
| | 11/12/2020 | | | | | <50 | | 10,000 | | | | | | | | | 64,000 | <100 | 13,000 | 150,000 | 5.36 | | | |
| SB-4 | 2/23/2016 | <1.0 | <1.0 | 14 | <1.0 | <50 | <1.0 | 8,400 | <1.0 | <1.0 | <1.0 | <1,000 | <0.10 | <1.0 | <1.0 | <1.0 | 95,000 | <100 | 9,000 | 210,000 | 5.49 | 0.3 ±0.1 | 1.0 ±0.6 | 1.3 ±0.6 |
| | 4/25/2016 | <1.0 | <1.0 | 14 | <1.0 | <50 | <1.0 | 9,300 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 110,000 | <100 | 8,000 | 200,000 | 5.32 | 0.3 ±0.3 | 0.0 ±0.4 | 0.3 ±0.4 |
| | 6/6/2016 | <1.0 | <1.0 | 12 | <1.0 | <50 | <1.0 | 8,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 110,000 | <100 | 10,000 | 230,000 | 5.62 | 0.2 ±0.2 | 0.4 ±0.5 | 0.6 ±0.5 |
| | 7/18/2016 | <1.0 | <1.0 | 11 | <1.0 | <50 | <1.0 | 7,800 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 100,000 | <100 | 11,000 | 220,000 | 5.27 | 0.4 ±0.3 | 0.4 ±0.6 | 0.8 ±0.6 |
| | 8/30/2016 | <1.0 | <1.0 | 10 | <1.0 | <50 | <1.0 | 6,800 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 88,000 | <100 | 12,000 | 210,000 | 5.72 | 0.2 ±0.2 | 0.0 ±0.4 | 0.2 ±0.4 |
| | 10/17/2016 | <1.0 | <1.0 | 12 | <1.0 | <50 | <1.0 | 8,400 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 100,000 | <100 | 10,000 | 190,000 | 5.71 | 0.3 ±0.3 | 0.0 ±0.5 | 0.3 ±0.5 |
| | 11/29/2016 | <1.0 | 1.0 | 12 | <1.0 | <50 | <1.0 | 7,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 100,000 | <100 | 10,000 | 180,000 | 5.79 | 0.7 ±0.3 | 0.5 ±0.5 | 1.2 ±0.5 |
| | 4/19/2017 | <1.0 | <1.0 | 19 | <1.0 | <50 | <1.0 | 10,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 120,000 | <100 | 9,000 | 260,000 | 5.71 | 0.3 ±0.3 | 0.0 ±0.5 | 0.3 ±0.5 |
| | 11/17/2017 | | | | | <50 | | 10,000 | | | | | | | | | 77,000 | <100 | 13,000 | 170,000 | 5.80 | | | |
| | 4/9/2018 | | | | | <50 | | 11,000 | | | | | | | | | 93,000 | <100 | 12,000 | 220,000 | 5.87 | | | |
| | 7/25/2018 ¢ | | | | | | | 9,800 | | | | | | | | | 95,000 | | 11,000 | 210,000 | 5.68 | | | |
| | 11/28/2018 | | | | | <50 | | 12,000 | | | | | | | | | 86,000 | <100 | 13,000 | 83,000 | 6.28 | | | |
| | 4/26/2019 | | | | | <50 | | 13,000 | | | | | | | | | 94,000 | <100 | 11,000 | 190,000 | 5.83 | | | |
| | 11/15/2019 | | | | | 53 | | 11,000 | | | | | | | | | 97,000 | <100 | 11,000 | 230,000 | 5.75 | | | |
| | 2/14/2020 ¢ | | | | | <50 | | 11,000 | | | | | | | | | 100,000 | | 14,000 | 190,000 | 5.85 | | | |
| | 4/23/2020 | | | | | 55 | | 13,000 | | | | | | | | | 140,000 | <100 | 11,000 | 260,000 | 5.72 | | | |
| | 7/8/2020 | | | | | 57 | | 11,000 | | | | | | | | | 99,000 | | 14,000 | 240,000 | 5.59 | | | |
| | 11/12/2020 | | | | | 60 | | 9,600 | | | | | | | | | 120,000 | <100 | 18,000 | 260,000 | 5.18 | | | |
| SB-6 | 2/23/2016 | <1.0 | <1.0 | 9.0 | <1.0 | <50 | <1.0 | 5,300 | <1.0 | <1.0 | <1.0 | <1,000 | <0.10 | <1.0 | <1.0 | <1.0 | 80,000 | <100 | 10,000 | 170,000 | 5.55 | 0.1 ±0.07 | 0.5 ±0.5 | 0.6 ±0.5 |
| | 4/25/2016 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 9,300 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 140,000 | <100 | 7,000 | 220,000 | 5.55 | 0.4 ±0.3 | 0.0 ±0.4 | 0.4 ±0.4 |
| | 6/6/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 9,300 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 140,000 | <100 | 8,000 | 270,000 | 5.40 | 0.5 ±0.3 | 0.0 ±0.5 | 0.5 ±0.5 |
| | 7/18/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 9,200 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 140,000 | <100 | 9,000 | 260,000 | 5.27 | 0.5 ±0.3 | 0.3 ±0.6 | 0.8 ±0.6 |
| | 8/30/2016 | <1.0 | <1.0 | 18 | <1.0 | <50 | <1.0 | 9,100 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 140,000 | <100 | 9,000 | 280,000 | 5.71 | 0.4 ±0.2 | 0.0 ±0.4 | 0.4 ±0.4 |
| | 10/17/2016 | <1.0 | <1.0 | 18 | <1.0 | <50 | <1.0 | 10,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 150,000 | <100 | 8,000 | 260,000 | 5.78 | 0.2 ±0.3 | 0.0 ±0.5 | 0.2 ±0.5 |
| | 11/29/2016 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 8,100 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 130,000 | <100 | 9,000 | 230,000 | 5.77 | 0.5 ±0.2 | 0.8 ±0.5 | 1.3 ±0.5 |
| | 4/19/2017 | <1.0 | <1.0 | 13 | <1.1 | <51 | <1.1 | 7,400 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 100,000 | <100 | 9,000 | 190,000 | 5.68 | 0.4 ±0.3 | 0.2 ±0.5 | 0.6 ±0.5 |
| | 11/17/2017 | | | | | <50 | | 9,900 | | | | | | | | | 130,000 | <100 | 11,000 | 230,000 | 5.60 | | | |
| | 4/9/2018 | | | | | <50 | | 7,900 | | | | | | | | | 120,000 | <100 | 9,500 | 240,000 | 5.57 | | | |
| | 7/25/2018 ¢ | | | | | | | 11,000 | | | | | | | | | 180,000 | | 12,000 | 310,000 | 5.44 | | | |
| | 11/28/2018 | | | | | <50 | | 11,000 | | | | | | | | | 150,000 | <100 | 11,000 | 140,000 | 5.86 | | | |
| | 4/26/2019 | | | | | 84 | | 13,000 | | | | | | | | | 150,000 | <100 | 14,000 | 210,000 | 5.78 | | | |
| | 7/11/2019 ¢ | | | | | 80 | | 14,000 | | | | | | | | | 170,000 | | 15,000 | 330,000 | 5.84 | | | |
| | 11/15/2019 | | | | | 52 | | 10,000 | | | | | | | | | 140,000 | <100 | 13,000 | 280,000 | 5.75 | | | |
| | 2/14/2020 ¢ | | | | | <50 | | 5,100 | | | | | | | | | 79,000 | | 15,000 | 130,000 | 5.73 | | | |
| | 4/23/2020 | | | | | <50 | | 12,000 | | | | | | | | | 160,000 | <100 | 8,100 | 270,000 | 5.56 | | | |
| | 11/12/2020 | | | | | <50 | | 12,000 | | | | | | | | | 180,000 | <100 | 9,600 | 330,000 | 5.37 | | | |

**TABLE 1**
**Groundwater Analytical Results Summary**
**Merrimack Station Coal Ash Landfill**
**Bow, New Hampshire**

| Location | Date | Metals | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | | | | | | | | | | | | s.u | pCi/L | | | |
| | | Antimony | Arsenic | Barium | Beryllium | Boron | Cadmium | Calcium | Chromium | Cobalt | Lead | Lithium | Mercury | Molybdenum | Selenium | Thallium | Chloride | Fluoride | Sulfate | Total Dissolved Solids | pH | Radium 226 | Radium 228 | Radium 226+228 |
| **Drinking Water MCL** | | 6 | 10 | 2,000 | 4 | NS | 5 | NS | 100 | NS | 15* | NS | 2 | NS | 50 | 2 | NS | 4,000 | NS | NS | NS | NS | NS | 5 |
| **CCR Alt. Standards** | | NA | NA | NA | NA | NA | NA | NA | NA | 6 | 15 | 40 | NA | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **GW-1/(AGQS)** | | 6 ‡ | 10 ‡ | 2,000 ‡ | 4 ‡ | 6,000 ‡ | 5 ‡ | NS ‡ | 100 | NS ‡ | 15 ‡ | NS | 2 ‡ | NS | 50 ‡ | 2 ‡ | NS | 4,000 | 500,000 | NS | NS | NS | NS | NS |
| **GW-2** | | NA | NA | NA | NA | NA | NA | NS | NA | NS | NA | NS | NA | NS | NA | NA | NS | † | † | NS | NS | NS | NS | NS |
| SB-13 | 2/23/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 9,900 | <1.0 | <1.0 | <1.0 | <1,000 | <0.10 | <1.0 | <1.0 | <1.0 | 160,000 | <100 | 6,000 | 270,000 | 5.34 | 0.6 ±0.1 | 0.3 ±0.6 | 0.9±0.6 |
| | 4/25/2016 | <1.0 | <1.0 | 17 | <1.0 | <50 | <1.0 | 8,800 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 160,000 | <100 | 7,000 | 290,000 | 5.48 | 0.4 ±0.3 | 0.1 ±0.4 | 0.5 ±0.4 |
| | 6/6/2016 | <1.0 | <1.0 | 20 | <1.0 | <50 | <1.0 | 9,900 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 170,000 | <100 | 7,000 | 320,000 | 5.50 | 0.8 ±0.3 | 0.0 ±0.5 | 0.8 ±0.5 |
| | 7/18/2016 | <1.0 | <1.0 | 18 | <1.0 | <50 | <1.0 | 9,700 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 160,000 | <100 | 8,000 | 330,000 | 5.27 | 0.8 ±0.3 | 0.0 ±0.6 | 0.8 ±0.6 |
| | 8/30/2016 | <1.0 | 1.0 | 20 | <1.0 | <50 | <1.0 | 8,100 | 2.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 150,000 | <100 | 8,000 | 270,000 | 5.35 | 0.8 ±0.3 | 0.6 ±0.4 | 1.4 ±0.4 |
| | 10/17/2016 | <1.0 | <1.0 | 15 | <1.0 | <50 | <1.0 | 8,800 | 2.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 150,000 | <100 | 8,000 | 260,000 | 5.06 | 0.7 ±0.4 | 0.6 ±0.5 | 1.3 ±0.5 |
| | 11/29/2016 | <1.0 | <1.0 | 16 | <1.0 | <50 | <1.0 | 7,400 | 1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 140,000 | <100 | 8,000 | 240,000 | 5.71 | 0.6 ±0.3 | 0.7 ±0.5 | 1.3 ±0.5 |
| | 4/19/2017 | <1.0 | <1.0 | 16 | <1.1 | <51 | <1.1 | 8,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 130,000 | <100 | 8,000 | 270,000 | 5.56 | 0.9 ±0.3 | 0.3 ±0.5 | 1.2 ±0.5 |
| | 11/17/2017 | | | | | <50 | | 7,000 | | | | | | | | | 110,000 | <100 | 9,000 | 220,000 | 5.80 | | | |
| | 4/9/2018 | | | | | <50 | | 11,000 | | | | | | | | | 170,000 | <100 | 8,000 | 330,000 | 5.81 | | | |
| | 7/25/2018 ¢ | | | | | | | 10,000 | | | | | | | | | 190,000 | | 8,700 | 340,000 | 5.69 | | | |
| | 11/28/2018 | | | | | <50 | | 13,000 | | | | | | | | | 200,000 | <100 | 7,200 | 260,000 | 5.77 | | | |
| | 4/26/2019 | | | | | <50 | | 14,000 | | | | | | | | | 200,000 | <100 | 7,100 | 290,000 | 5.53 | | | |
| | 11/15/2019 | | | | | <50 | | 8,100 | | | | | | | | | 140,000 | <100 | 8,100 | 280,000 | 5.82 | | | |
| | 4/23/2020 | | | | | <50 | | 14,000 | | | | | | | | | 230,000 | <100 | 6,500 | 400,000 | 5.47 | | | |
| | 7/8/2020 | | | | | <50 | | 14,000 | | | | | | | | | 210,000 | | 6,900 | 370,000 | 5.41 | | | |
| | 11/12/2020 | | | | | <50 | | 11,000 | | | | | | | | | 180,000 | <100 | 8,000 | 330,000 | 4.96 | | | |
| SB-14 | 2/24/2016 | <1.0 | <1.0 | 3.0 | <1.0 | <50 | <1.0 | 6,100 | <1.0 | <1.0 | <1.0 | <1,000 | <0.10 | <1.0 | <1.0 | <1.0 | 16,000 | <100 | 4,000 | 56,000 | 5.05 | 0.2 ±0.08 | 0.0 ±0.5 | 0.2 ±0.5 |
| | 4/25/2016 | <1.0 | <1.0 | 9.0 | <1.0 | <50 | <1.0 | 11,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 58,000 | <100 | 3,000 | 140,000 | 5.62 | 0.8 ±0.5 | 0.2 ±0.1 | 1.0 ±0.5 |
| | 6/6/2016 | <1.0 | <1.0 | 6.0 | <1.0 | <50 | <1.0 | 7,600 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 32,000 | <100 | 4,000 | 100,000 | 5.39 | 0.5 ±0.2 | 0.2 ±0.5 | 0.7 ±0.5 |
| | 7/18/2016 | <1.0 | <1.0 | 3.0 | <1.0 | <50 | <1.0 | 6,300 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 21,000 | <100 | 5,000 | 68,000 | 5.31 | 0.2 ±0.2 | 0.3 ±0.5 | 0.5 ±0.5 |
| | 8/30/2016 | <1.0 | <1.0 | 2.0 | <1.0 | <50 | <1.0 | 5,300 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 14,000 | <100 | 4,000 | 71,000 | 5.81 | 0.4 ±0.3 | 0.4 ±0.5 | 0.8 ±0.5 |
| | 10/17/2016 | <1.0 | <1.0 | 2.0 | <1.0 | <50 | <1.0 | 4,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 11,000 | <100 | 4,000 | 29,000 | 5.55 | 0.2 ±0.3 | 0.0 ±0.5 | 0.2 ±0.5 |
| | 11/29/2016 | <1.0 | <1.0 | 2.0 | <1.0 | <50 | <1.0 | 2,900 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 7,000 | <100 | 4,000 | 12,000 | 5.19 | 0.2 ±0.4 | 0.2 ±0.5 | 0.4 ±0.5 |
| | 4/19/2017 | <1.0 | <1.0 | 10 | <1.0 | <50 | <1.0 | 10,000 | <1.0 | <1.0 | <1.0 | <100 | <0.10 | <1.0 | <1.0 | <1.0 | 56,000 | <100 | 5,000 | 120,000 | 5.59 | 0.7 ±0.3 | 0.1 ±0.5 | 0.8 ±0.5 |
| | 11/17/2017 | | | | | <50 | | 8,000 | | | | | | | | | 18,000 | <100 | 5,000 | 59,000 | 5.60 | | | |
| | 4/9/2018 | | | | | <50 | | 4,200 | | | | | | | | | 14,000 | <100 | 8,400 | 80,000 | 5.76 | | | |
| | 7/25/2018 ¢ | | | | | | | 5,100 | | | | | | | | | 9,800 | | 6,100 | 56,000 | 5.61 | | | |
| | 11/28/2018 | | | | | <50 | | 4,500 | | | | | | | | | 7,800 | <100 | 6,300 | <5,000 | 5.96 | | | |
| | 4/26/2019 | | | | | <50 | | 8,700 | | | | | | | | | 19,000 | <100 | 3,700 | 91,000 | 5.74 | | | |
| | 11/15/2019 | | | | | <50 | | 5,000 | | | | | | | | | 12,000 | <100 | 7,800 | 69,000 | 5.94 | | | |
| | 4/23/2020 | | | | | <50 | | 5,500 | | | | | | | | | 9,200 | <100 | 5,500 | 52,000 | 5.63 | | | |
| | 11/12/2020 | | | | | <50 | | 4,000 | | | | | | | | | 4,700 | <100 | 15,000 | 68,000 | 5.1 | | | |

Notes:
1. Samples were collected by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire on the dates indicated and analyzed by EAI for select metals by USEPA Method 6020. Additional analysis for select wet chemistry parameters were completed by EAI. Analysis for radium 226 and 228 was completed by KNL Environmental Testing, Inc., of Tampa, Florida. Analysis for lithium was completed by SGS Accutest, of Marlborough, Massachussets (Feb. 2016) and Katahdin Analytical Services, of Scarborough, Maine (April 2016 through October 2016).

2. Concentrations are presented in micrograms per liter (µg/L), which are equivalent to parts per billion (ppb), or they are presented in picoCuries per liter (pCi/L) or pH standard units.

3. "<" indicates the analyte was not detected above the indicated laboratory reporting limit.
A blank indicates the sample was not analyzed for this parameter.

4. "GW-1" and "GW-2" Groundwater Standards are from the New Hampshire Department of Environmental Services (NHDES) Contaminated Sites Risk Characterization and Management Policy (RCMP) (January 1998, with 2000 through 2018 revisions/addenda). GW-1 Groundwater Standards are equivalent to the Ambient Groundwater Quality Standards (AGQSs) promulgated in Env-Or 600 (June 2015 with October 2016, September 2018, September 2019, and May 2020 amendments). The AGQS/GW-1 Groundwater Standards are intended to be protective of groundwater as a source of drinking water. The GW-2 Groundwater Standards apply to groundwater as a potential source of indoor air contamination.

5. "Drinking Water MCLs" are from the United States Environmental Protection Agency (EPA) website (accessed March 22, 2016). The Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards for drinking water systems.
"CCR Alt. Standards" were codified in 40 CFR Part 257.95(h)(2) for cobalt, lead, lithium, and molybdenum. These are alternative risk-based standards for the four constituents without MCLs that may require establishment of a groundwater protection standard under the coal combustion residuals (CCR) rules 40 CFR Part 257(h).

6. "*" indicates an MCL value is not currently available, and the listed value is an action level.
"†" indicates the RCMP lists the value as not currently available.
"‡" indicates the value provided is the corresponding "dissolved metal" NHDES standard for reference only; NHDES standards for total metals are listed in the RCMP.
"NA" indicates the RCMP lists the value as not applicable.
"NS" indicates the analyte is not listed in the RCMP or MCL list.

**TABLE 2**
**Groundwater Level Measurements Summary**
**Merrimack Station Coal Ash Landfill**
**Bow, New Hampshire**

| Date | Depths and elevations in feet. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SB-1 | | | SB-4 | | | SB-6 | | | SB-13 | | | SB-14 | | | Inferred General Groundwater Flow Rate (feet/day) | Inferred General Groundwater Flow Direction |
| | Reference Elevation | Depth to Water | Water Elevation | Reference Elevation | Depth to Water | Water Elevation | Reference Elevation | Depth to Water | Water Elevation | Reference Elevation | Depth to Water | Water Elevation | Reference Elevation | Depth to Water | Water Elevation | | |
| Feb-16 | 240.85 | 33.82 | 207.03 | 274.26 | 67.36 | 206.90 | 268.77 | 61.84 | 206.93 | 219.86 | 11.83 | 208.03 | 242.70 | 34.88 | 207.82 | 0.5 - 2.7 | Northeast |
| Apr-16 | 240.85 | 32.19 | 208.66 | 274.26 | 65.63 | 208.63 | 268.77 | 60.07 | 208.70 | 219.86 | 10.16 | 209.70 | 242.70 | 33.13 | 209.57 | 0.5 - 2.5 | Northeast |
| Jun-16 | 240.85 | 31.84 | 209.01 | 274.26 | 66.24 | 208.02 | 268.77 | 60.80 | 207.97 | 219.86 | 11.11 | 208.75 | 242.70 | 33.93 | 208.77 | 0.4 - 1.9 | East |
| Jul-16 | 240.85 | 33.88 | 206.97 | 274.26 | 67.30 | 206.96 | 268.77 | 62.07 | 206.70 | 219.86 | 12.41 | 207.45 | 242.70 | 35.10 | 207.60 | 0.4 - 1.9 | Northeast |
| Aug-16 | 240.85 | 35.09 | 205.76 | 274.26 | 68.54 | 205.72 | 268.77 | 63.19 | 205.58 | 219.86 | 13.76 | 206.10 | 242.70 | 36.39 | 206.31 | 0.3 - 1.4 | Northeast |
| Oct-16 | 240.85 | 36.20 | 204.65 | 274.26 | 69.68 | 204.58 | 268.77 | 64.42 | 204.35 | 219.86 | 13.92 | 205.94 | 242.70 | 37.58 | 205.12 | 0.8 - 3.9 | North-Northeast |
| Nov-16 | 240.85 | 36.40 | 204.45 | 274.26 | 69.93 | 204.33 | 268.77 | 64.69 | 204.08 | 219.86 | 15.14 | 204.72 | 242.70 | 37.80 | 204.90 | 0.3 - 1.6 | East-Northeast |
| Apr-17 | 240.85 | 32.27 | 208.58 | 274.26 | 65.82 | 208.44 | 268.77 | 60.04 | 208.73 | 219.86 | 9.58 | 210.28 | 242.70 | 32.99 | 209.71 | 0.8 - 3.8 | North-Northeast |
| Nov-17 | 240.85 | 32.87 | 207.98 | 274.26 | 66.39 | 207.87 | 268.77 | 60.97 | 207.80 | 219.86 | 11.33 | 208.53 | 242.70 | 34.08 | 208.62 | 0.4 - 1.8 | Northeast |
| Apr-18 | 240.85 | 31.13 | 209.72 | 274.26 | 64.58 | 209.68 | 268.77 | 58.93 | 209.84 | 219.86 | 8.74 | 211.12 | 242.70 | 31.94 | 210.76 | 0.6 - 3.2 | North-Northeast |
| Jul-18 | 240.85 | 32.60 | 208.25 | 274.26 | 66.01 | 208.25 | 268.77 | 60.84 | 207.93 | 219.86 | 11.13 | 208.73 | 242.70 | 33.78 | 208.92 | 0.4 - 2.0 | Northeast |
| Nov-18 | 240.85 | 29.99 | 210.86 | 274.26 | 63.59 | 210.67 | 268.77 | 57.92 | 210.85 | 219.86 | 7.66 | 212.20 | 242.70 | 30.82 | 211.88 | 0.7 - 3.3 | Northeast |
| Apr-19 | 240.85 | 29.83 | 211.02 | 274.26 | 63.34 | 210.92 | 268.77 | 57.60 | 211.17 | 219.86 | 7.51 | 212.35 | 242.70 | 30.72 | 211.98 | 0.6 - 2.9 | North-Northeast |
| Jul-19 | – | – | – | – | – | – | 268.77 | 58.71 | 210.06 | – | – | – | – | – | – | – | – |
| Nov-19 | 240.85 | 34.48 | 206.37 | 274.26 | 67.96 | 206.30 | 268.77 | 62.66 | 206.11 | 219.86 | 13.21 | 206.65 | 242.70 | 35.85 | 206.85 | 0.3 - 1.3 | East-Northeast |
| Feb-20 | – | – | – | 274.26 | 66.67 | 207.59 | 268.77 | 61.12 | 207.65 | – | – | – | – | – | – | – | – |
| Apr-20 | 240.85 | 31.84 | 209.01 | 274.26 | 65.34 | 208.92 | 268.77 | 59.73 | 209.04 | 219.86 | 9.62 | 210.24 | 242.70 | 32.75 | 209.95 | 0.6 - 3.0 | North-Northeast |
| Jul-20 | – | – | – | 274.26 | 66.00 | 208.26 | – | – | – | 219.86 | 11.00 | 208.86 | – | – | – | – | – |
| Nov-20 | 240.85 | 35.72 | 205.13 | 274.26 | 69.23 | 205.03 | 268.77 | 63.92 | 204.85 | 219.86 | 14.48 | 205.38 | 242.70 | 37.09 | 205.61 | 0.3 - 1.3 | East-Northeast |

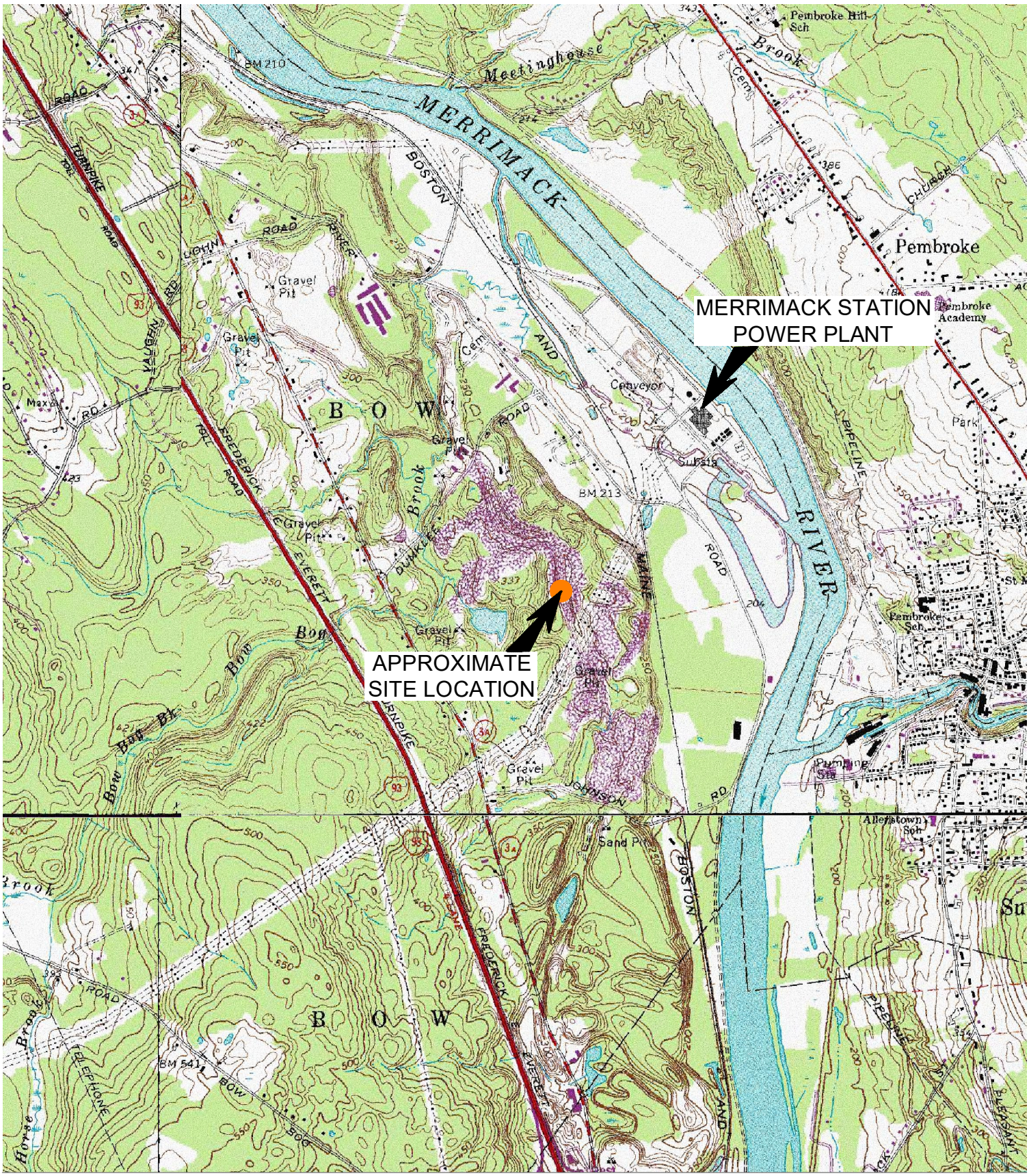
Notes:

1. Depths to water were obtained from information provided in laboratory reports and field sampling sheets prepared by Eastern Analytical, Inc.

2. Inferred general groundwater flow rates and flow directions are approximate and are based on the limited hydrogeologic and groundwater elevation data available. Other interpretations are possible and actual conditions may vary from those indicated. Note that groundwater elevations, directions, and rates may change due to seasonal or other variations in temperature, precipitation, runoff, or other factors.

3. Approximate groundwater flow rates were calculated using an assumed saturated hydraulic conductivity of 100 to 500 feet per day, and an assumed porosity of 39%. Assumptions are consistent with values typical of medium-grained, clean sand. The calculated groundwater flow rate is equivalent to the average interstitial velocity or the seepage velocity.

# FIGURES




NOTES:

BASE MAP TAKEN FROM 7.5 MINUTE
USGS QUADRANGLE MAP:
BOW, NEW HAMPSHIRE 1967
(PHOTO REVISED 1998)

Drawn By: E. Wright
Designed By: H. Roakes
Reviewed By: Steinhauser
Project No: 2025.10
Date: January 2021

1000 0 2000 Feet

SANBORN HEAD

Figure 1

# Locus Plan

2021 Annual Groundwater Monitoring and Corrective Action Report

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

SB-4
SB-6
SB-1
SB-14
SB-13
MERRIMACK STATION
LINED COAL ASH
LANDFILL
LEACHATE
COLLECTION TANKS

Figure 2

# Facility Plan

2021 Annual Groundwater Monitoring and Corrective Action Report

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Drawn By: E. Wright
Designed By: H. Roakes
Reviewed By: E. Steinhauser
Project No: 2025.10
Date: January 2021

## Notes

1. The base map was developed from a drawing prepared by Public Service Company of New Hampshire's Engineering Division entitled, "Area Plan, Merrimack Station, Bow, N.H." The drawing was dated 5/1/90 and was last revised on 6/28/95.
2. The location of the landfill and the site features shown should be considered approximate.

## Legend

- SB-4 — Monitoring Well
- Right-Of-Way
- Fence
- OU — Overhead Utilities
- 250 — Elevation Contour

150' 75' 0 150' 300' Feet

SANBORN HEAD

# ATTACHMENT A

# LIMITATIONS

# ATTACHMENT A
## LIMITATIONS

1. The conclusions and recommendations described in this report are based in part on the data obtained from a limited number of groundwater samples from widely-spaced monitoring locations. The monitoring locations indicate conditions only at the specific locations and times, and only to the depths sampled. They do not necessarily reflect variations that may exist between such locations, and the nature and extent of variations between these monitoring locations may not become evident until further study or remediation is initiated. The validity of the conclusions is based in part on assumptions Sanborn Head has made about conditions at the site. If conditions different from those described become evident, it will be necessary to re-evaluate the conclusions of this report.

2. Water level measurements were made in the monitoring well locations at times and under conditions stated within the report. Fluctuations in the levels of the groundwater may occur due to variations in precipitation and other factors not evident at the time measurements were made.

3. Quantitative laboratory analyses were performed as noted within the report. Additional analytes not searched for during the current study may be present in groundwater at the site. Sanborn Head has relied upon the data provided by the analytical laboratory and did not conduct an independent evaluation of the reliability of these data. Additionally, variations in the types and concentrations of analytes and variations in their distributions within the groundwater may occur due to the passage of time, seasonal water table fluctuations, recharge events, and other factors.

4. The conclusions and recommendations contained in this report are based in part upon various types of chemical data as well as historical and hydrogeologic information developed during previous studies. While Sanborn Head has reviewed those data and information as stated in this report, any of Sanborn Head's interpretations, conclusions, and recommendations that have relied on that information will be contingent on its validity. Should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by Sanborn Head and the interpretations, conclusions, and recommendations presented herein should be modified accordingly.

5. This report was prepared for the exclusive use of GSP Merrimack LLC (GSP) for specific application for 40 CFR Part 257.90 compliance for GSP's Merrimack Station Coal Ash landfill in Bow, New Hampshire, and was prepared in accordance with generally-accepted hydrogeologic practices. No warranty, express or implied, is made.

# ATTACHMENT B

# ANALYTICAL LABORATORY REPORTS

**February 2020**

**Eastern Analytical, Inc.**
*professional laboratory and drilling services*

Allan Palmer
Granite Shore Power
431 River Road
Bow , NH 03304

Subject: Laboratory Report

| | |
|---|---|
| Eastern Analytical, Inc. ID: | 206856 |
| Client Identification: | Merrimack Station - Coal Ash |
| Date Received: | 2/14/2020 |

Dear Mr. Palmer :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

2-28-20 — Date

5 — # of pages (excluding cover letter)

# SAMPLE CONDITIONS PAGE

EAI ID#: **206856**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

**Temperature upon receipt (°C): 1.1** **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

| Lab ID | Sample ID | Date Received | Date Sampled | Sample Matrix | % Dry Weight | Exceptions/Comments (other than thermal preservation) |
|---|---|---|---|---|---|---|
| 206856.01 | SB-4 | 2/14/20 | 2/14/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 206856.02 | SB-6 | 2/14/20 | 2/14/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 206856.03 | Leachate | 2/14/20 | 2/14/20 | aqueous | | Adheres to Sample Acceptance Policy |

*Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.*
*Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.*
*All results contained in this report relate only to the above listed samples.*
*References include:*
*1) EPA 600/4-79-020, 1983*
*2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.*
*3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB*
*4) Hach Water Analysis Handbook, 4th edition, 1992*

# LABORATORY REPORT

EAI ID#: **206856**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| **Sample ID:** | SB-4 | SB-6 | Leachate |
|---|---|---|---|
| **Lab Sample ID:** | 206856.01 | 206856.02 | 206856.03 |
| **Matrix:** | aqueous | aqueous | aqueous |
| **Date Sampled:** | 2/14/20 | 2/14/20 | 2/14/20 |
| **Date Received:** | 2/14/20 | 2/14/20 | 2/14/20 |

| | | | | Analysis | | | |
|---|---|---|---|---|---|---|---|
| | | | **Units** | **Date** | **Time** | **Method** | **Analyst** |
| Solids Dissolved | **190** | **130** | **3300** | mg/L | 2/20/20 | 10:50 | 2540C-11 | KJD |
| Sulfate | **14** | **15** | **2300** | mg/L | 2/19/20 | 7:24 | 300.0 | KD |
| Chloride | **100** | **79** | **35** | mg/L | 2/19/20 | 9:42 | 300.0 | KD |
| Alkalinity Total (CaCO3) | **15** | **15** | **260** | mg/L | 2/21/20 | 10:25 | 2320B-11 | ATA |

# LABORATORY REPORT

EAI ID#: **206856**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-4 | SB-6 | Leachate | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 206856.01 | 206856.02 | 206856.03 | | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | | | | | |
| **Date Sampled:** | 2/14/20 | 2/14/20 | 2/14/20 | | | | | |
| **Date Received:** | 2/14/20 | 2/14/20 | 2/14/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Boron | < 0.05 | < 0.05 | **20** | AqTot | mg/L | 2/24/20 | 200.8 | DS |
| Calcium | **11** | **5.1** | **310** | AqTot | mg/L | 2/24/20 | 200.8 | DS |
| Magnesium | **2.7** | **1.3** | **180** | AqTot | mg/L | 2/24/20 | 200.8 | DS |
| Potassium | **2.0** | **1.2** | **77** | AqTot | mg/L | 2/24/20 | 200.8 | DS |
| Sodium | **64** | **54** | **380** | AqTot | mg/L | 2/24/20 | 200.8 | DS |

# LABORATORY REPORT

EAI ID#: **206856**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| **Sample ID:** | SB-4 | SB-6 | Leachate | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 206856.01 | 206856.02 | 206856.03 | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | | | | |
| **Date Sampled:** | 2/14/20 | 2/14/20 | 2/14/20 | | | | |
| | | | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.85** | **5.73** | **6.28** | SU | 2/14/20 | SM4500 | JL |

# CHAIN-OF-CUSTODY RECORD

eastern analytical
*professional laboratory services*

206856

5

| aSampleID | Date/Time | aMatrix | Parameters | Sample Notes | # of containers |
|---|---|---|---|---|---|
| SB-4 | 02/14/2020 11:02 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Chloride, Sulfate, Total Dissolved Solids, Total Alkalinity, Field pH | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-6 | 02/14/2020 13:04 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Chloride, Sulfate, Total Dissolved Solids, Total Alkalinity, Field pH | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| Leachate | 02/14/2020 13:54 | WW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Chloride, Sulfate, Total Dissolved Solids, Total Alkalinity, Field pH | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |

**aClientID** Merrimack Station - Coal Ash
**nProjectID** 3949 **nYearMonth** 2020.02
**Client (Pro Mgr)** Allan Palmer
**Customer** Granite Shore Power
**Address** 431 River Road
**City** Bow **NH** 03304
**Phone** 224-4081
**Fax** 224-4081

**Results Needed by:** Preferred date _____
**Notes about project**

**ReportingOptions**
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD emai

**PO#** _____
**Quote#** _____

**Ice:** Y☑ N☐
**Temperature** 1.1 °C

**Samples Collected by:** JL/EAI

| Relinquished by | Date/Time | Received by |
|---|---|---|
| | 02/14/2020 15:00 | |
| Relinquished by | Date/Time | Received by |
| | | |

**April 2020**

**Eastern Analytical, Inc.**
*professional laboratory and drilling services*

Allan Palmer
Granite Shore Power
431 River Road
Bow , NH 03304

Subject: Laboratory Report

| | |
|---|---|
| Eastern Analytical, Inc. ID: | 209412 |
| Client Identification: | Merrimack Station - Coal Ash |
| Date Received: | 4/23/2020 |

Dear Mr. Palmer :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director | 5.6.20 Date | 5 # of pages (excluding cover letter)

# SAMPLE CONDITIONS PAGE

EAI ID#: **209412**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

**Temperature upon receipt (°C): 5.5** **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

| Lab ID | Sample ID | Date Received | Date Sampled | Sample Matrix | % Dry Weight | Exceptions/Comments (other than thermal preservation) |
|---|---|---|---|---|---|---|
| 209412.01 | SB-1 | 4/23/20 | 4/23/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 209412.02 | SB-4 | 4/23/20 | 4/23/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 209412.03 | SB-6 | 4/23/20 | 4/23/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 209412.04 | SB-13 | 4/23/20 | 4/23/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 209412.05 | SB-14 | 4/23/20 | 4/23/20 | aqueous | | Adheres to Sample Acceptance Policy |

*Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.*
*Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.*
*All results contained in this report relate only to the above listed samples.*
*References include:*
*1) EPA 600/4-79-020, 1983*
*2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.*
*3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB*
*4) Hach Water Analysis Handbook, 4th edition, 1992*

# LABORATORY REPORT

EAI ID#: **209412**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-1 | SB-4 | SB-6 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 209412.01 | 209412.02 | 209412.03 | 209412.04 | | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | | |
| **Date Sampled:** | 4/23/20 | 4/23/20 | 4/23/20 | 4/23/20 | | Analysis | | | |
| **Date Received:** | 4/23/20 | 4/23/20 | 4/23/20 | 4/23/20 | **Units** | **Date** | **Time** | **Method** | **Analyst** |
| Solids Dissolved | **150** | **260** | **270** | **400** | mg/L | 04/29/20 | 12:48 | 2540C-11 | KJD |
| Fluoride | < 0.1 | < 0.1 | < 0.1 | < 0.1 | mg/L | 04/28/20 | 6:12 | 300.0 | ATA |
| Sulfate | **11** | **11** | **8.1** | **6.5** | mg/L | 04/28/20 | 6:12 | 300.0 | ATA |
| Chloride | **53** | **140** | **160** | **230** | mg/L | 04/28/20 | 13:34 | 4500CLE-11 | ATA |
| Alkalinity Total (CaCO3) | **30** | **12** | **8.2** | **5.8** | mg/L | 04/28/20 | 8:38 | 2320B-11 | ATA |

| Sample ID: | SB-14 | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 209412.05 | | | | | | |
| **Matrix:** | aqueous | | | | | | |
| **Date Sampled:** | 4/23/20 | Analysis | | | | | |
| **Date Received:** | 4/23/20 | **Units** | **Date** | **Time** | **Method** | **Analyst** | |
| Solids Dissolved | **52** | mg/L | 04/29/20 | 12:48 | 2540C-11 | KJD | |
| Fluoride | < 0.1 | mg/L | 04/28/20 | 7:46 | 300.0 | ATA | |
| Sulfate | **5.5** | mg/L | 04/28/20 | 7:46 | 300.0 | ATA | |
| Chloride | **9.2** | mg/L | 04/28/20 | 13:53 | 4500CLE-11 | ATA | |
| Alkalinity Total (CaCO3) | **13** | mg/L | 04/28/20 | 8:38 | 2320B-11 | ATA | |

# LABORATORY REPORT

EAI ID#: **209412**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-1 | SB-4 | SB-6 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 209412.01 | 209412.02 | 209412.03 | 209412.04 | | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | | |
| **Date Sampled:** | 4/23/20 | 4/23/20 | 4/23/20 | 4/23/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| **Date Received:** | 4/23/20 | 4/23/20 | 4/23/20 | 4/23/20 | | | | | |
| Boron | **0.070** | **0.055** | < 0.05 | < 0.05 | AqTot | mg/L | 4/27/20 | 200.8 | HEH |
| Calcium | **14** | **13** | **12** | **14** | AqTot | mg/L | 4/27/20 | 200.8 | HEH |
| Magnesium | **3.0** | **3.2** | **2.8** | **3.0** | AqTot | mg/L | 4/27/20 | 200.8 | HEH |
| Potassium | **1.7** | **2.3** | **1.9** | **2.1** | AqTot | mg/L | 4/27/20 | 200.8 | HEH |
| Sodium | **34** | **83** | **92** | **140** | AqTot | mg/L | 4/27/20 | 200.8 | HEH |

| Sample ID: | SB-14 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 209412.05 | | | | | | | |
| **Matrix:** | aqueous | | | | | | | |
| **Date Sampled:** | 4/23/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** | | |
| **Date Received:** | 4/23/20 | | | | | | | |
| Boron | < 0.05 | AqTot | mg/L | 4/27/20 | 200.8 | HEH | | |
| Calcium | **5.5** | AqTot | mg/L | 4/27/20 | 200.8 | HEH | | |
| Magnesium | **1.4** | AqTot | mg/L | 4/27/20 | 200.8 | HEH | | |
| Potassium | **0.76** | AqTot | mg/L | 4/27/20 | 200.8 | HEH | | |
| Sodium | **6.8** | AqTot | mg/L | 4/27/20 | 200.8 | HEH | | |

# LABORATORY REPORT

EAI ID#: **209412**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-1 | SB-4 | SB-6 | SB-13 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 209412.01 | 209412.02 | 209412.03 | 209412.04 | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | |
| **Date Sampled:** | 4/23/20 | 4/23/20 | 4/23/20 | 4/23/20 | | | | |
| | | | | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.94** | **5.72** | **5.56** | **5.47** | SU | 4/23/20 | SM4500H | TNC |

| Sample ID: | SB-14 | | | |
|---|---|---|---|---|
| **Lab Sample ID:** | 209412.05 | | | |
| **Matrix:** | aqueous | | | |
| **Date Sampled:** | 4/23/20 | | | |
| | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.63** | SU | 4/23/20 | SM4500H | JL |

# CHAIN-OF-CUSTODY RECORD

eastern analytical
*professional laboratory services*

209412

5

| aSampleID | Date/Time | aMatrix | Parameters | Sample Notes | # of containers |
|---|---|---|---|---|---|
| SB-1 | 04.23.2020 15:05 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-4 | 04.23.2020 10:59 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-6 | 04.23.2020 13:15 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-13 | 04.23.2020 12:15 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-14 | 04.23.2020 13:36 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |

**aClientID** Merrimack Station - Coal Ash
**nProjectID** 3949 **nYearMonth** 2020.04
**Client (Pro Mgr)** Allan Palmer
**Customer** Granite Shore Power
**Address** 431 River Road
**City** Bow **NH** 03304
**Phone** 224-4081
**Fax** 224-4081

**Results Needed by:** Preferred date _____
**Notes about project**

**ReportingOptions**
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD emai

**PO#** 5990
**Quote#** _____

**Ice:** Y☑ N☐
**Temperature** 5.5 °C

**Samples Collected by:** JL, TC 10AM

| Relinquished by | Date/Time | Received by |
|---|---|---|
| [signature] | 04.23.2020 16:40 | [signature] |
| | | |
| Relinquished by | Date/Time | Received by |

**July 2020**

**Eastern Analytical, Inc.**
*professional laboratory and drilling services*

Allan Palmer
Granite Shore Power
431 River Road
Bow , NH 03304

Subject: Laboratory Report

| | |
|---|---|
| Eastern Analytical, Inc. ID: | 212567 |
| Client Identification: | Merrimack Station - Coal Ash LF |
| Date Received: | 7/8/2020 |

Dear Mr. Palmer :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director | 7.21.20 Date | 5 # of pages (excluding cover letter)

# SAMPLE CONDITIONS PAGE

EAI ID#: **212567**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash LF**

**Temperature upon receipt (°C): 3.4** **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

| Lab ID | Sample ID | Date Received | Date Sampled | Sample Matrix | % Dry Weight | Exceptions/Comments (other than thermal preservation) |
|---|---|---|---|---|---|---|
| 212567.01 | SB-4 | 7/8/20 | 7/8/20 | aqueous | | Adheres to Sample Acceptance Policy |
| 212567.02 | SB-13 | 7/8/20 | 7/8/20 | aqueous | | Adheres to Sample Acceptance Policy |

*Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.*
*Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.*
*All results contained in this report relate only to the above listed samples.*
*References include:*
*1) EPA 600/4-79-020, 1983*
*2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.*
*3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB*
*4) Hach Water Analysis Handbook, 4th edition, 1992*

# LABORATORY REPORT

EAI ID#: **212567**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash LF**

| **Sample ID:** | SB-4 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 212567.01 | 212567.02 | | | | | |
| **Matrix:** | aqueous | aqueous | | | | | |
| **Date Sampled:** | 7/8/20 | 7/8/20 | | | | | |
| **Date Received:** | 7/8/20 | 7/8/20 | | | | | |
| | | | | **Analysis** | | | |
| | | | **Units** | **Date** | **Time** | **Method** | **Analyst** |
| Solids Dissolved | **240** | **370** | mg/L | 7/14/20 | 16:35 | 2540C-11 | KJD |
| Sulfate | **14** | **6.9** | mg/L | 7/13/20 | 17:54 | 300.0 | ATA |
| Chloride | **99** | **210** | mg/L | 7/09/20 | 8:24 | 300.0 | ATA |
| Alkalinity Total (CaCO3) | **15** | **7.8** | mg/L | 7/09/20 | 10:30 | 2320B-11 | ATA |

# LABORATORY REPORT

EAI ID#: **212567**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash LF**

| **Sample ID:** | SB-4 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 212567.01 | 212567.02 | | | | | |
| **Matrix:** | aqueous | aqueous | | | | | |
| **Date Sampled:** | 7/8/20 | 7/8/20 | | | | | |
| **Date Received:** | 7/8/20 | 7/8/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Boron | **0.057** | < 0.05 | AqTot | mg/L | 7/9/20 | 200.8 | DS |
| Calcium | **11** | **14** | AqTot | mg/L | 7/9/20 | 200.8 | DS |
| Magnesium | **2.6** | **2.9** | AqTot | mg/L | 7/9/20 | 200.8 | DS |
| Potassium | **2.1** | **2.1** | AqTot | mg/L | 7/9/20 | 200.8 | DS |
| Sodium | **66** | **130** | AqTot | mg/L | 7/9/20 | 200.8 | DS |

# LABORATORY REPORT

EAI ID#: **212567**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash LF**

| **Sample ID:** | SB-4 | SB-13 | | | | |
|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 212567.01 | 212567.02 | | | | |
| **Matrix:** | aqueous | aqueous | | | | |
| **Date Sampled:** | 7/8/20 | 7/8/20 | | | | |
| | | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.59** | **5.41** | SU | 7/8/20 | SM4500 | TNC |

# CHAIN-OF-CUSTODY RECORD

eastern analytical
*professional laboratory services*

212567

5

| aSampleID | Date/Time | aMatrix | Parameters | Sample Notes | # of containers |
|---|---|---|---|---|---|
| SB-4 | 07/08/2020 1012 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-13 | 07/08/2020 1150 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |

**aClientID** Merrimack Station - Coal Ash LF
**nProjectID** 3949 **nYearMonth** 2020.07
**Client (Pro Mgr)** Allan Palmer
**Customer** Granite Shore Power
**Address** 431 River Road
**City** Bow **NH** 03304
**Phone** 230-7997
**Fax**

**Results Needed by:** Preferred date _____
**Notes about project**

**ReportingOptions**
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD emai

**PO#** _____
**Quote#** –
**Ice:** Y☒ N☐
**Temperature** 3.4 °C
**Samples Collected by:** EAI FS-TC

| Relinquished by | Date/Time | Received by |
|---|---|---|
| [signature] | 07/08/2020 1335 | [signature] |
| Relinquished by | Date/Time | Received by |

**November 2020**

SANBORN HEAD

# Eastern Analytical, Inc.

*professional laboratory and drilling services*

Allan Palmer
Granite Shore Power
431 River Road
Bow , NH 03304

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 218733
Client Identification: Merrimack Station - Coal Ash
Date Received: 11/12/2020

Dear Mr. Palmer :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw — 11.30.20 — 5

Lorraine Olashaw, Lab Director | Date | # of pages (excluding cover letter)

# SAMPLE CONDITIONS PAGE

EAI ID#: **218733**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

**Temperature upon receipt (°C): 3.1** **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

| Lab ID | Sample ID | Date Received | Date/Time Sampled | Sample Matrix | % Dry Weight | Exceptions/Comments (other than thermal preservation) |
|---|---|---|---|---|---|---|
| 218733.01 | SB-1 | 11/12/20 | 11/12/20 14:22 | aqueous | | Adheres to Sample Acceptance Policy |
| 218733.02 | SB-4 | 11/12/20 | 11/12/20 10:38 | aqueous | | Adheres to Sample Acceptance Policy |
| 218733.03 | SB-6 | 11/12/20 | 11/12/20 12:23 | aqueous | | Adheres to Sample Acceptance Policy |
| 218733.04 | SB-13 | 11/12/20 | 11/12/20 11:22 | aqueous | | Adheres to Sample Acceptance Policy |
| 218733.05 | SB-14 | 11/12/20 | 11/12/20 12:41 | aqueous | | Adheres to Sample Acceptance Policy |

*Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.*
*Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.*
*All results contained in this report relate only to the above listed samples.*
*References include:*
*1) EPA 600/4-79-020, 1983*
*2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.*
*3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB*
*4) Hach Water Analysis Handbook, 4th edition, 1992*

# LABORATORY REPORT

EAI ID#: **218733**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-1 | SB-4 | SB-6 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.01 | 218733.02 | 218733.03 | 218733.04 | | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | | |
| **Date Sampled:** | 11/12/20 | 11/12/20 | 11/12/20 | 11/12/20 | | Analysis | | | |
| **Date Received:** | 11/12/20 | 11/12/20 | 11/12/20 | 11/12/20 | **Units** | **Date** | **Time** | **Method** | **Analyst** |
| Solids Dissolved | **150** | **260** | **330** | **330** | mg/L | 11/18/20 | 16:50 | 2540C-11 | KJD |
| Fluoride | < 0.1 | < 0.1 | < 0.1 | < 0.1 | mg/L | 11/17/20 | 14:41 | 300.0 | ATA |
| Sulfate | **13** | **18** | **9.6** | **8** | mg/L | 11/17/20 | 14:41 | 300.0 | ATA |
| Chloride | **64** | **120** | **180** | **180** | mg/L | 11/17/20 | 14:41 | 300.0 | ATA |
| Alkalinity Total (CaCO3) | **11** | **12** | **9.3** | **9** | mg/L | 11/13/20 | 13:31 | 2320B-11 | RB |

| Sample ID: | SB-14 | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.05 | | | | | | |
| **Matrix:** | aqueous | | | | | | |
| **Date Sampled:** | 11/12/20 | Analysis | | | | | |
| **Date Received:** | 11/12/20 | **Units** | **Date** | **Time** | **Method** | **Analyst** | |
| Solids Dissolved | **68** | mg/L | 11/18/20 | 16:50 | 2540C-11 | KJD | |
| Fluoride | < 0.1 | mg/L | 11/17/20 | 15:59 | 300.0 | ATA | |
| Sulfate | **15** | mg/L | 11/17/20 | 16:44 | 300.0 | ATA | |
| Chloride | **4.7** | mg/L | 11/17/20 | 16:44 | 300.0 | ATA | |
| Alkalinity Total (CaCO3) | **14** | mg/L | 11/13/20 | 13:31 | 2320B-11 | RB | |

# LABORATORY REPORT

EAI ID#: **218733**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| **Sample ID:** | SB-1 | SB-4 | SB-6 | SB-13 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.01 | 218733.02 | 218733.03 | 218733.04 | | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | | |
| **Date Sampled:** | 11/12/20 | 11/12/20 | 11/12/20 | 11/12/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| **Date Received:** | 11/12/20 | 11/12/20 | 11/12/20 | 11/12/20 | | | | | |
| Boron | < 0.05 | **0.060** | < 0.05 | < 0.05 | AqTot | mg/L | 11/13/20 | 200.8 | DS |
| Calcium | **10** | **9.6** | **12** | **11** | AqTot | mg/L | 11/13/20 | 200.8 | DS |
| Magnesium | **2.7** | **2.5** | **3.1** | **2.6** | AqTot | mg/L | 11/13/20 | 200.8 | DS |
| Potassium | **1.6** | **2.2** | **2.3** | **2.2** | AqTot | mg/L | 11/13/20 | 200.8 | DS |
| Sodium | **35** | **84** | **110** | **120** | AqTot | mg/L | 11/13/20 | 200.8 | DS |

| **Sample ID:** | SB-14 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.05 | | | | | | | |
| **Matrix:** | aqueous | | | | | | | |
| **Date Sampled:** | 11/12/20 | **Analytical Matrix** | **Units** | **Date of Analysis** | **Method** | **Analyst** | | |
| **Date Received:** | 11/12/20 | | | | | | | |
| Boron | < 0.05 | AqTot | mg/L | 11/13/20 | 200.8 | DS | | |
| Calcium | **4.0** | AqTot | mg/L | 11/13/20 | 200.8 | DS | | |
| Magnesium | **1.1** | AqTot | mg/L | 11/13/20 | 200.8 | DS | | |
| Potassium | **0.84** | AqTot | mg/L | 11/13/20 | 200.8 | DS | | |
| Sodium | **12** | AqTot | mg/L | 11/13/20 | 200.8 | DS | | |

# LABORATORY REPORT

EAI ID#: **218733**

Client: **Granite Shore Power**

Client Designation: **Merrimack Station - Coal Ash**

| Sample ID: | SB-1 | SB-4 | SB-6 | SB-13 | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.01 | 218733.02 | 218733.03 | 218733.04 | | | | |
| **Matrix:** | aqueous | aqueous | aqueous | aqueous | | | | |
| **Date Sampled:** | 11/12/20 | 11/12/20 | 11/12/20 | 11/12/20 | | | | |
| | | | | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.36** | **5.18** | **5.37** | **4.96** | SU | 11/12/20 | SM4500H | TNC |

| Sample ID: | SB-14 | | | | |
|---|---|---|---|---|---|
| **Lab Sample ID:** | 218733.05 | | | | |
| **Matrix:** | aqueous | | | | |
| **Date Sampled:** | 11/12/20 | | | | |
| | | **Units** | **Date of Analysis** | **Method** | **Analyst** |
| Field pH | **5.10** | SU | 11/12/20 | SM4500H | JL |

# CHAIN-OF-CUSTODY RECORD

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218733

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| aSampleID | Date/Time | aMatrix | Parameters | Sample Notes | # of containers |
|---|---|---|---|---|---|
| SB-1 | 11/12/2020 14:22 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-4 | 11/12/2020 10:38 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-6 | 11/12/2020 12:23 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-13 | 11/12/2020 11:22 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |
| SB-14 | 11/12/2020 12:41 | GW | Total Boron, Calcium, Magnesium, Potassium, Sodium, Flouride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity | | 4 |
| preservative: HCL (HNO3) $H_2SO_4$ NaOH MEOH $Na_2S_2O_3$ (ICE) | | | | | |

**aClientID** Merrimack Station - Coal Ash
**nProjectID** 3949 **nYearMonth** 2020.11
**Client (Pro Mgr)** Allan Palmer
**Customer** Granite Shore Power
**Address** 431 River Road
**City** Bow **NH** 03304
**Phone** 230-7997
**Fax**

**Results Needed by:** Preferred date _____
**Notes about project**

**ReportingOptions**
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD emai

**PO#** _____
**Quote#** _____
**Temperature** 3.1 °C
**Ice:** Y☑ N☐

**Samples Collected by:** JL, TC, EAI

| Relinquished by | Date/Time | Received by |
|---|---|---|
| | 11/12/2020 1540 | |
| Relinquished by | Date/Time | Received by |
| | | |