SANBORN HEAD

Annual Groundwater Monitoring and Corrective Action Report

MERRIMACK STATION COAL ASH LANDFILL

Bow, New Hampshire

Sanborn Head

Digitally signed by Sanborn Head
Date: 2025.01.21 12:37:56 -05'00'

Prepared for GSP Merrimack LLC
File No. 2025.15
January 21, 2025

TABLE OF CONTENTS

1.0 INTRODUCTION

Groundwater monitoring at the Merrimack Station Coal Ash Landfill site (Site) in Bow, New Hampshire is required pursuant to the United States Environmental Protection Agency (USEPA) Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments 40 CFR Part 257.90. Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this 2024 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) for the Site as required by 40 CFR Part 257.90(e) to cover the reporting period from January 1, 2024, through December 31, 2024. This report and the services provided by Sanborn Head are subject to the Limitations provided in Appendix A.

2.0 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 2024 annual reporting period.

i. The Site was operating under the detection monitoring program at the start of the annual reporting period.
ii. The Site continued to operate under the detection monitoring program at the end of the annual reporting period, i.e., there was no need to implement assessment monitoring.
iii. Statistically significant increases (SSIs) over background were detected at the Site. Pursuant to 40 CFR Part 257.94(e)(2), demonstrations that these SSIs were due to natural variation in groundwater quality have been completed and the Site continues to operate under the detection monitoring program. An Alternative Source Demonstration (ASD), provided in Appendix B, was prepared for calcium and sulfate at SB-1 detected in November 2023 and March 2024. Additional information regarding the statistical analyses and ASDs are provided in Section 6.
iv. There were no 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.

3.0 REPORT REQUIREMENTS

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

1. A map and 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 an observed 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 (see Section 2.0), 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.

4.0 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.

In addition to the monitoring required by 40 CFR Part 257.90 through 257.98, the groundwater quality at the Site has been routinely monitored under New Hampshire Department of Environmental Services (NHDES) regulations since the 1980s. The current groundwater monitoring program, as prescribed by the NHDES Groundwater Release Detection Permit No. GWP-198400065-B-007, issued May 2, 2022, 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,[1] 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.

5.0 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[2] was prepared to address the 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 Eurofins

[1] *Groundwater Monitoring Well Network Verification* prepared by Sanborn Head, dated January 14, 2016.
[2] *Sampling and Analysis Plan* prepared by Sanborn Head, dated October 7, 2016.

Environment Testing Eastern Analytical (EA) of Concord, New Hampshire using low-flow sampling techniques, based on the USEPA Low Stress (Low Flow) Standard Operating Procedure, revised September 20, 2017.

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 TDS) 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, semi-annual detection monitoring samples were collected in April 2024 and November 2024. Some confirmatory samples, which may be used with the "1-of-2" retesting strategy for detecting an SSI, were collected in March 2024 (associated with the Fall 2023 round) and in September 2024 (associated with the Spring 2024 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 laboratory reports are provided in Appendix C. The groundwater level measurements and inferred general groundwater flow directions are summarized in Table 2.

6.0 SUMMARY OF STATISTICAL ANALYSIS

As required under 40 CFR Part 257.90(b)(iv), Sanborn Head evaluated groundwater monitoring data for SSIs over background levels for the constituents listed in 40 CFR Part 257 Appendix III at the five Site monitoring wells. The statistical analyses completed in 2024 for the Fall 2023 and Spring 2024 data were consistent with the methods described in the Site's Statistical Analysis Plan, prepared by Sanborn Head and dated January 2024. Statistical analysis of the Fall 2024 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 TDS) using the multiple well and multiple parameter prediction limit equation.

Based on the prediction interval procedures performed for data collected for the Fall 2023 and Spring 2024 monitoring rounds, SSIs over background levels were identified. Pursuant to 40 CFR

Part 257.94(e)(2), within 90 days of detecting the SSIs, Sanborn Head prepared ASDs that demonstrated, based on a weight-of-evidence approach, that the SSIs were due to natural variation in groundwater quality. SSIs and corresponding ASDs are summarized in Exhibit 1, below. The ASD for the Fall 2023 SSIs is provided as Appendix B. The ASD For the Spring 2024 SSI was completed in January 2025 and will be provided with the 2025 Annual Report.

Exhibit 1: Alternative Source Demonstrations

Sampling Round	Sampling Dates	SSI Location and Parameter	ASD Date
Fall 2023	November 16, 2023, and March 7, 2024	SB-1: Calcium and Sulfate	September 11, 2024
Spring 2024	April 19, 2024, and September 20, 2024	SB-1: Sulfate	January 16, 2025

Data for the November 2024 groundwater detection monitoring round are included in Table 1; however, the statistical analysis of the November 2024 data is ongoing. 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 Fall 2024 samples were collected November 22, 2024, and the laboratory analyses were received December 13, 2024.

P:\2000s\2025.15\Source Files\202501 CCR Rpt\202501 CCR Rpt.docx

Tables

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

Location	Date	Metals															Miscellaneous Parameters							
		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	5	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 ‡	5 ‡	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 c							12,000																
	4/9/2018					67		12,000									55,000	<100	10,000	160,000	5.90			
	7/25/2018 c							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			
	2/4/2021 c							11,000									78,000		11,000	150,000	5.12			
	4/28/2021					78		14,000									62,000	<100	11,000	180,000	5.42			
	9/14/2021 c					58		13,000									69,000	<100	11,000	210,000	6.21			
	11/15/2021					<50		14,000									93,000	<100	9,600	220,000	4.99			
	4/11/2022					81		16,000									92,000	<100	12,000	240,000	5.75			
	11/14/2022					79		13,000									70,000	<100	15,000	190,000	5.36			
	2/13/2023 c							12,000									79,000		16,000	180,000	5.42			
	4/27/2023					130		18,000									79,000	<100	17,000	180,000	5.53			
	8/17/2023 c					83		19,000									92,000		16,000	250,000	5.70			
	11/16/2023					92		17,000									100,000	<100	17,000	260,000	5.32			
	3/7/2024 c					110		20,000									86,000		21,000	230,000	5.58			
	4/19/2024					73		16,000									110,000	<100	18,000	230,000	5.55			
	9/20/2024 c					120		12,000									73,000		25,000	190,000	5.40			
	11/22/2024					96		10,000									61,000	<100	28,000	160,000	5.54			
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 c							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 c					<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 c					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			
	2/4/2021 c					70		8,500									100,000		20,000	240,000	5.22			
	4/28/2021					65		11,000									100,000	<100	16,000	230,000	5.71			
	11/15/2021					<50		11,000									130,000	<100	12,000	290,000	5.16			
	4/11/2022					55		13,000									110,000	<100	20,000	250,000	5.68			
	11/14/2022					<50		14,000									150,000	<100	9,700	320,000	5.46			
	2/13/2023 c							10,000									140,000		11,000	250,000	5.49			
	4/27/2023					<50		6,600									99,000	<100	12,000	190,000	5.29			
	11/16/2023					<50		7,700									91,000	<100	15,000	210,000	5.66			
	4/19/2024					<50		8,900									120,000	<100	11,000	230,000	5.43			
	11/22/2024					50		8,700									100,000	<100	13,000	220,000	5.83			
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 c							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 c					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 c							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			
	4/28/2021					<50		11,000									150,000	<100	6,700	290,000	5.58			
	11/15/2021					<50		12,000									200,000	<100	8,800	370,000	5.27			
	4/11/2022					<50		10,000									170,000	<100	9,400	330,000	5.80			
	11/14/2022					<50		6,800									110,000	<100	11,000	240,000	5.53			
	4/27/2023					<50		12,000									140,000	<100	7,900	250,000	5.03			
	11/16/2023					<50		6,300									110,000	<100	11,000	220,000	5.65			
	4/19/2024					<50		8,300									110,000	<100	7,900	240,000	5.44			
	11/22/2024					<50		4,300									66,000	<100	12,000	130,000	5.73			

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

Location	Date	Metals															Miscellaneous Parameters							
		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	5	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 ‡	5 ‡	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 c							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 c					<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			
	2/4/2021 c					< 50		11,000									180,000		6,700	320,000	5.32			
	4/28/2021					<50		14,000									240,000	<100	5,900	410,000	5.31			
	11/15/2021					<50		11,000									200,000	<100	7,900	370,000	5.02			
	4/11/2022					<50		9,800									190,000	<100	9,700	360,000	5.47			
	11/14/2022					<50		7,700									150,000	<100	8,200	310,000	5.55			
	4/27/2023					<50		14,000									210,000	<100	6,200	430,000	5.01			
	11/16/2023					<50		3,900									94,000	<100	11,000	190,000	5.68			
	4/19/2024					<50		9,300									160,000	<100	6,400	310,000	5.24			
	11/22/2024					<50		3,400									70,000	<100	12,000	150,000	5.92			
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 c							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	5.10			
	2/4/2021 c							7,900									34,000		6,000	95,000	5.30			
	4/28/2021					<50		3,300									4,000	<100	7,100	42,000	5.37			
	11/15/2021					<50		3,400									9,300	<100	16,000	64,000	5.55			
	4/11/2022					<50		4,400									12,000	<100	9,600	44,000	5.76			
	11/14/2022					<50		5,600									10,000	<100	18,000	72,000	5.74			
	2/13/2023 c							6,300									22,000		11,000	53,000	5.62			
	4/27/2023					<50		5,500									6,500	<100	7,400	59,000	5.12			
	11/16/2023					<50		4,900									18,000	<100	22,000	91,000	5.65			
	4/19/2024					<50		3,900									9,800	<100	14,000	49,000	5.36			
	11/22/2024					<50		2,800									6,200	<100	19,000	64,000	6.03			

Notes:

1. Samples were collected by Eurofins Environment Testing Eastern Analytical (EA, formerly Eastern Analytical, Inc.) of Concord, New Hampshire on the dates indicated and analyzed by EA for select metals by USEPA Method 6020. Additional analysis for select wet chemistry parameters were completed by EA. 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, May 2020, January 2021, and July 2021 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 typically applied to field-filtered samples (i.e., dissolved analytes) for overburden monitoring wells.
"NA" indicates the RCMP lists the value as not applicable.
"NS" indicates the analyte is not listed in the RCMP or MCL list.
"c" indicates sample rounds collected as part of the retesting program for identifying statistically significant increases (SSIs).

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

Date	Depths and elevations in feet.															Inferred General Groundwater Flow Rate (feet/day)	Inferred General Groundwater Flow Direction
	SB-1			SB-4			SB-6			SB-13			SB-14				
	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
Feb-21	240.85	33.85	207.00	274.26	67.36	206.90	–	–	–	219.86	12.12	207.74	242.70	34.88	207.82	–	–
Apr-21	240.85	33.37	207.48	274.26	66.88	207.38	268.77	61.31	207.46	219.86	11.43	208.43	242.70	34.38	208.32	0.5 - 2.4	Northeast
Sep-21	240.85	31.11	209.74	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nov-21	240.85	31.65	209.20	274.26	65.17	209.09	268.77	59.72	209.05	219.86	10.04	209.82	242.70	32.78	209.92	0.4 - 1.9	Northeast
Apr-22	240.85	31.10	209.75	274.26	64.61	209.65	268.77	59.12	209.65	219.86	9.22	210.64	242.70	32.05	210.65	0.5 - 2.5	Northeast
Nov-22	240.85	35.06	205.79	274.26	68.62	205.64	268.77	63.27	205.50	219.86	13.80	206.06	242.70	36.46	206.24	0.3 - 1.4	East-Northeast
Feb-23	240.85	32.98	207.87	274.26	66.50	207.76	–	–	–	–	–	–	242.70	33.99	208.71	–	–
Apr-23	240.85	31.02	209.83	274.26	64.51	209.75	268.77	59.08	209.69	219.86	8.94	210.92	242.70	31.94	210.76	0.6 - 3.0	Northeast
Aug-23	240.85	30.47	210.38	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nov-23	240.85	32.37	208.48	274.26	65.80	208.46	268.77	60.44	208.33	219.86	10.85	209.01	242.70	33.51	209.19	0.4 - 1.8	Northeast
Mar-24	240.85	30.55	210.30	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Apr-24	240.85	28.65	212.20	274.26	62.24	212.02	268.77	56.65	212.12	219.86	6.12	213.74	242.70	29.53	213.17	0.8 - 4.0	North-Northeast
Sep-24	240.85	33.07	207.78	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nov-24	240.85	34.86	205.99	274.26	68.34	205.92	268.77	63.03	205.74	219.86	13.62	206.24	242.70	37.29	205.92	0.2 - 1.2	Northeast

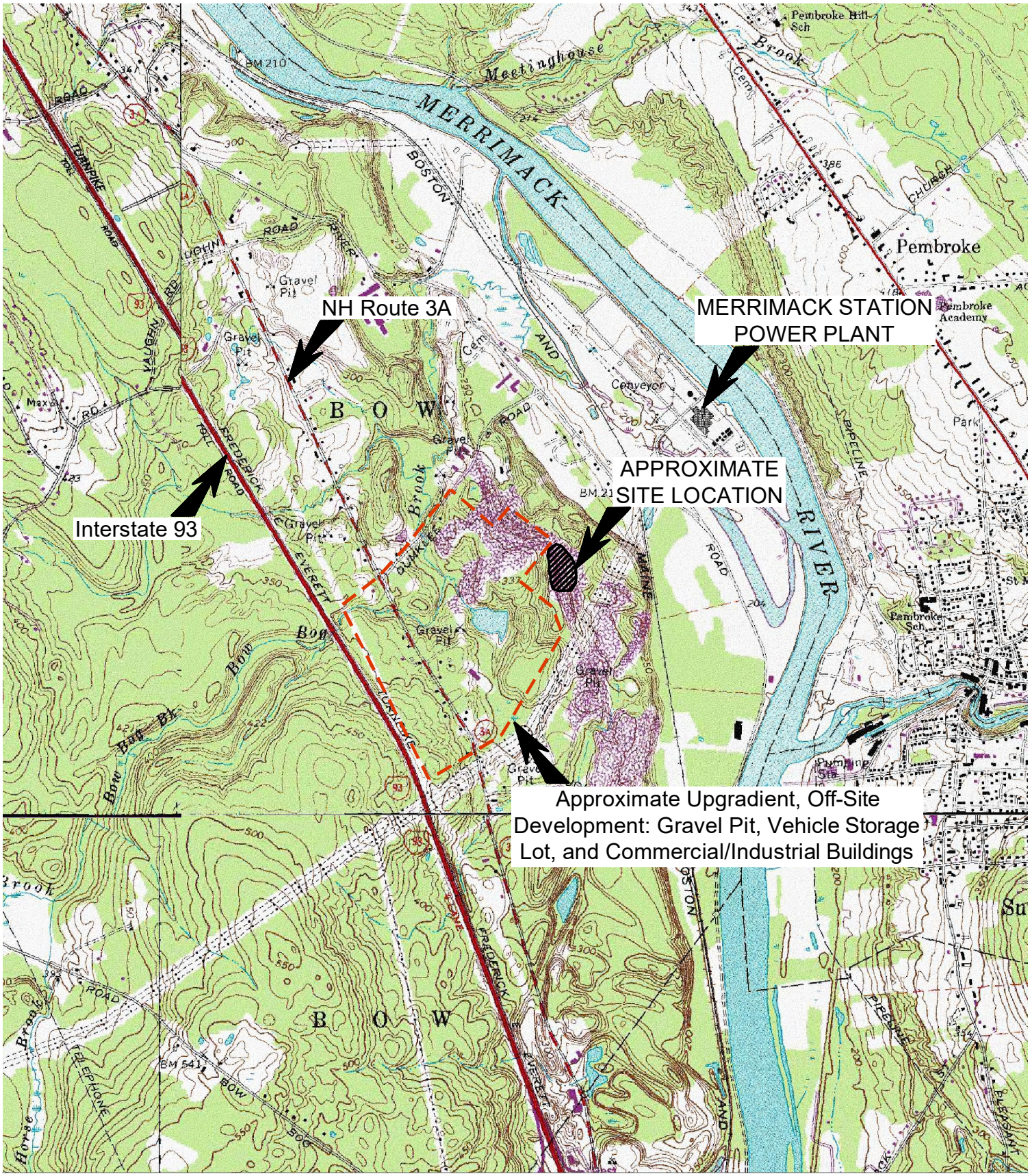
Notes:

1. Depths to water were obtained from information provided in laboratory reports and field sampling sheets prepared by Eurofins Environment Testing Eastern Analytical (EA, formerly 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: D. Dombrowsky
Designed By: H. Roakes
Reviewed By: J. Scott
Project No: 2025.15
Date: January 2025

1000 0 2000 Feet

SANBORN HEAD

Figure 1
Locus Plan

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Figure 2

Facility Plan

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Drawn By: D. Dombrowsky
Designed By: H. Roakes
Reviewed By: J. Scott
Project No: 2025.15
Date: January 2025

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

SB-4
SB-6
SB-1
SB-13
SB-14

MERRIMACK STATION
LINED COAL ASH
LANDFILL

LEACHATE
COLLECTION TANKS

150' 75' 0 150' 300' Feet

SANBORN HEAD

File P:\2000s\2025.15\Graphics Files\CAD\CCR Report JAN25\CCR Facility Plan Fig1.dwg Plot Date: 10/22/24

Appendix A

Limitations

APPENDIX A
LIMITATIONS

1. The conclusions and recommendations described in this report are based in part on the data obtained from a limited number of samples from widely-spaced locations. The sample results indicate conditions only at the specific location and time. They do not necessarily reflect variations that may exist between or within such locations, and the nature and extent of variations between or within these locations may not become evident until further investigation 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, then it will be necessary to reevaluate the conclusions of this report.

2. Water level measurements were made at monitoring locations at times and under conditions stated within the report. Fluctuations in water levels may occur due to seasonal or other variations in precipitation, temperature, runoff, pumping, flooding, and other factors.

3. Quantitative laboratory analyses were performed as noted within this report. Additional compounds not searched for during the current study may be present at the site. Sanborn Head relied upon the data provided by the analytical laboratory and did not perform an independent evaluation of the reliability of these data. Moreover, variations in the types and concentrations of contaminants and variations in their distributions may occur due to the passage of time, water table fluctuations, precipitation and 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 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, hydrogeologic information, or other relevant 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 it was prepared in accordance with generally-accepted hydrogeologic practices. No warranty, express or implied, is made.

Appendix B

Alternative Source Demonstration

SANBORN HEAD

Allan G. Palmer
GSP Merrimack LLC
431 River Road
Bow, NH 03304

September 11, 2024
File No. 2025.15

Re: Alternative Source Demonstration
November 2023 and March 2024 Sampling
Merrimack Station Coal Ash Landfill
Bow, New Hampshire

Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this Alternative Source Demonstration (ASD) for the Merrimack Station Coal Ash Landfill Site (the Site) located in Bow, New Hampshire. A qualified professional engineer certification is provided in Attachment A. This ASD was prepared in accordance with the Coal Combustion Residual (CCR) Rules (40 CFR Part 257) and is subject to the Limitations provided in Attachment B. A Locus Plan for the Site is provided as Figure 1.

INTRODUCTION

Based on the prediction interval procedure performed by Sanborn Head, statistically significant increases (SSIs) compared to background groundwater concentrations were identified for calcium and sulfate at SB-1.[1] As such, pursuant to 40 CFR Part 257.94(e)(2), within 90 days of detecting an SSI, the owner or operator may provide a written demonstration from a qualified professional engineer that: (i) a source other than the CCR unit caused the SSI; or (ii) the SSI resulted from either an error in sampling, analysis, or statistical evaluation; or natural variation in groundwater chemistry.

Groundwater analytical data are provided in Table 1, and groundwater elevation data are provided in Table 2. The locations of the monitoring wells in relation to the landfill are indicated on the Facility Plan provided as Figure 2.

BACKGROUND

The calcium and sulfate SSIs are based on samples collected from SB-1 in November 2023 and March 2024. Using a weight-of-evidence approach, we conclude that the SSIs are not sourced from the CCR unit based on the following findings:

- Calcium and sulfate concentrations are within the range of naturally occurring concentrations.
- If the SSIs were from CCR impacts to groundwater, then coincident increased total dissolved solids (TDS) and changed groundwater chemistry in the SSI samples should be caused by

[1] The November 2023 laboratory analytical data were received on December 8, 2023. Confirmatory sampling, which may be used with the "1-of-2" retesting strategy for detecting an SSI, was completed in March 2024, and the March 2024 data were received on March 20, 2024.

increases in Appendix III analytes, such as calcium, chloride, sulfate, and boron. Because Appendix III analytes, except chloride, are not contributing substantially to increased TDS in the SSI samples, the increased TDS and changed chemistry in the SSI samples are indicative of natural variation and are not consistent with CCR impacts to groundwater.

- A comparison of major ion signatures indicates the calcium and sulfate SSIs are not sourced from CCR impacts to groundwater at SB-1.

Further details supporting each of these findings are provided below.

NATURALLY OCCURRING AND AMBIENT CONCENTRATIONS

Calcium and sulfate occur naturally in groundwater in the region through rain, atmospheric deposition, and dissolution of ion-producing minerals in rock and soil. Human activities, such as agriculture and subsurface wastewater discharge, may also contribute to calcium and sulfate concentrations in groundwater. There is off-site development upgradient of the Site, including a gravel pit, vehicle storage lots, roadways, and commercial/industrial buildings. These off-site features are indicated on Figure 1.

Additionally, the use of calcium chloride for dust control on gravel roads around the Site was permitted by the New Hampshire Department of Environmental Services in 2001.[2] The period and extent of calcium chloride use at or around the Site is uncertain.

The calcium and sulfate SSI concentrations are within the range of naturally occurring or ambient concentrations for comparable groundwaters, as reported in local aquifer, state-wide, and regional studies summarized in Exhibit 1 below.[3,4,5] The local aquifer and state-wide U.S. Geological Survey (USGS) studies are specific to stratified drift aquifers with similar geology to the Site, and the regional study is applicable to the Site because the glacial outwash overburden at the Site is eroded from the underlying crystalline rock and has similar mineralogical composition to the aquifers in the regional USGS study. The calcium and sulfate SSI concentrations were greater than the values detected in the small local study, but they were well within the range of calcium and sulfate concentrations reported in the state and regional studies.

---

2 North American Reserve. May 11, 2001. *Notification to Apply Calcium Chloride as Dust Control Agent*; and New Hampshire Department of Environmental Services. May 14, 2001. *Bow – PSNH Pit, Manchester Sand & Gravel, Johnson Road, Nondomestic Discharge Registration (DES# 198400065)*.

3 U.S. Geological Survey. 1997. *Geohydrology and Water Quality of Stratified-Drift Aquifers in the Upper Merrimack River Basin, South-Central New Hampshire*; and U.S. Geological Survey. 1995. *Geohydrology and Water Quality of Stratified-Drift Aquifers in the Middle Merrimack River Basin, South-Central New Hampshire*.

4 U.S. Geological Survey. 1995. *Ground-Water Resources in New Hampshire: Stratified-Drift Aquifers*.

5 U.S. Department of the Interior and U.S. Geological Survey. 2012. *Quality of Water from Crystalline Rock Aquifers in New England, New Jersey, and New York, 1995-2007*.

Exhibit 1: Comparison of Site Calcium and Sulfate Concentrations and Literature Values

Study/Location	Calcium (µg/L)		Sulfate (µg/L)	
SSI data	SB-1 November 2023: March 2024:	 17,000 20,000	SB-1 November 2023: March 2024:	 17,000 21,000
Site Upgradient SB-13 Data February 2016 through November 2023 [sample size (n)=24]	Min: Median: Max:	3,900 9,900 14,000	Min: Median: Max:	5,900 8,000 11,000
Local Stratified Drift Aquifers [n=16]	Minimum: Median: Maximum:	3,400 4,650 8,600	Minimum: Median: Maximum:	1,000 7,500 14,000
New Hampshire Stratified Drift Aquifers [n=256]	Minimum: Median: Maximum:	40 7,600 87,000	Minimum: Median: Maximum:	<100 7,800 79,000
Northeast Crystalline Rock Aquifers [n=117]	Minimum: Median: 90th percentile: Maximum:	2,700 19,800 53,400 98,500	Minimum: Median: 90th percentile: Maximum:	310 13,420 26,000 68,480

See text and footnotes for references.
µg/L = micrograms per liter

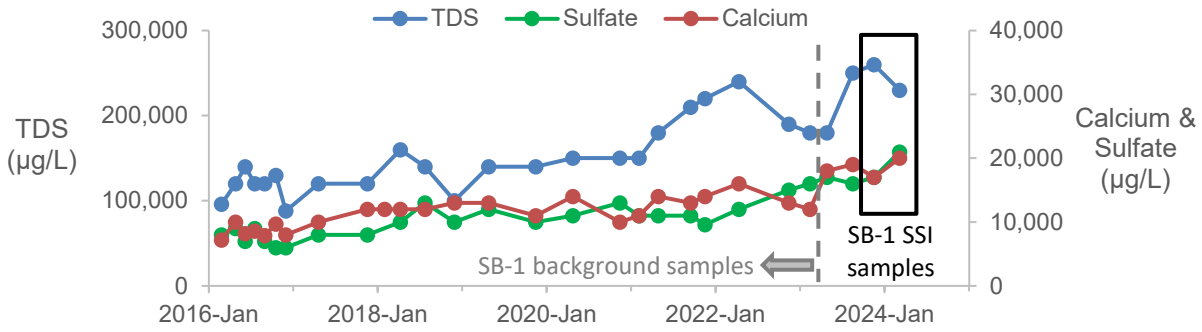
In addition to the above, the sulfate SSI concentrations were lower than the U.S. Environmental Protection Agency (USEPA) Secondary Maximum Contaminant Levels (SMCLs) for sulfate of 250,000 µg/L and much less than the New Hampshire Ambient Groundwater Quality Standard (AGQS) for sulfate of 500,000 µg/L. Calcium does not have a USEPA Maximum Contaminant Level (MCL) or New Hampshire AGQS, which are standards intended to be protective of human health for drinking water. Calcium also does not have a USEPA Secondary Maximum Contaminant Level (SMCL) or New Hampshire SMCL, which are standards based on aesthetic and corrosion considerations for public water systems. Calcium concentrations can contribute to TDS levels, although it is not a large portion of TDS at SB-1. There are USEPA and New Hampshire SMCLs of 500,000 µg/L for TDS. The TDS levels at SB-1, which range up to 260,000 µg/L, are well below the TDS SMCLs.

TDS AND OTHER INDICATOR ANALYTES

The CCR Rules for detection monitoring require analysis of boron, calcium, chloride, fluoride, pH, sulfate, and TDS (i.e., the Appendix III indicator analytes).

The SSIs for sulfate and calcium coincided with increased TDS relative to the intrawell background samples for SB-1 (i.e., samples collected prior to April 2023). The relatively high TDS in the SSI samples of 230,000-260,000 µg/L is much higher than the typical background sample TDS of 150,000 µg/L or less. Although TDS concentrations were not enough to rise to a level of statistical significance for detection monitoring, the relative increase does indicate a shift in groundwater chemistry from the lower TDS typical background samples to the more recent increased TDS in the recent SB-1 SSI samples. Time series trends showing the TDS, sulfate, and calcium concentrations for SB-1 are provided as Exhibit 2.

Exhibit 2: TDS, Sulfate, and Calcium Concentrations for SB-1



TDS is a relatively general, non-targeted analysis that measures the amounts of inorganic salts and small amounts of dissolved organic matter present in the sample. TDS is a collective measure that includes the dissolved Appendix III indicator analytes boron, calcium, chloride, fluoride, and sulfate, as well as other dissolved constituents, such as sodium, alkalinity, magnesium, potassium, and silica. The laboratory method for TDS includes filtering the sample and evaporating the water so that residual solids from the sample can be measured; laboratory TDS measurements do not distinguish between individual analytes or constituents.

The increase in TDS and changed groundwater chemistry do not appear to be from CCR impacts. If the SSIs were from CCR impacts to groundwater, then increases in TDS in SSI samples should be caused by increases in Appendix III analytes. An analysis of Appendix III indicator analyte contributions to the TDS in SSI samples, shown in Exhibit 3, shows that chloride is the only Appendix III indicator contributing to more than 15 percent of the TDS increases in SSI samples. Appendix III indicator analytes calcium and sulfate contributed a combined 23 percent or less of the TDS increases. The remaining change in TDS is from parameters not included in CCR Appendix III detection monitoring analytes, such as magnesium, sodium, and alkalinity.

Exhibit 3: Analysis of Appendix III Analyte Contributions to Increased TDS in SSI Samples

		SB-1 November 2023	SB-1 March 2024
November 2020 Background Concentrations (µg/L)	Calcium	10,000	10,000
	Sulfate	13,000	13,000
	Boron	<50	<50
	Fluoride	<100	<100
	Chloride	64,000	64,000
	TDS	150,000	150,000
SSI Sample Concentrations (µg/L)	Calcium	17,000	20,000
	Sulfate	17,000	21,000
	Boron	92	110
	Fluoride	<100	-
	Chloride	100,000	86,000
	TDS	260,000	230,000
Concentration Change (µg/L)	Calcium	+7,000	+10,000
	Sulfate	+4,000	+8,000
	Boron	~+42	~+60
	Fluoride	~0	~0
	Chloride	+36,000	+22,000
	TDS	+110,000	+80,000
Percent of TDS Change	**Calcium**	+6%	+13%
	Sulfate	+4%	+10%
	Boron	~+0.038%	~+0.075%
	Fluoride	~0%	-
	Chloride	+33%	+28%

The November 2020 sampling event was selected for background comparison because it is a recent background sampling event with TDS values lower than the corresponding SSI samples.
"Percent of TDS Change" is calculated by dividing the change in analyte by the change in TDS.
"<" indicates the analyte was not detected at the indicated reporting limit.
"-" indicates the analyte was not tested for.
"~" indicates an estimated value based on non-detect concentrations. Where a non-detect is compared to a detect, the non-detect reporting limit is used for calculating concentration change.
Values are displayed to two significant figures.

Although chloride is included as an Appendix III indicator analyte, chloride is not a strong indicator for potential leachate impacts to groundwater for the Site. Chloride concentrations in groundwater may be affected by a variety of human activities. Off-site development upgradient of the Site, indicated on Figure 1, includes a gravel pit, vehicle storage lots, roadways, and commercial/industrial buildings. Road salting and subsurface wastewater discharge at these developed areas may result in the introduction of chloride-containing salts to groundwater. Sodium chloride and calcium chloride salt also may have been applied or may have been carried onto gravel roads via truck traffic around the Site through years of sand and gravel mining and landfill operations. In contrast to potentially strong chloride signatures for off-site and non-landfill activities, chloride concentrations in leachate collected at the Site typically contribute about 10 percent or less of leachate TDS. With such a weak chloride signature in leachate, increases in groundwater TDS associated with chloride are not an indicator of Site impacts.

Because Appendix III analytes, except chloride, are not contributing substantially to the increased TDS in the SSI samples at SB-1, the increased TDS and changed chemistry in the SSI samples are indicative of natural variation and are not consistent with CCR impacts to groundwater.

COMPARISON OF MAJOR ION SIGNATURES

Groundwater samples have been analyzed for major ion chemistry since July 2018. Four leachate samples from the Site have also been analyzed for major ion chemistry. These data for SB-1 are presented as plotted values in Figure 3. The major ion chemistry data show that SB-1 samples are typically sodium-chloride water types. Of the two SSI samples, the November 2023 sample was the typical sodium-chloride water type, and March 2024 sample had an unusually high measurement of alkalinity such that the water type was sodium–[chloride alkalinity].[6] The leachate is characterized as a [sodium calcium magnesium]–sulfate water type.

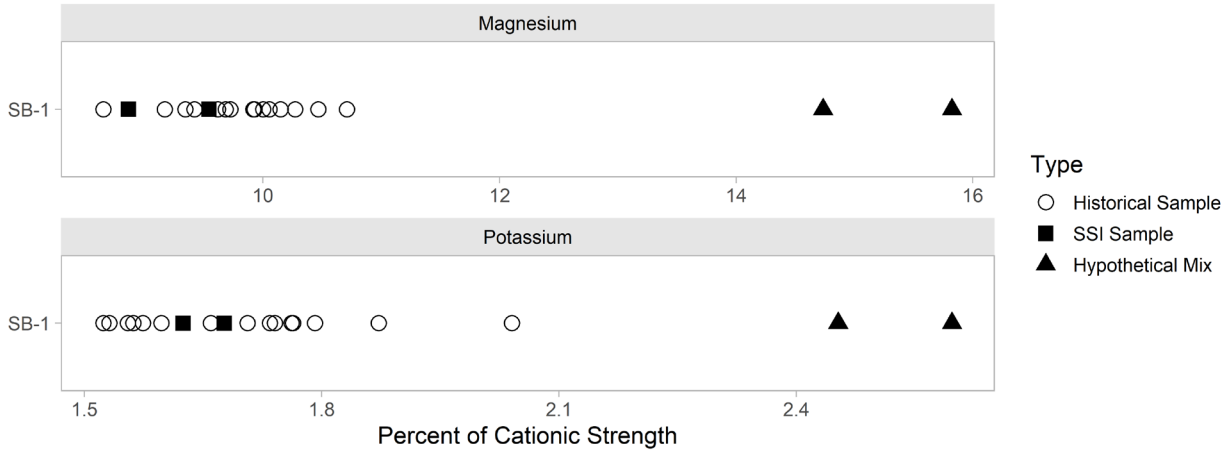
Calculated, hypothetical mixes of background (pre-SSI) samples and a leachate sample are also shown in Figure 3. The major ion chemistry for the "mix" samples are based on the SB-1 November 2020 background sample, which had relatively low TDS, and the April 2022 leachate sample, which had relatively high TDS. The ratio of background sample to leachate sample was adjusted so that the TDS concentration of the "mix" sample is equal to the TDS concentration for the SB-1 November 2023 and March 2024 SSI samples. The "mix" samples represent hypothetical SSI groundwater samples if the increased TDS in SSI samples was caused by leachate impacts.

Sulfate is the predominant major anion in leachate and is not a predominant major anion in Site groundwater, so the hypothetical mix sample shows increased sulfate levels over the background groundwater samples. Because sulfate levels at SB-1, including the SSI samples, are consistently low and are not similar to the sulfate levels in the hypothetical mix samples, these data indicate the calcium and sulfate SSIs are not sourced from CCR leachate impacts to groundwater.

For cationic signatures, the leachate has more magnesium and potassium than Site groundwater. The magnesium and the potassium levels for historical data, the SSI data, and the hypothetical mix samples are shown in Exhibit 4. The SSI data is consistent with historical data and has overall lower magnesium and potassium levels. This pattern in the SSI data is not consistent with the mix samples, which show higher magnesium and potassium levels.

[6] The laboratory confirmed quality control was acceptable for the March 2024 alkalinity analysis. However, the alkalinity measure of 170,000 µg/L was well outside the typical range of <10,000 to 30,000 µg/L alkalinity (as $CaCO_3$) and the calculated charge balance for the sample was about -15% (compared to typical balance of 0-5%). The unusual value and the negative, unbalanced charge indicate the March 2024 high alkalinity measurement is likely erroneous and not representative of groundwater. Alkalinity is relatively low in leachate and is not an indicator of leachate impacts.

Exhibit 4: Magnesium and Potassium Signatures



Based on the contrasting ionic signatures between the hypothetical mix samples and the SSI samples, the mixing model results are not indicative of impacts from leachate.

CLOSING

Based on our understanding of the information presented herein, including the Site characteristics, natural variation of regional groundwater chemistry, and groundwater monitoring data, the November 2023 and March 2024 SB-1 calcium and sulfate SSIs are not sourced from the CCR unit.

Thank you for the opportunity to be of service to GSP Merrimack LLC. We look forward to continuing to work with you on this project.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Harrison R. Roakes, PE
Senior Project Manager

Julie S. Scott, TURP
Senior Vice President

HRR/JSS: hrr

Encl. Table 1 – Groundwater Analytical Results Summary
Table 2 – Groundwater Level Measurements Summary
Figure 1 – Locus Plan
Figure 2 – Facility Plan
Figure 3 – SB-1 Major Ion Signature
Attachment A – Qualified Professional Engineer Certification
Attachment B – Limitations

P:\2000s\2025.15\Source Files\202409 ASD\202409 ASD.docx

Tables

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

Location	Date	Metals															Miscellaneous Parameters							
		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 ‡	5 ‡	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 c							12,000																
	4/9/2018					67		12,000									55,000	<100	10,000	160,000	5.90			
	7/25/2018 c							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			
	2/4/2021 c							11,000									78,000		11,000	150,000	5.12			
	4/28/2021					78		14,000									62,000	<100	11,000	180,000	5.42			
	9/14/2021 c					58		13,000									69,000	<100	11,000	210,000	6.21			
	11/15/2021					<50		14,000									93,000	<100	9,600	220,000	4.99			
	4/11/2022					81		16,000									92,000	<100	12,000	240,000	5.75			
	11/14/2022					79		13,000									70,000	<100	15,000	190,000	5.36			
	2/13/2023 c							12,000									79,000		16,000	180,000	5.42			
	4/27/2023					130		18,000									79,000	<100	17,000	180,000	5.53			
	8/17/2023					83		19,000									92,000		16,000	250,000	5.70			
	11/16/2023					92		17,000									100,000	<100	17,000	260,000	5.32			
	3/7/2024 c					110		20,000									86,000		21,000	230,000	5.58			
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 c							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 c					<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 c					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			
	2/4/2021 c					70		8,500									100,000		20,000	240,000	5.22			
	4/28/2021					65		11,000									100,000	<100	16,000	230,000	5.71			
	11/15/2021					<50		11,000									130,000	<100	12,000	290,000	5.16			
	4/11/2022					55		13,000									110,000	<100	20,000	250,000	5.68			
	11/14/2022					<50		14,000									150,000	<100	9,700	320,000	5.46			
	2/13/2023 c							10,000									140,000		11,000	250,000	5.49			
	4/27/2023					<50		6,600									99,000	<100	12,000	190,000	5.29			
	11/16/2023					<50		7,700									91,000	<100	15,000	210,000	5.66			
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 c							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 c					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 c							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			
	4/28/2021					<50		11,000									150,000	<100	6,700	290,000	5.58			
	11/15/2021					<50		12,000									200,000	<100	8,800	370,000	5.27			
	4/11/2022					<50		10,000									170,000	<100	9,400	330,000	5.80			
	11/14/2022					<50		6,800									110,000	<100	11,000	240,000	5.53			
	4/27/2023					<50		12,000									140,000	<100	7,900	250,000	5.03			
	11/16/2023					<50		6,300									110,000	<100	11,000	220,000	5.65			

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

Location	Date	Metals															Miscellaneous Parameters							
		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 ‡	5 ‡	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 c							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 c					<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			
	2/4/2021 c					< 50		11,000									180,000		6,700	320,000	5.32			
	4/28/2021					<50		14,000									240,000	<100	5,900	410,000	5.31			
	11/15/2021					<50		11,000									200,000	<100	7,900	370,000	5.02			
	4/11/2022					<50		9,800									190,000	<100	9,700	360,000	5.47			
	11/14/2022					<50		7,700									150,000	<100	8,200	310,000	5.55			
	4/27/2023					<50		14,000									210,000	<100	6,200	430,000	5.01			
	11/16/2023					<50		3,900									94,000	<100	11,000	190,000	5.68			
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 c							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	5.10			
	2/4/2021 c							7,900									34,000		6,000	95,000	5.30			
	4/28/2021					<50		3,300									4,000	<100	7,100	42,000	5.37			
	11/15/2021					<50		3,400									9,300	<100	16,000	64,000	5.55			
	4/11/2022					<50		4,400									12,000	<100	9,600	44,000	5.76			
	11/14/2022					<50		5,600									10,000	<100	18,000	72,000	5.74			
	2/13/2023 c							6,300									22,000		11,000	53,000	5.62			
	4/27/2023					<50		5,500									6,500	<100	7,400	59,000	5.12			
	11/16/2023					<50		4,900									18,000	<100	22,000	91,000	5.65			

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, May 2020, January 2021, and July 2021 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 August 12, 2024). 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 typically applied to field-filtered samples (i.e., dissolved analytes) for overburden monitoring wells.
"NA" indicates the RCMP lists the value as not applicable.
"NS" indicates the analyte is not listed in the RCMP or MCL list.
"c" indicates sample rounds collected as part of the retesting program for identifying statistically significant increases (SSIs).

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

Date	Depths and elevations in feet.															Inferred General Groundwater Flow Rate (feet/day)	Inferred General Groundwater Flow Direction
	SB-1			SB-4			SB-6			SB-13			SB-14				
	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
Feb-21	240.85	33.85	207.00	274.26	67.36	206.90	–	–	–	219.86	12.12	207.74	242.70	34.88	207.82	–	–
Apr-21	240.85	33.37	207.48	274.26	66.88	207.38	268.77	61.31	207.46	219.86	11.43	208.43	242.70	34.38	208.32	0.5 - 2.4	Northeast
Sep-21	240.85	31.11	209.74	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nov-21	240.85	31.65	209.20	274.26	65.17	209.09	268.77	59.72	209.05	219.86	10.04	209.82	242.70	32.78	209.92	0.4 - 1.9	Northeast
Apr-22	240.85	31.10	209.75	274.26	64.61	209.65	268.77	59.12	209.65	219.86	9.22	210.64	242.70	32.05	210.65	0.5 - 2.5	Northeast
Nov-22	240.85	35.06	205.79	274.26	68.62	205.64	268.77	63.27	205.50	219.86	13.80	206.06	242.70	36.46	206.24	0.3 - 1.4	East-Northeast
Feb-23	240.85	32.98	207.87	274.26	66.50	207.76	–	–	–	–	–	–	242.70	33.99	208.71	–	–
Apr-23	240.85	31.02	209.83	274.26	64.51	209.75	268.77	59.08	209.69	219.86	8.94	210.92	242.70	31.94	210.76	0.6 - 3.0	Northeast
Aug-23	240.85	30.47	210.38	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nov-23	240.85	32.37	208.48	274.26	65.80	208.46	268.77	60.44	208.33	219.86	10.85	209.01	242.70	33.51	209.19	0.4 - 1.8	Northeast
Mar-24	240.85	30.55	210.30	–	–	–	–	–	–	–	–	–	–	–	–	–	–

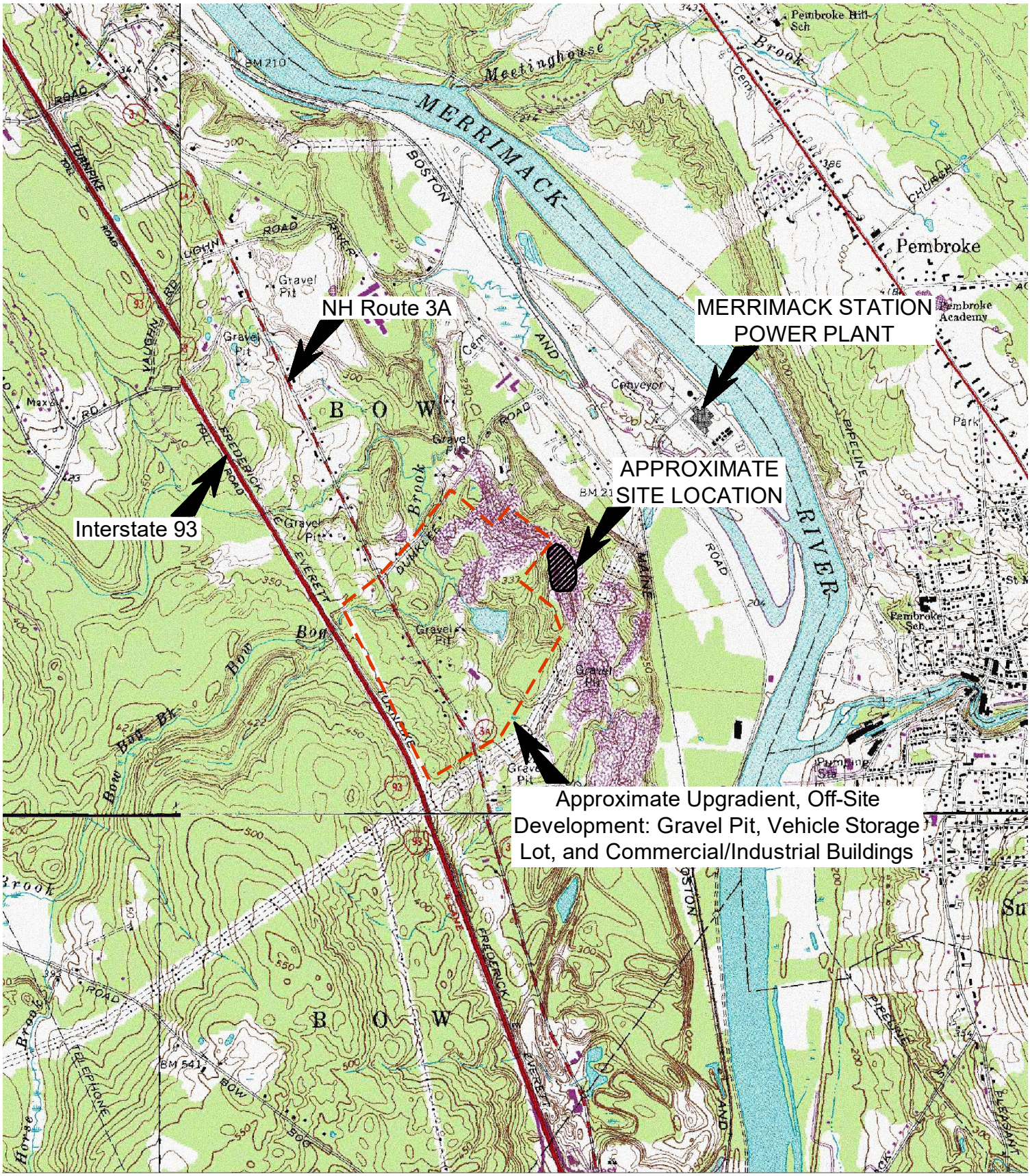
Notes:

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



N
W E
S

NOTES:

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

Drawn By: D. Dombrowsky
Designed By: H. Roakes
Reviewed By: J. Scott
Project No: 2025.15
Date: August 2024

1000 0 2000 Feet

SANBORN HEAD

Figure 1
Locus Plan

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Figure 2

Facility Plan

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Drawn By: D. Dombrowsky
Designed By: H. Roakes
Reviewed By: J. Scott
Project No: 2025.15
Date: August 2024

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

SB-4
SB-6
SB-1
SB-13
SB-14

MERRIMACK STATION
LINED COAL ASH
LANDFILL

LEACHATE
COLLECTION TANKS

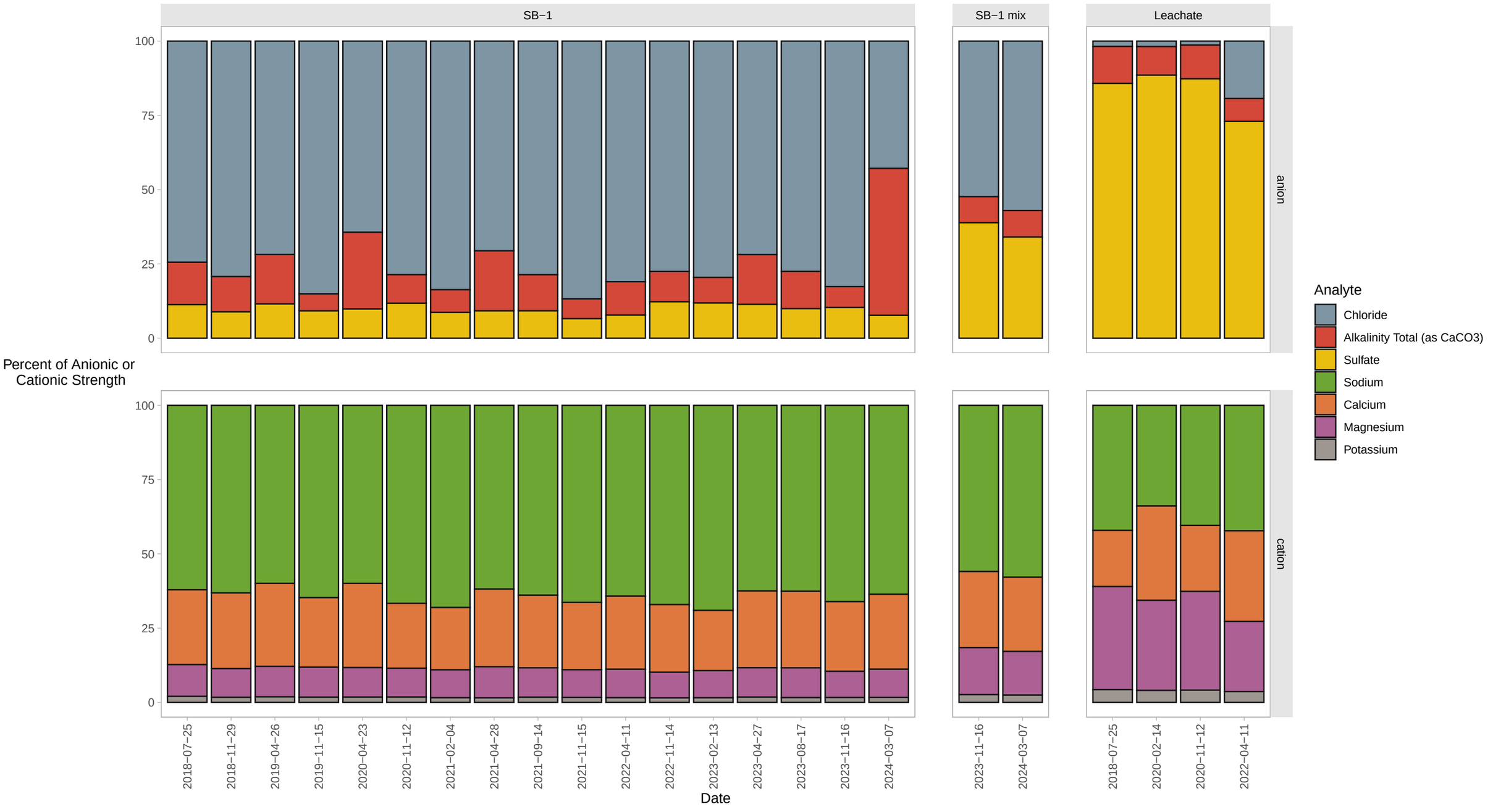
150' 75' 0 150' 300' Feet

SANBORN HEAD

File:P:\2000s\2025.14\Graphics Files\CAD\CCR Report JAN24\CCR Facility Plan Fig.dwg Plot Date: 1-8-24 PDF project and date update: HRR, 8/11/2024

Figure 3 − SB−1 Major Ion Signature

Samples With Project−Specific Major Ion List Analyzed



Notes:

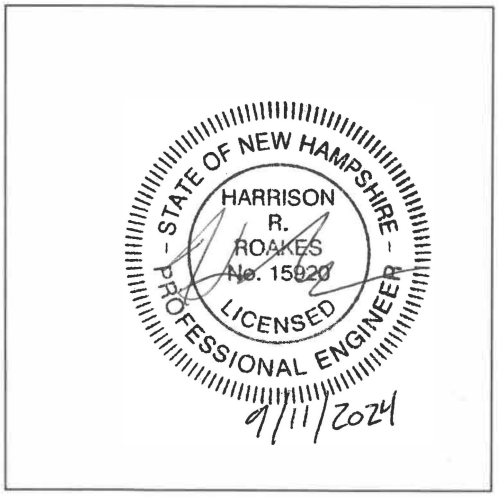
Only samples with analysis of project−specific major ions are plotted.
The hypothetical mix sample is based on the SSI sample, the selected background sample, and the April 11, 2022, leachate sample.
See text for additional assumptions and details.

Attachment A

Qualified Professional Engineer Certification

ATTACHMENT A
QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I certify that the information in this alternative source demonstration (ASD) report, dated September 11, 2024 (the "Report"), is accurate, subject to the assumptions and limitations contained within the Report. The ASD report was prepared by Sanborn, Head & Associates, Inc. for the Merrimack Station Coal Ash Landfill site located in Bow, New Hampshire.



Harrison R. Roakes
Printed Name of Licensed Professional Engineer

Signature

15920	New Hampshire	9/11/2024
License Number	Licensing State	Date

Attachment B

Limitations

ATTACHMENT B
LIMITATIONS

1. The conclusions and recommendations described in this Report are based in part on the data obtained from a limited number of samples from widely-spaced locations. The sample results indicate conditions only at the specific location and time. They do not necessarily reflect variations that may exist between or within such locations, and the nature and extent of variations between or within these locations may not become evident until further investigation 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, then it will be necessary to re-evaluate the conclusions of this Report.

2. Water level measurements were made at monitoring locations at times and under conditions stated within the Report. Fluctuations in water levels may occur due to seasonal or other variations in precipitation, temperature, runoff, pumping, flooding, and other factors.

3. Quantitative laboratory analyses were performed as noted within the Report. Additional analytes not searched for during the current study may be present at the site. Sanborn Head relied upon the data provided by the analytical laboratory and did not perform an independent evaluation of the reliability of these data. Moreover, variations in the types and concentrations of analytes and variations in their distributions may occur due to the passage of time, water table fluctuations, precipitation and 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 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, hydrogeologic information, or other relevant 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 and engineering practices. No warranty, express or implied, is made.

Appendix C

Laboratory Reports

Eastern Analytical, Inc.
professional laboratory and drilling services

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

Laboratory Report for:

Eastern Analytical, Inc. ID: 275045
Client Identification: Merrimack Station - Coal Ash LF
Date Received: 3/7/2024

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

The following standard abbreviations and conventions apply to all EAI reports:
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Certifications:
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), New York (12072) and West Virginia (9910C). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:
- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992
- ASTM International

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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 — Date 3.20.24

SAMPLE CONDITIONS PAGE

EAI ID#: **275045**

Client: **Granite Shore Power**

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

Temperature upon receipt (°C): 1.6 **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)
275045.01	SB-1	3/7/24	3/7/24	09:19	aqueous		Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

Unless otherwise noted:

- *Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.*
- *Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.*
- *Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.*
- *Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.*

LABORATORY REPORT

EAI ID#: **275045**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 275045.01
Matrix: aqueous
Date Sampled: 3/7/24
Date Received: 3/7/24

				Analysis			
		RL	Units	Date Time	Method	Analyst
Sulfate	**21**	1	mg/L	3/08/24 4:00	300.0	ALS
Chloride	**86**	1	mg/L	3/08/24 4:00	300.0	ALS
Alkalinity Total (CaCO3)	**140**	1	mg/L	3/12/24 9:11	2320B-11	HMS
Solids Dissolved	**230**	10	mg/L	3/11/24 13:25	2540C-11	ABL

LABORATORY REPORT

EAI ID#: **275045**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 275045.01
Matrix: aqueous
Date Sampled: 3/7/24
Date Received: 3/7/24

		RL	Analytical Matrix	Units	Analysis Date	Method	Analyst
Boron	**0.11**	0.05	AqTot	mg/L	3/12/24	200.8	DS
Calcium	**20**	0.05	AqTot	mg/L	3/12/24	200.8	DS
Magnesium	**4.6**	0.05	AqTot	mg/L	3/12/24	200.8	DS
Potassium	**2.6**	0.05	AqTot	mg/L	3/12/24	200.8	DS
Sodium	**58**	0.5	AqTot	mg/L	3/12/24	200.8	DS

LABORATORY REPORT

EAI ID#: **275045**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 275045.01

Matrix: aqueous

Date Sampled: 3/7/24

		Units	Date of Analysis	Method	Analyst
Field pH	**5.58**	SU	3/7/24	SM4500	TNC

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

275045

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
SB-1	3/7/24 0919	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 $Na_2S_2O_3$ H3PO4 Trizma (ICE)

aClientID Merrimack Station - Coal Ash
nProjectID 3949 **nYearMonth** 2024.03
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# MK-00001015
Quote# –
Temperature 1.6 °C
Ice: Y☐ N☐

Samples Collected by: EAI FS-TC

Relinquished by	Date/Time	Received by
AT Cole	3/7/24 1100	

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc.
professional laboratory and drilling services

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

Laboratory Report for:

Eastern Analytical, Inc. ID: 277104
Client Identification: Merrimack Station - Coal Ash LF
Date Received: 4/19/2024

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

The following standard abbreviations and conventions apply to all EAI reports:
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Certifications:
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), New York (12072) and West Virginia (9910C). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:
- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992
- ASTM International

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Lorraine Olashaw 5.2.24

Lorraine Olashaw, Lab Director Date

SAMPLE CONDITIONS PAGE

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Temperature upon receipt (°C): 2.4 **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)
277104.01	SB-1	4/19/24	4/19/24	10:36	aqueous		Adheres to Sample Acceptance Policy
277104.02	SB-4	4/19/24	4/19/24	10:38	aqueous		Adheres to Sample Acceptance Policy
277104.03	SB-6	4/19/24	4/19/24	12:18	aqueous		Adheres to Sample Acceptance Policy
277104.04	SB-13	4/19/24	4/19/24	13:42	aqueous		Adheres to Sample Acceptance Policy
277104.05	SB-14	4/19/24	4/19/24	12:38	aqueous		Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

Unless otherwise noted:

- *Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.*
- *Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.*
- *Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.*
- *Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.*

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID:	277104.01
Matrix:	aqueous
Date Sampled:	4/19/24
Date Received:	4/19/24

				Analysis			
		RL	Units	Date	Time	Method	Analyst
Solids Dissolved	**230**	10	mg/L	4/24/24	9:50	2540C-11	MNT
Fluoride	< 0.1	0.1	mg/L	4/23/24	4:29	300.0	MNT
Sulfate	**18**	1	mg/L	4/23/24	4:29	300.0	MNT
Chloride	**110**	10	mg/L	4/23/24	9:29	300.0	MNT
Alkalinity Total (CaCO3)	**17**	1	mg/L	4/22/24	7:27	2320B-11	AMB

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID:	SB-4	SB-6	SB-13						
Lab Sample ID:	277104.02	277104.03	277104.04						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	4/19/24	4/19/24	4/19/24						
Date Received:	4/19/24	4/19/24	4/19/24			Analysis			
				RL	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**230**	**240**	**310**	10	mg/L	4/24/24	9:50	2540C-11	MNT
Fluoride	< 0.1	< 0.1	< 0.1	0.1	mg/L	4/23/24	4:44	300.0	MNT
Sulfate	**11**	**7.9**	**6.4**	1	mg/L	4/23/24	4:44	300.0	MNT
Chloride	**120**	**110**	**160**	10	mg/L	4/23/24	9:44	300.0	MNT
Alkalinity Total (CaCO3)	**15**	**13**	**11**	1	mg/L	4/22/24	7:27	2320B-11	AMB

Sample ID:	SB-14								
Lab Sample ID:	277104.05								
Matrix:	aqueous								
Date Sampled:	4/19/24					Analysis			
Date Received:	4/19/24			**RL**	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**49**			10	mg/L	4/24/24	9:50	2540C-11	MNT
Fluoride	< 0.1			0.1	mg/L	4/23/24	5:41	300.0	MNT
Sulfate	**14**			1	mg/L	4/23/24	5:41	300.0	MNT
Chloride	**9.8**			1	mg/L	4/23/24	5:41	300.0	MNT
Alkalinity Total (CaCO3)	**11**			1	mg/L	4/22/24	7:27	2320B-11	AMB

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 277104.01
Matrix: aqueous
Date Sampled: 4/19/24
Date Received: 4/19/24

		RL	Analytical Matrix	Units	Analysis Date	Method	Analyst
Boron	**0.073**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Calcium	**16**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Magnesium	**3.8**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Potassium	**2.1**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Sodium	**65**	0.5	AqTot	mg/L	4/24/24	200.8	DS

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID:	SB-4	SB-6	SB-13						
Lab Sample ID:	277104.02	277104.03	277104.04						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	4/19/24	4/19/24	4/19/24						
Date Received:	4/19/24	4/19/24	4/19/24	**RL**	**Analytical Matrix**	**Units**	**Analysis Date**	**Method**	**Analyst**
Boron	< 0.05	< 0.05	< 0.05	0.05	AqTot	mg/L	4/24/24	200.8	DS
Calcium	**8.9**	**8.3**	**9.3**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Magnesium	**2.3**	**2.1**	**2.2**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Potassium	**1.9**	**1.7**	**1.8**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Sodium	**80**	**79**	**110**	0.5	AqTot	mg/L	4/24/24	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	277104.05							
Matrix:	aqueous							
Date Sampled:	4/19/24							
Date Received:	4/19/24	**RL**	**Analytical Matrix**	**Units**	**Analysis Date**	**Method**	**Analyst**
Boron	< 0.05	0.05	AqTot	mg/L	4/24/24	200.8	DS
Calcium	**3.9**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Magnesium	**1.1**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Potassium	**0.82**	0.05	AqTot	mg/L	4/24/24	200.8	DS
Sodium	**13**	0.5	AqTot	mg/L	4/24/24	200.8	DS

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID:	SB-1
Lab Sample ID:	277104.01
Matrix:	aqueous
Date Sampled:	4/19/24

		Units	Date of Analysis	Method	Analyst
Field pH	**5.55**	SU	4/19/24	SM4500	TNC

LABORATORY REPORT

EAI ID#: **277104**

Client: **Granite Shore Power**

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

Sample ID:	SB-4	SB-6	SB-13	SB-14				
Lab Sample ID:	277104.02	277104.03	277104.04	277104.05				
Matrix:	aqueous	aqueous	aqueous	aqueous				
Date Sampled:	4/19/24	4/19/24	4/19/24	4/19/24				
					Units	**Date of Analysis**	**Method**	**Analyst**
Field pH	**5.43**	**5.44**	**5.24**	**5.36**	SU	4/19/24	SM4500	AJG

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

277104

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
SB-1	4/19/24 1036	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-4	4/19/24 1038	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-6	4/19/24 1218	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-13	4/19/24 1342	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-14	4/19/24 1238	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					

aClientID Merrimack Station - Coal Ash
nProjectID 3949 **nYearMonth** 2024.04
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# MK-066015
Quote# —

Ice: Y ☒ N ☐
Temperature 2.4 °C

Samples Collected by: EAI FS-TC, AG

Relinquished by	Date/Time	Received by
	4/19/24 1500	
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc.

professional laboratory and drilling services

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

Laboratory Report for:

Eastern Analytical, Inc. ID:	286020
Client Identification:	Merrimack Station - Coal Ash LF
Date Received:	9/20/2024
Report revision/reissue:	Revision, replaces report dated 10/8/2024
Revision information:	Revised to include Wet Chem data.

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Certifications:
Eastern Analytical maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072) and Pennsylvania (68-06263). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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 — Date: 10.9.24

SAMPLE CONDITIONS PAGE

EAI ID#: **286020**

Client: **Granite Shore Power**

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

Temperature upon receipt (°C): 5.7 **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)
286020.01	SB-1	9/20/24	9/20/24 12:51	aqueous		Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

Unless otherwise noted:

- *Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.*
- *Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.*
- *Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.*
- *Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.*

LABORATORY REPORT

EAI ID#: **286020**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 286020.01

Matrix: aqueous

Date Sampled: 9/20/24

Date Received: 9/20/24

				Analysis			
		RL	Units	Date	Time	Method	Analyst
Solids Dissolved	**190**	10	mg/L	9/23/24	16:15	2540C-11	SRG
Sulfate	**25**	1	mg/L	9/23/24	18:21	300.0	ALS
Chloride	**73**	1	mg/L	9/23/24	18:21	300.0	ALS
Alkalinity Total (CaCO3)	**13**	1	mg/L	9/24/24	11:37	2320B-11	AMB

LABORATORY REPORT

EAI ID#: **286020**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 286020.01
Matrix: aqueous
Date Sampled: 9/20/24
Date Received: 9/20/24

		RL	Analytical Matrix	Units	Analysis Date	Method	Analyst
Boron	**0.12**	0.05	AqTot	mg/L	9/24/24	200.8	DS
Calcium	**12**	0.05	AqTot	mg/L	9/24/24	200.8	DS
Magnesium	**3.1**	0.05	AqTot	mg/L	9/24/24	200.8	DS
Potassium	**1.8**	0.05	AqTot	mg/L	9/24/24	200.8	DS
Sodium	**51**	0.5	AqTot	mg/L	9/24/24	200.8	DS

LABORATORY REPORT

EAI ID#: **286020**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 286020.01

Matrix: aqueous

Date Sampled: 9/20/24

		Units	Date of Analysis	Method	Analyst
Field pH	**5.40**	SU	9/20/24	SM4500	TNC

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

286020

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
SB-1	9/20/24 1251	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 $Na_2S_2O_3$ H3PO4 Trizma (ICE)

aClientID Merrimack Station - Coal Ash
nProjectID 3949 **nYearMonth** 2024.09
Client (Pro Mgr) Allan Palmer
Customer Granite Shore Power
Address 431 River Road
City Bow **NH** 03304
Phone 603-230-7997
Fax

Results Needed by: Preferred date _____
Notes about project

ReportingOptions
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD email

PO# HK-000015
Quote# —
Ice: Y ☐ N ☐
Temperature 5.7 °C

Samples Collected by: TC

Relinquished by	Date/Time	Received by
[signature]	9/20/24 1400	[signature]

Relinquished by	Date/Time	Received by

eurofins | Environment Testing Eastern Analytical

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

Laboratory Report for:

Eastern Analytical, Inc. ID: 290112
Client Identification: Merrimack Station - Coal Ash LF
Date Received: 11/22/2024

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

The following standard abbreviations and conventions apply to all EAI reports:
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Certifications:
Eastern Analytical maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072) and Pennsylvania (68-06263). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:
- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992
- ASTM International

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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 — Date 12·16·24

SAMPLE CONDITIONS PAGE

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Temperature upon receipt (°C): 2.5 **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)
290112.01	SB-1	11/22/24	11/22/24 13:50	aqueous		Adheres to Sample Acceptance Policy
290112.02	SB-4	11/22/24	11/22/24 09:39	aqueous		Adheres to Sample Acceptance Policy
290112.03	SB-6	11/22/24	11/22/24 11:40	aqueous		Adheres to Sample Acceptance Policy
290112.04	SB-13	11/22/24	11/22/24 09:53	aqueous		Adheres to Sample Acceptance Policy
290112.05	SB-14	11/22/24	11/22/24 11:50	aqueous		Adheres to Sample Acceptance Policy

All results contained in this report relate only to the above listed samples.

Unless otherwise noted:

- *Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.*
- *Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.*
- *Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.*
- *Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.*

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 290112.01

Matrix: aqueous

Date Sampled: 11/22/24

Date Received: 11/22/24

				Analysis			
		RL	Units	Date	Time	Method	Analyst
Solids Dissolved	**160**	10	mg/L	11/25/24	15:55	2540C-11	SRG
Fluoride	< 0.1	0.1	mg/L	11/26/24	9:17	300.0	SRG
Sulfate	**28**	1	mg/L	11/26/24	9:17	300.0	SRG
Chloride	**61**	1	mg/L	11/26/24	9:17	300.0	SRG
Alkalinity Total (CaCO3)	**11**	1	mg/L	11/27/24	12:54	2320B-11	AMB

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID:	SB-4
Lab Sample ID:	290112.02
Matrix:	aqueous
Date Sampled:	11/22/24
Date Received:	11/22/24

			Analysis			
	RL	Units	Date	Time	Method	Analyst
Solids Dissolved	10	mg/L	11/25/24	15:55	2540C-11	SRG
Fluoride	0.1	mg/L	11/26/24	10:58	300.0	SRG
Sulfate	1	mg/L	11/26/24	10:58	300.0	SRG
Chloride	10	mg/L	11/26/24	11:12	300.0	SRG
Alkalinity Total (CaCO3)	1	mg/L	11/27/24	12:54	2320B-11	AMB

Sample ID:	SB-6	SB-13	SB-14
Lab Sample ID:	290112.03	290112.04	290112.05
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	11/22/24	11/22/24	11/22/24
Date Received:	11/22/24	11/22/24	11/22/24

				Analysis			
			RL	Units	Date	Time	Method	Analyst
Solids Dissolved	**130**	**150**	**64**	10	mg/L	11/25/24	15:55	2540C-11	SRG
Fluoride	< 0.1	< 0.1	< 0.1	0.1	mg/L	11/26/24	11:27	300.0	SRG
Sulfate	**12**	**12**	**19**	1	mg/L	11/26/24	11:27	300.0	SRG
Chloride	**66**	**70**	**6.2**	1	mg/L	11/26/24	11:27	300.0	SRG
Alkalinity Total (CaCO3)	**21**	**20**	**13**	1	mg/L	11/27/24	12:54	2320B-11	AMB

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 290112.01
Matrix: aqueous
Date Sampled: 11/22/24
Date Received: 11/22/24

		RL	Analytical Matrix	Units	Analysis Date	Method	Analyst
Boron	**0.096**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Calcium	**10**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Magnesium	**2.8**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Potassium	**1.6**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Sodium	**45**	0.5	AqTot	mg/L	11/27/24	200.8	DS

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID:	SB-4	SB-6	SB-13						
Lab Sample ID:	290112.02	290112.03	290112.04						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	11/22/24	11/22/24	11/22/24						
Date Received:	11/22/24	11/22/24	11/22/24	**RL**	**Analytical Matrix**	**Units**	**Analysis Date**	**Method**	**Analyst**
Boron	**0.050**	< 0.05	< 0.05	0.05	AqTot	mg/L	11/27/24	200.8	DS
Calcium	**8.7**	**4.3**	**3.4**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Magnesium	**2.3**	**1.1**	**0.79**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Potassium	**1.9**	**1.1**	**1.1**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Sodium	**79**	**54**	**60**	0.5	AqTot	mg/L	11/27/24	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	290112.05							
Matrix:	aqueous							
Date Sampled:	11/22/24							
Date Received:	11/22/24	**RL**	**Analytical Matrix**	**Units**	**Analysis Date**	**Method**	**Analyst**
Boron	< 0.05	0.05	AqTot	mg/L	11/27/24	200.8	DS
Calcium	**2.8**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Magnesium	**0.79**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Potassium	**0.63**	0.05	AqTot	mg/L	11/27/24	200.8	DS
Sodium	**16**	0.5	AqTot	mg/L	11/27/24	200.8	DS

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID: SB-1

Lab Sample ID: 290112.01

Matrix: aqueous

Date Sampled: 11/22/24

		Units	Date of Analysis	Method	Analyst
Field pH	**5.54**	SU	11/22/24	SM4500	TNC

LABORATORY REPORT

EAI ID#: **290112**

Client: **Granite Shore Power**

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

Sample ID:	SB-4	SB-6	SB-13	SB-14				
Lab Sample ID:	290112.02	290112.03	290112.04	290112.05				
Matrix:	aqueous	aqueous	aqueous	aqueous				
Date Sampled:	11/22/24	11/22/24	11/22/24	11/22/24	**Units**	**Date of Analysis**	**Method**	**Analyst**
Field pH	**5.83**	**5.73**	**5.92**	**6.03**	SU	11/22/24	SM4500	TNC

CHAIN-OF-CUSTODY RECORD

eurofins | Environment Testing Eas

290112

1/1

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
SB-1	11/22/24 1350	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-4	11/22/24 0939	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-6	11/22/24 1140	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-13	11/22/24 0953	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					
SB-14	11/22/24 1150	GW	Total Boron, Calcium, Magnesium, Potassium, Sodium, Fluoride, Chloride, Sulfate, Field pH, Total Dissolved Solids, Total Alkalinity		4
preservative: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ H3PO4 Trizma (ICE)					

aClientID Merrimack Station - Coal Ash
nProjectID 3949 **nYearMonth** 2024.11
Client (Pro Mgr) Allan Palmer
Customer Granite Shore Power
Address 431 River Road
City Bow **NH** 03304
Phone 603-230-7997
Fax

Results Needed by: Preferred date _____
Notes about projec

ReportingOptions
☒ HC ☐ NO FAX ☐ EDD Disk
☐ Fax ☐ No partial FAX ☒ EDD email

Ice: Y ☐ N ☐

PO# MK-0001015
Quote# _____
Temperature 2.5 °C

Samples Collected by: MG, TC

Relinquished by	Date/Time	Received by
[signature]	11/22/24 1530	HMS

Relinquished by	Date/Time	Received by