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2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

MERRIMACK STATION COAL ASH LANDFILL

Bow, New Hampshire

Prepared for Eversource Energy
File No. 2025.06
January 2018

SANBORN HEAD
Building Trust. Engineering Success.

Mr. Allan Palmer
Eversource Energy
431 River Road
Bow, New Hampshire 03304

January 26, 2018
File No. 2025.06

Re: 2018 Annual Groundwater Monitoring and Corrective Action Report
Merrimack Station Coal Ash Landfill
Bow, New Hampshire

Dear Allan:

Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this 2018 Annual Groundwater Monitoring and Corrective Action Report (Report) for the Merrimack Station Coal Ash Landfill site (Site) in Bow, New Hampshire, as required under 40 CFR Part 257.90(e) of the Standards for the Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments Rule. Groundwater monitoring at the Site was performed pursuant to 40 CFR Part 257.90 and this Report covers the reporting period from October 19, 2015 (40 CFR Part 257 effective date) through December 31, 2017.

REPORT REQUIREMENTS

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

- A map, aerial image, or diagram showing the CCR unit and the background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit (see Figures 1 and 2);
- Location of the monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- Monitoring data obtained under 40 CFR Parts 257.90 through 257.98, including:
  - the number of groundwater samples that were collected for analysis for each background and downgradient well (Table 1);
  - the dates the samples were collected (Table 1); and
  - whether the sample was required by the detection monitoring or assessment monitoring programs;
- 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); and

- Other information required to be included in the annual report as specified in 40 CFR Parts 257.90 through 257.98, which includes;
  - 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 CCR unit, each time groundwater is sampled (40 CFR Part 257.93[c]) (Table 2); and
  - Written demonstrations prepared by a qualified professional engineer demonstrating that a source other than the CCR unit caused the statistically significant increase (SSI) over background levels for a constituent or that the SSI resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (40 CFR Part 257.94[e][2]) (Attachment A).

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 receives coal ash from the nearby Merrimack Station electric power generation facility. A portion of the landfill was filled to final grade and was capped with a final cover system. A Locus Plan for the Site is provided as Figure 1 and the locations of the monitoring wells in relation to the landfill are indicated on the Facility Plan, Figure 2.

The groundwater quality at the Site has been routinely monitored for the past 30 years under New Hampshire Department of Environmental Services (NHDES) regulations. The current groundwater monitoring program, as prescribed by the NHDES Groundwater Release Detection Permit No. GWP-198400065-B-006, dated March 16, 2017, includes the collection of static groundwater level measurements 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. The monitoring program and associated network have been generally consistent since the mid-1990s and the monitoring wells were installed between 1981 and 1993.

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

SUMMARY OF GROUNDWATER MONITORING

As specified in 40 CFR Part 257.94(b), a detection monitoring program was initiated in October 2015, to include obtaining a minimum of eight independent samples for each background and downgradient well for the constituents listed in Appendix III and IV of 40 CFR Part 257 by October 17, 2017. A Sampling and Analysis Plan (Sanborn Head, last revised on October 7, 2016) was prepared to address the sampling and analysis requirements of 40 CFR part 257.93. Groundwater samples were collected by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire using low-flow sampling techniques, based on the U.S.

Environmental Protection Agency (USEPA) Low Stress (Low Flow) Standard Operating Procedure, revised January 19, 2010. The samples were unfiltered and analyzed by EAI for the parameters identified in Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids) and Appendix IV (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 and 228 combined). Monitoring well SB-13 is considered the upgradient/background monitoring well. The other monitoring wells are downgradient of, or sidegradient to, the landfill.

The initial eight independent samples were taken for both background and downgradient wells for the constituents listed in Appendix III and IV. Starting in November 2017, semi-annual detection monitoring, as specified in 40 CFR Part 257.94, was performed at the five wells for Appendix III constituents only. As described below, the statistical analysis of the groundwater monitoring data during the reporting period indicated that a transition between monitoring programs (i.e., to assessment monitoring) was not required.

Monitoring data, including the number of samples and sampling dates are summarized in Table 2. Analytical laboratory reports for all groundwater monitoring data are also provided in Attachment B. The depth to groundwater at each well was measured and reported by EAI, and are summarized on Table 2 as well as the inferred general groundwater flow direction.

SUMMARY OF STATISTICAL ANALYSIS

As required under 40 CFR Part 257.90(b)(iv), Sanborn Head evaluated groundwater monitoring data for an SSI over background levels for the constituents listed in Appendix III of 40 CFR Part 257 at the five monitoring wells. On October 16, 2017, Sanborn Head issued a Statistical Method Selection Certification, applicable to the statistical analysis completed on the groundwater analytical data collected through April 19, 2017. The certification is available in the Site's operating record. Future statistical analyses of additional groundwater monitoring data reviewed by Sanborn Head under 40 CFR Part 257.93 may result in a change to the statistical method used, and future certifications will need to be revised accordingly.

The "parametric analysis of variance" (parametric ANOVA) method specified in 40 CFR Part 257.93(f)(1) was selected for the interwell evaluation of the parameter mean values for the Site monitoring wells (i.e., SB-1, SB-4, SB-6, and SB-14) to the upgradient monitoring well (i.e., SB-13). Based on this parametric ANOVA, a SSI of the mean sulfate concentration was identified at the downgradient well SB-4 relative to the mean sulfate concentration at the background monitoring well SB-13 for the April 19, 2017 detection monitoring sampling event. As such, pursuant to 40 CFR Part 257.94(e)(2), within 90 days of detecting the SSI, Sanborn Head prepared a written demonstration that the SSI resulted from natural variation in groundwater quality. The Demonstration of Natural Variation in Groundwater Quality, dated October 16, 2017, is provided in Attachment A. No additional SSI's over background levels for other constituents were observed during the reporting period.

Detection monitoring semi-annual groundwater data collected on November 17, 2017 is included in Table 1; however, the statistical analysis is on-going. As stipulated in 40 CFR Part 257.93(h)(2), the Site has 90 days from completing the sampling and analysis to determine

whether there has been a SSI over background for any constituent at each monitoring well (i.e., by March 8, 2018).

CONCLUSION

We understand that Eversource will be responsible for placing this Report in the Site's operating record by January 31, 2018. The next annual Report will be due January 31, 2019 for the time period from January 1, 2018 through December 31, 2018. Should you require additional information, please contact Mr. Allan Palmer of Eversource at (603) 634-2439, or the undersigned at (603) 415-6126.

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

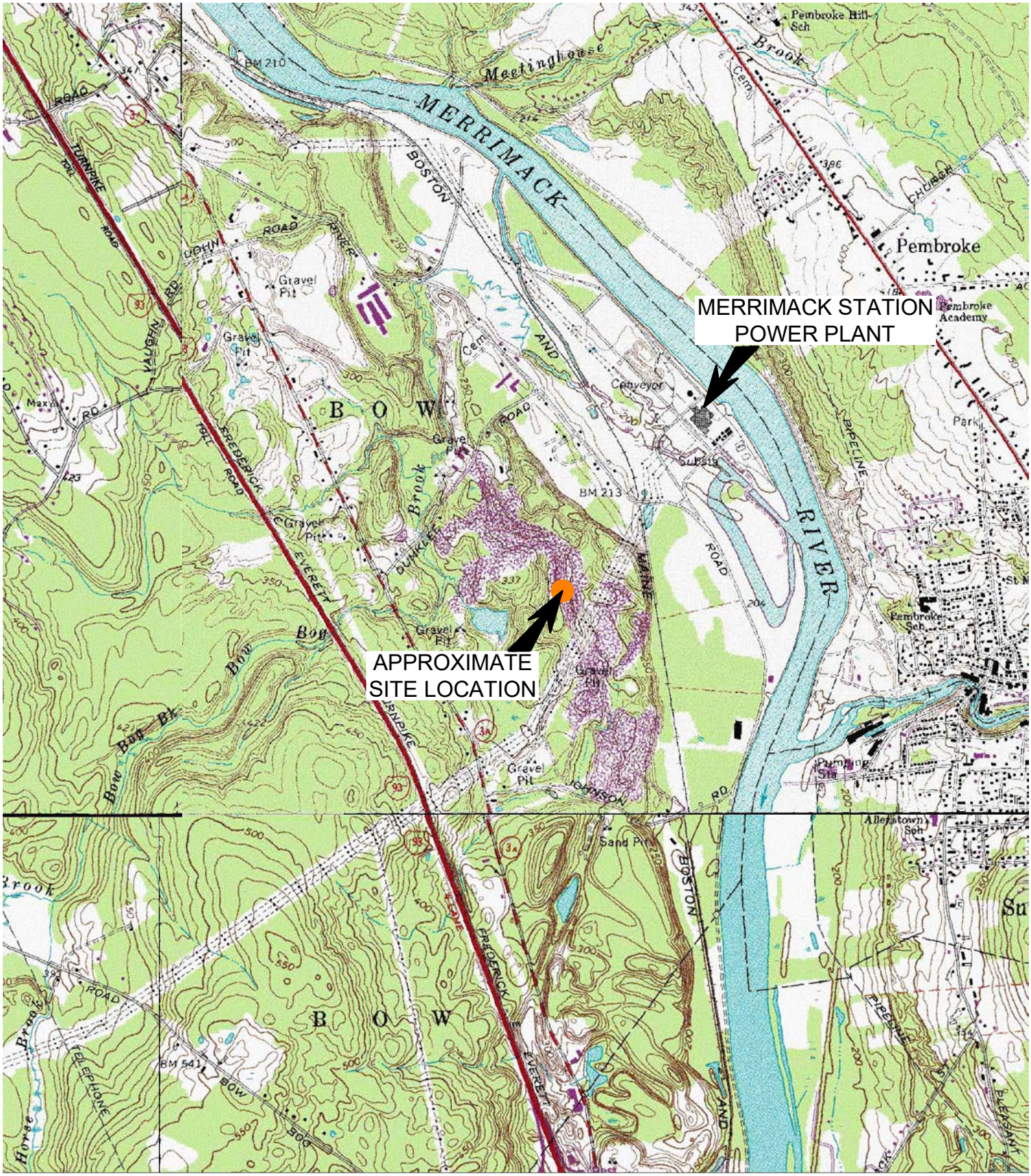
Lisa Damiano, P.E.
Project Manager

Eric S. Steinhauser, P.E., CPESC, CPSWQ
Principal

LLD/ESS: lld

Enclosures:
Figure 1 Locus Plan
Figure 2 Facility Plan
Table 1 Summary of Analytical Results- Groundwater
Table 2 Summary of Groundwater Level Measurements
Attachment A – Demonstration of Natural Variation in Groundwater Quality
Attachment B – Analytical Laboratory Reports

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: Damiano/Steinhauser
Project No: 2025.06
Date: January 2018

1000 0 2000 Feet

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Figure 1

Locus Plan

2018 Annual Groundwater Monitoring and Corrective Action Report

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

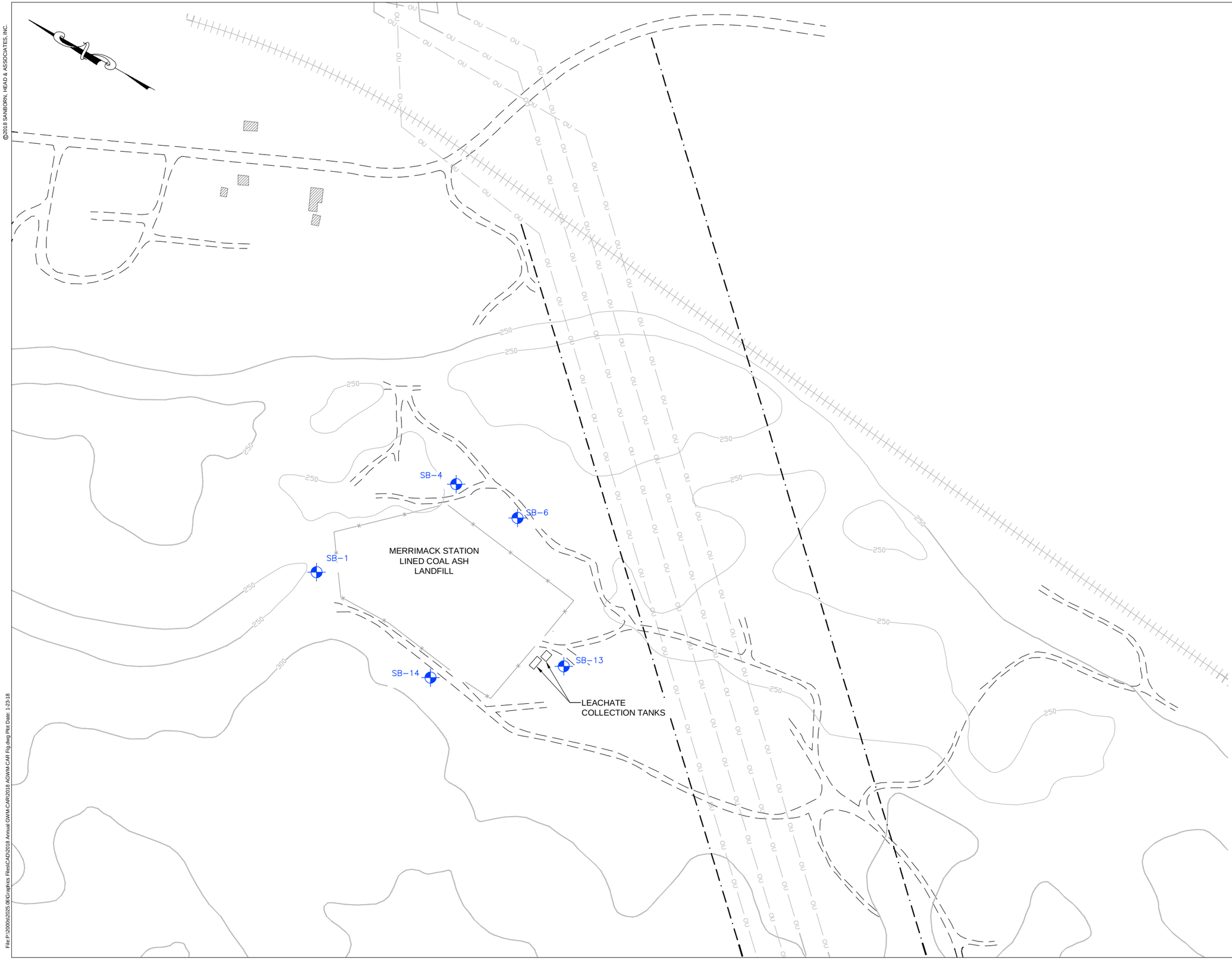

Figure 2

Facility Plan

2018 Annual Groundwater Monitoring and Corrective Action Report

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Drawn By: D. Dombrowsky
Designed By: H. Roakes
Reviewed By: L. Damiano/E. Steinhauser
Project No: 2025.06
Date: January 2018

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 only.

Legend

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

150' 75' 0 150' 300' Feet

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File:P:\2000s\2025.06\Graphics Files\CAD\2018 Annual GWM-CAR\2018 AQWM-CAR Fig.dwg Plot Date: 1-23-18

TABLES

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

Location	Date	Metals µg/L															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
GW-1		6 ‡	10 ‡	2,000 ‡	4 ‡	620 ‡	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	5.2	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	5.7	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	5.5	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	5.4	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	5.2	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	5.6	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	5.6	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	5.8	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	5.7			
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	5.5	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	5.3	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	5.6	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	5.3	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	5.7	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	5.7	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	5.8	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	5.7	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	5.8			
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	5.6	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	5.6	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	5.4	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	5.3	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	5.7	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	5.8	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	5.8	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	5.7	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	5.6			
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	5.3	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	5.5	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	5.5	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	5.3	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	5.4	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	5.1	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	5.7	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	5.6	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	5.8			
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	5.1	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	5.6	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	5.4	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	5.3	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	5.8	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	5.6	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	5.2	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	5.6	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	5.6			

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 general 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 2013 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 amendment). 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.

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

7. **Bold** values exceed the AGQS/GW-1 Groundwater Standard.
Italic values exceed the GW-2 Groundwater Standard.

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

Date	Depths and elevations in feet.																
	SB-1			SB-4			SB-6			SB-13			SB-14			Inferred General Groundwater Flow Rate (feet/day)	Inferred General Groundwater Flow Direction
	Reference Elevation	Depth to Water	Water Elevation	Reference Elevation	Depth to Water	Water Elevation	Reference Elevation	Depth to Water	Water Elevation	Reference Elevation	Depth to Water	Water Elevation	Reference Elevation	Depth to Water	Water Elevation		
Feb-16	240.85	33.82	207.03	274.26	67.36	206.90	268.77	61.84	206.93	219.86	11.83	208.03	242.70	34.88	207.82	0.5 - 2.7	Northeast
Apr-16	240.85	32.19	208.66	274.26	65.63	208.63	268.77	60.07	208.70	219.86	10.16	209.70	242.70	33.13	209.57	0.5 - 2.5	Northeast
Jun-16	240.85	31.84	209.01	274.26	66.24	208.02	268.77	60.80	207.97	219.86	11.11	208.75	242.70	33.93	208.77	0.4 - 1.9	East
Jul-16	240.85	33.88	206.97	274.26	67.30	206.96	268.77	62.07	206.70	219.86	12.41	207.45	242.70	35.10	207.60	0.4 - 1.9	Northeast
Aug-16	240.85	35.09	205.76	274.26	68.54	205.72	268.77	63.19	205.58	219.86	13.76	206.10	242.70	36.39	206.31	0.3 - 1.4	Northeast
Oct-16	240.85	36.20	204.65	274.26	69.68	204.58	268.77	64.42	204.35	219.86	13.92	205.94	242.70	37.58	205.12	0.8 - 3.9	North-Northeast
Nov-16	240.85	36.40	204.45	274.26	69.93	204.33	268.77	64.69	204.08	219.86	15.14	204.72	242.70	37.80	204.90	0.3 - 1.6	East-Northeast
Apr-17	240.85	32.27	208.58	274.26	65.82	208.44	268.77	60.04	208.73	219.86	9.58	210.28	242.70	32.99	209.71	0.8 - 3.8	North-Northeast
Nov-17	240.85	32.87	207.98	274.26	66.39	207.87	268.77	60.97	207.80	219.86	11.33	208.53	242.70	34.08	208.62	0.4 - 1.8	Northeast

Notes:

1. Reference elevations were surveyed by PSNH and provided to Sanborn Head.

2. Depths to water were obtained from laboratory reports and field sampling sheets prepared by Eastern Analytical, Inc.

3. 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.

4. 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 generally 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.

ATTACHMENT A

DEMONSTRATION OF NATURAL VARIATION IN GROUNDWATER QUALITY

SANBORN HEAD

Building Trust. Engineering Success.

Mr. Allan G. Palmer
Eversource Energy
Generation Field Office
431 River Road
Bow, NH 03304

October 16, 2017
File No. 2025.06

Re: Demonstration of Natural Variation in Groundwater Quality
Data collected through April 19, 2017
Merrimack Station Coal Ash Landfill
Bow, New Hampshire

Dear Allan:

Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this Demonstration of Natural Variation in Groundwater Quality (Natural Variation Demonstration) for the Merrimack Station Coal Ash Landfill (landfill) located in Bow, New Hampshire. This Demonstration was prepared in accordance with our August 25, 2017 Proposal for Ongoing Groundwater Compliance Services for the Coal Combustion Residual (CCR) Rules (40 CFR Part 257).

Based on the "parametric analysis of variance" (parametric ANOVA) performed by Sanborn Head (see Statistical Method Selection Certification (Statistics Certification), dated October 13, 2017), a statistically significant increase (SSI) of the mean sulfate concentration was identified at the downgradient well SB-4 relative to the mean sulfate concentration at the background monitoring well SB-13. As such, pursuant to 40 CFR Part 257.94(e)(2), within 90 days of detecting the 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 over background levels for a constituent; or (ii) the SSI resulted from either an error in sampling, analysis, or statistical evaluation; or natural variation in groundwater quality. Based on our understanding of the site characteristics and the natural variation in groundwater characteristics of the region, as discussed below, the SSI of the mean sulfate concentration at SB-4 is due to the natural variation in groundwater quality. Groundwater quality data are provided in Table 1 and monitoring well locations are indicated in Figure 1.

Sulfate occurs naturally in groundwater in the region through dissolution of sulfate-producing minerals (e.g., sulfide ores). The sulfate mean concentration of approximately 9.9 mg/L at SB-4 was within the range of sulfate concentrations measured in local and a regional USGS studies[1,2]. These studies reported sulfate concentrations in local stratified drift aquifers ranged from 4.6 mg/L to 14.0 mg/L, with a median of 8.05 mg/L, and sulfate concentrations in regional crystalline rock ranged from 0.31 mg/L to 68.48 mg/L, with a median of 13.42 mg/L. The sulfate concentrations reported in these studies are 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 USGS studies. Additionally, the sulfate

1 "Geohydrology and Water Quality of Stratified-Draft Aquifers in the Middle Merrimack River Basin, South-Central New Hampshire", prepared by U.S. Geological Survey and dated 1995.

2 "Quality of Water from Crystalline Rock Aquifers in New England, New Jersey, and New York, 1995-2007", prepared by U.S. Department of the Interior and U.S. Geological Survey and dated 2012.

concentrations at SB-4 were much less than the New Hampshire Ambient Groundwater Quality Standard (AGQS) for sulfate of 500 mg/L. The AGQSs are intended to be protective of groundwater as a source of drinking water.

Analysis of other groundwater quality parameters indicate spatial variation in groundwater at the site in multiple parameters, including calcium, chloride, and sulfate. For instance, a statistically significant *decrease* in mean sulfate and mean calcium concentrations was observed at site well SB-14. The variance in parameter concentrations at other wells indicate that the upgradient/background well SB-13 may not necessarily be representative of background for each constituent at each site well, and that changes in groundwater quality are attributed to spatial variation rather than the landfill.

Lastly, had the SSI of the sulfate mean concentration at SB-4 been a result of a potential release of leachate from the landfill, we would anticipate SSIs of other parameters. The Merrimack Station Coal Ash Landfill is a coal ash landfill, and boron, molybdenum, and lithium are generally good indicator parameters for coal ash management facilities[3]. Groundwater quality conditions at SB-4 and the other site wells did not indicate a release – there were no SSIs of boron, molybdenum, lithium, or other indicator parameters at the site.

Considering the information currently available, intrawell statistical methods (e.g., comparing to the wells own background values) should be considered for future analysis of sulfate concentrations at site well SB-4. This approach was not considered for the initial statistical analysis that identified the subject SSI because only the background values data set was collected at the time of analysis.

Based on our understanding of the information presented herein, including the site characteristics, the groundwater monitoring data at SB-4, and natural variation of regional groundwater quality, it is our opinion that the SSI in sulfate concentration at well SB-4 is due to natural variation in groundwater quality.

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

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

Harrison R. Roakes
Senior Project Engineer

Eric S. Steinhauser, P.E., CPESC, CPSWQ
Principal

HRR/LLD/AEA/ESS:hrr

Enclosures: Table 1 – Summary of Analytical Results - Groundwater
Figure 1 – Monitoring Well Location Plan

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[3] "Groundwater Quality Signatures for Assessing Potential Impacts from Coal Combustion Product Leachate," prepared by Electric Power Research Institute, dated October 2012.

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

Location	Date	Metals µg/L															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
GW-1		6 ‡	10 ‡	2,000 ‡	4 ‡	620 ‡	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	5.2	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	5.7	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	5.5	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	5.4	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	5.2	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	5.6	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	5.6	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	5.8	0.4 ±0.3	0.2 ±0.5	0.6 ±0.5
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	5.5	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	5.3	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	5.6	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	5.3	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	5.7	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	5.7	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	5.8	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	5.7	0.3 ±0.3	0.0 ±0.5	0.3 ±0.5
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	5.6	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	5.6	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	5.4	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	5.3	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	5.7	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	5.8	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	5.8	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	5.7	0.4 ±0.3	0.2 ±0.5	0.6 ±0.5
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	5.3	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	5.5	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	5.5	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	5.3	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	5.4	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	5.1	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	5.7	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	5.6	0.9 ±0.3	0.3 ±0.5	1.2 ±0.5
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	5.1	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	5.6	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	5.4	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	5.3	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	5.8	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	5.6	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	5.2	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	5.6	0.7 ±0.3	0.1 ±0.5	0.8 ±0.5

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 general 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), 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 2013 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 amendment). 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.

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

7. **Bold** values exceed the AGQS/GW-1 Groundwater Standard.
Italic values exceed the GW-2 Groundwater Standard.

SB-4
(209.87)

SB-6
(210.03)

APPROXIMATE
LOCATION OF
KETTLE HOLE

SB-1
(209.72)

MERRIMACK STATION
LINED COAL ASH
LANDFILL

SB-14
(210.99)

SB-13
(211.30)

LEACHATE
COLLECTION TANKS

210

211

Figure 1

Monitoring Well Location Plan

Merrimack Station
Coal Ash Landfill
Bow, New Hampshire

Drawn By: L. Teal
Designed By: L. Damiano/L. Teal
Reviewed By: N. Roy / R. Nahlik
Project No: 2025.03
Date: January 2016

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 site and site features shown should be considered approximate only.

3. Groundwater contours shown on this plan were developed based on groundwater level measurements in the monitoring wells made on April 30, 2014.

Legend

- SB-4 — Monitoring Well
- (210.5) — Groundwater Elevation Measured on April 30, 2014
- Right-Of-Way
- Fence
- OU — Overhead Utilities
- 250 — Elevation Contour
- 210 — Groundwater Contour (dashed where less constrained)

150' 75' 0 150' 300' Feet

SANBORN HEAD

File:P:\2000s\2025.03\Graphics Files\CAD\Monitring Well_locs.dwg Plot Date: 1-5-16

ATTACHMENT B

ANALYTICAL LABORATORY REPORTS

February 2016

SANBORN HEAD

Eastern Analytical, Inc.
professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 153300
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 2/25/2016

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director | 3.14.16 Date | 27 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **153300**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Temperature upon receipt (°C): 3.3 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
153300.01	SB-1	2/25/16	2/24/16	aqueous		Adheres to Sample Acceptance Policy
153300.02	SB-4	2/25/16	2/23/16	aqueous		Adheres to Sample Acceptance Policy
153300.03	SB-6	2/25/16	2/23/16	aqueous		Adheres to Sample Acceptance Policy
153300.04	SB-13	2/25/16	2/23/16	aqueous		Adheres to Sample Acceptance Policy
153300.05	SB-14	2/25/16	2/24/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **153300**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	153300.01	153300.02	153300.03	153300.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	2/24/16	2/23/16	2/23/16	2/23/16		Analysis			
Date Received:	2/25/16	2/25/16	2/25/16	2/25/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**96**	**210**	**170**	**270**	mg/L	02/29/16	16:10	2540C-97	SCW
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	03/08/16	11:44	300.0	KD
Sulfate	**8**	**9**	**10**	**6**	mg/L	03/08/16	11:44	300.0	KD
Chloride	**44**	**95**	**80**	**160**	mg/L	02/26/16	10:44	4500ClE-97	KD

Sample ID:	SB-14							
Lab Sample ID:	153300.05							
Matrix:	aqueous							
Date Sampled:	2/24/16		Analysis					
Date Received:	2/25/16	**Units**	**Date**	**Time**	**Method**	**Analyst**		
Solids Dissolved	**56**	mg/L	02/29/16	16:10	2540C-97	SCW		
Fluoride	< 0.1	mg/L	03/08/16	12:47	300.0	KD		
Sulfate	**4**	mg/L	03/08/16	12:47	300.0	KD		
Chloride	**16**	mg/L	02/26/16	11:07	4500ClE-97	KD		

LABORATORY REPORT

EAI ID#: **153300**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	153300.01	153300.02	153300.03	153300.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	2/24/16	2/23/16	2/23/16	2/23/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	2/25/16	2/25/16	2/25/16	2/25/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Barium	**0.014**	**0.014**	**0.009**	**0.017**	AqTot	mg/L	2/25/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Boron	**0.06**	< 0.05	< 0.05	< 0.05	AqTot	mg/L	2/25/16	200.8	DS
Calcium	**7.2**	**8.4**	**5.3**	**9.9**	AqTot	mg/L	2/25/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	2/25/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	2/25/16	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	153300.05							
Matrix:	aqueous							
Date Sampled:	2/24/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**		
Date Received:	2/25/16							
Antimony	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Barium	**0.003**	AqTot	mg/L	2/25/16	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Boron	< 0.05	AqTot	mg/L	2/25/16	200.8	DS		
Calcium	**6.1**	AqTot	mg/L	2/25/16	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Lead	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	2/25/16	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	2/25/16	200.8	DS		

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: March 11, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 153300
SB-1

PWS ID#
Sample Collection : 2-24-16/1500
Lab ID No: 16.1972
Lab Custody Date: 3-1-16/1050
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.6	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.2 ± 0.1	3-9-16/1651	EPA 903.1	0.2
4030	Radium-228	pCi/L	0.6 ± 0.6	3-8-16/1023	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: March 11, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 153300
SB-4

PWS ID#
Sample Collection : 2-23-16/1040
Lab ID No: 16.1973
Lab Custody Date: 3-1-16/1050
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.3 ± 0.6	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.3 ± 0.1	3-9-16/1651	EPA 903.1	0.2
4030	Radium-228	pCi/L	1.0 ± 0.6	3-8-16/1023	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: March 11, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 153300
SB-6

PWS ID#
Sample Collection : 2-23-16/1300
Lab ID No: 16.1974
Lab Custody Date: 3-1-16/1050
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.6 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.1 ± 0.07	3-9-16/1651	EPA 903.1	0.2
4030	Radium-228	pCi/L	0.5 ± 0.5	3-8-16/1023	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: March 11, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 153300
SB-13

PWS ID#
Sample Collection : 2-23-16/1515
Lab ID No: 16.1975
Lab Custody Date: 3-1-16/1050
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.9 ± 0.6	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.6 ± 0.1	3-10-16/1228	EPA 903.1	0.2
4030	Radium-228	pCi/L	0.3 ± 0.6	3-8-16/1023	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: March 11, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 153300
SB-14

PWS ID#
Sample Collection : 2-23-16/1245
Lab ID No: 16.1976
Lab Custody Date: 3-1-16/1050
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.2 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.2 ± 0.08	3-10-16/1228	EPA 903.1	0.2
4030	Radium-228	pCi/L	0.0 ± 0.5	3-8-16/1023	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# **153300**

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	2/24/2016 15:00	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-4	2/23/2016 10:40	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.1972-75
SB-6	2/23/2016 13:00	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-13	2/23/2016 15:15	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

3-1-16

EAI SRB# 153300 **Project State: NH**

Project ID: 164

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std.

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method
Please HOLD dissolved metals analyses

Eastern Analytical Inc. PO Number: 44150

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

2/25/16 1530 UPS
Relinquished by **Date/Time** **Received by**

3-1-16 1050
Relinquished by **Date/Time** **Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 153300

10

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	2/24/2016 12:45	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

16.1976

EAI SRB# 153300 **Project State: NH**

Project ID: 164

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date STD.

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Samples collected via Low Flow Method

Please HOLD dissolved metals analyses

Eastern Analytical Inc. PO Number: 44150

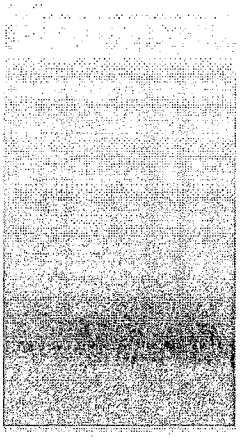
Please call prior to analyzing, if RUSH surcharges will be applied.

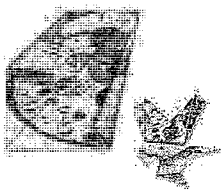
Samples Collected by:

Relinquished by	Date/Time	Received by
	2/25/16 1530	UPS
	3-2-16 1050	

Relinquished by **Date/Time** **Received by**

e-Hardcopy 2.0
Automated Report





Technical Report for

Eastern Analytical, Inc.

Eastern Analytical, Inc., NH

Proj ID 164 PO#44154 EAI SRB# 153300

SGS Accutest Job Number: MC44555

Sampling Dates: 02/23/16 - 02/24/16

Report to:

Eastern Analytical
25 Chenell Drive
Concord, NH 03301
MikeSerard@easternanalytical.com; Customerservice@eailabs.com

ATTN: Michael Serard

Total number of pages in report: 14

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

H. (Brad) Madadian
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Sections: 1 2 3 4

Table of Contents

-1-

Sample Summary

Eastern Analytical, Inc.

Job No: MC44555

Eastern Analytical, Inc., NH
Project No: Proj ID 164 PO#44154 EAI SRB# 153300

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
MC44555-1	02/24/16	15:00	02/26/16	AQ	Ground Water	SB-1
MC44555-2	02/23/16	10:40	02/26/16	AQ	Ground Water	SB-4
MC44555-3	02/23/16	13:00	02/26/16	AQ	Ground Water	SB-6
MC44555-4	02/23/16	15:15	02/26/16	AQ	Ground Water	SB-13
MC44555-5	02/24/16	12:45	02/26/16	AQ	Ground Water	SB-14

Summary of Hits

Job Number: MC44555
Account: Eastern Analytical, Inc.
Project: Eastern Analytical, Inc., NH
Collected: 02/23/16 thru 02/24/16

Lab Sample ID	Client Sample ID	Result/				
Analyte		Qual	RL	MDL	Units	Method

MC44555-1 SB-1

No hits reported in this sample.

MC44555-2 SB-4

No hits reported in this sample.

MC44555-3 SB-6

No hits reported in this sample.

MC44555-4 SB-13

No hits reported in this sample.

MC44555-5 SB-14

No hits reported in this sample.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	SB-1		
Lab Sample ID:	MC44555-1	Date Sampled:	02/24/16
Matrix:	AQ - Ground Water	Date Received:	02/26/16
		Percent Solids:	n/a
Project:	Eastern Analytical, Inc., NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lithium [a]	<1000	1000	ug/l	1	02/29/16	03/03/16	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18948
(2) Prep QC Batch: MP25874

(a) Elevated sample detection limit due to limited sample volume.

RL = Reporting Limit

SGS Accutest

Report of Analysis

3.2

Client Sample ID:	SB-4		
Lab Sample ID:	MC44555-2	Date Sampled:	02/23/16
Matrix:	AQ - Ground Water	Date Received:	02/26/16
		Percent Solids:	n/a
Project:	Eastern Analytical, Inc., NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lithium [a]	< 1000	1000	ug/l	1	02/29/16	03/03/16	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18948
(2) Prep QC Batch: MP25874

(a) Elevated sample detection limit due to limited sample volume.

RL = Reporting Limit

SGS Accutest

Report of Analysis

Client Sample ID:	SB-6		
Lab Sample ID:	MC44555-3	Date Sampled:	02/23/16
Matrix:	AQ - Ground Water	Date Received:	02/26/16
		Percent Solids:	n/a
Project:	Eastern Analytical, Inc., NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lithium [a]	<1000	1000	ug/l	1	02/29/16	03/03/16	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18948
(2) Prep QC Batch: MP25874

(a) Elevated sample detection limit due to limited sample volume.

RL = Reporting Limit

SGS Accutest

Report of Analysis

Client Sample ID:	SB-13		
Lab Sample ID:	MC44555-4	Date Sampled:	02/23/16
Matrix:	AQ - Ground Water	Date Received:	02/26/16
		Percent Solids:	n/a
Project:	Eastern Analytical, Inc., NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lithium [a]	<1000	1000	ug/l	1	02/29/16	03/03/16	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18948
(2) Prep QC Batch: MP25874

(a) Elevated sample detection limit due to limited sample volume.

RL = Reporting Limit

SGS Accutest

Report of Analysis

Client Sample ID:	SB-14		
Lab Sample ID:	MC44555-5	Date Sampled:	02/24/16
Matrix:	AQ - Ground Water	Date Received:	02/26/16
		Percent Solids:	n/a
Project:	Eastern Analytical, Inc., NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lithium [a]	<1000	1000	ug/l	1	02/29/16	03/03/16	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18948
(2) Prep QC Batch: MP25874

(a) Elevated sample detection limit due to limited sample volume.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

MC44555

EAI SRB# 153300

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
1- SB-1	2/24/2016 15:00	aqueous	Subcontract - Metals by ICP-AES Method 6010	
2- SB-4	2/23/2016 10:40	aqueous	Subcontract - Metals by ICP-AES Method 6010	
3- SB-6	2/23/2016 13:00	aqueous	Subcontract - Metals by ICP-AES Method 6010	
4- SB-13	2/23/2016 15:15	aqueous	Subcontract - Metals by ICP-AES Method 6010	

4.1 4

INITIAL ASESSMENT WM 6A

LABEL VERIFICATION WM

EAI SRB# **153300** Project State: NH
Project ID: 164

Company Accutest Laboratory
Address 495 Technology Center West,
Address Marlboro, MA 01752
Account #
Phone # 508-481-6200
Fax Number

Results Needed by: Preferred date
QC Deliverables
☒A ☐A+ ☐B ☐B+ ☐C ☐P
Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method
Please HOLD dissolved metals analyses

Eastern Analytical Inc. PO Number: 44154

Please call prior to analyzing, if RUSH surcharges will be applied.

NOICE 15.5°C

Samples collected by: [signature] 2/25/16 1500 WS

Relinquished by	Date/Time	Received by
UPS	2-26-16 1020	[signature]
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

MC44555: Chain of Custody
Page 1 of 3

mc44555

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 153300

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
5- SB-14	2/24/2016 12:45	aqueous	Subcontract - Metals by ICP-AES Method 6010	

4.1 4

INITIAL ASESSMENT WA

LABEL VERIFICATION WA 64

EAI SRB# **153300** Project State: NH
Project ID: 164

Company Accutest Laboratory
Address 495 Technology Center West,
Address Marlboro, MA 01752
Account #
Phone # 508-481-6200
Fax Number

Results Needed by: Preferred date
QC Deliverables
☒A ☐A+ ☐B ☐B+ ☐C ☐P
Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method
Please HOLD dissolved metals analyses

Eastern Analytical Inc. PO Number: 44154

Please call prior to analyzing, if RUSH surcharges will be applied.

15.5°C

Samples collected by: [signature] 2/26/16 1500 [signature]

Relinquished by: UPS — Date/Time: 2-26-16 1020 — Received by: [signature]

Relinquished by — Date/Time — Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

MC44555: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: MC44555 **Client:** EASTERN ANALYTICAL **Project:** 164

Date / Time Received: 2/26/2016 10:20:00 AM **Delivery Method:** UPS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (15.5/15.5);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☑ ☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Thermometer ID:	;
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☐ ☑	☐
2. Trip Blank listed on COC:	☐ ☑	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☐ ☐	☑

Comments

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

4.1

4

MC44555: Chain of Custody
Page 3 of 3

Accutest Labs of New England, Inc.						Mar 10, 2016 12:29 pm
Job Number:	MC44555					
Account:	Eastern Analytical, Inc.					
Project:	Eastern Analytical, Inc., NH					
Project Number:	Proj ID 164 PO#44154 EAI SRB# 153300					
					Legend:	Hit
Client Sample ID:		SB-1	SB-4	SB-6	SB-13	SB-14
Lab Sample ID:		MC44555-1	MC44555-2	MC44555-3	MC44555-4	MC44555-5
Date Sampled:		02/24/2016	02/23/2016	02/23/2016	02/23/2016	02/24/2016
Matrix:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis						
Lithium	ug/l	<1000 [a]	<1000 [a]	<1000 [a]	<1000 [a]	<1000 [a]
Footnotes:						
[a] Elevated sample detection limit due to limited sample volume.						

CHAIN-OF-CUSTODY RECORD

153300 26

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	2/24/16 15:00	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.B.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	6
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	2/23/16 10:40	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.B.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	6
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	2/23/16 13:00	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.B.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	6
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	2/23/16 15:15	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.B.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	6
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 164
Project Name Merrimack Station Coal Ash Landfill - Low Flow
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

Samples collected via Low Flow Method
Please HOLD dissolved metals analyses

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC ☐ NO FAX
☒ EDD PDF ☐ Partial FAX
☒ EDD email ☐ PDF Invoice
☒ PDF prelim, NO FAX ☐ EQUIS
☐ e-mail Login Confirmation

PO# PO#
Quote#:
Temp 3.3 °C
Ice Y ☒ N ☐

Samples Collected by: J. Gagne/EAI

Relinquished by	Date/Time	Received by
	2/25/16 0900	
Relinquished by	Date/Time	Received by

CHAIN-OF-CUSTODY RECORD

153300 27
PSCNH1

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
SB-14	2/24/16 12:45	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.B.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	6

☐ **Sampler confirms ID and parameters are accurate**

Circle preservative/s: HCL (HNO$_3$) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)

Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 164
Project Name Merrimack Station Coal Ash Landfill - Low Flow
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

Samples collected via Low Flow Method
Please HOLD dissolved metals analyses

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#
Quote#:
Temp 3.3°C
Ice Y☒ N☐

Samples Collected by: J.Gagne/EAI

Relinquished by	Date/Time	Received by
[signature]	2/25/16 0800	[signature]
Relinquished by	Date/Time	Received by

April 2016

SANBORN HEAD

Eastern Analytical, Inc.

Professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 155246
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 4/25/2016

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director | 5.13.16 Date | 23 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **155246**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

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 Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
155246.01	SB-1	4/25/16	4/25/16	aqueous		Adheres to Sample Acceptance Policy
155246.02	SB-4	4/25/16	4/25/16	aqueous		Adheres to Sample Acceptance Policy
155246.03	SB-6	4/25/16	4/25/16	aqueous		Adheres to Sample Acceptance Policy
155246.04	SB-13	4/25/16	4/25/16	aqueous		Adheres to Sample Acceptance Policy
155246.05	SB-14	4/25/16	4/25/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **155246**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	155246.01	155246.02	155246.03	155246.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	4/25/16	4/25/16	4/25/16	4/25/16		Analysis			
Date Received:	4/25/16	4/25/16	4/25/16	4/25/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**120**	**200**	**220**	**290**	mg/L	04/27/16	11:30	2540C-97	SCW
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	05/02/16	18:53	300.0	KD
Sulfate	**9**	**8**	**7**	**7**	mg/L	05/02/16	18:53	300.0	KD
Chloride	**58**	**110**	**140**	**160**	mg/L	05/03/16	10:13	4500ClE-97	KD

Sample ID:	SB-14						
Lab Sample ID:	155246.05						
Matrix:	aqueous						
Date Sampled:	4/25/16	Analysis					
Date Received:	4/25/16	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**140**	mg/L	04/27/16	11:30	2540C-97	SCW	
Fluoride	< 0.1	mg/L	05/02/16	21:11	300.0	KD	
Sulfate	**3**	mg/L	05/02/16	21:11	300.0	KD	
Chloride	**58**	mg/L	05/03/16	10:33	4500ClE-97	KD	

LABORATORY REPORT

EAI ID#: **155246**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	155246.01	155246.02	155246.03	155246.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	4/25/16	4/25/16	4/25/16	4/25/16	Analytical Matrix	Units	Date of Analysis	Method	Analyst
Date Received:	4/25/16	4/25/16	4/25/16	4/25/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Barium	**0.018**	**0.014**	**0.016**	**0.017**	AqTot	mg/L	4/26/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Boron	**0.10**	< 0.05	< 0.05	< 0.05	AqTot	mg/L	4/26/16	200.8	DS
Calcium	**10**	**9.3**	**9.3**	**8.8**	AqTot	mg/L	4/26/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	4/26/16	200.8	DS
Molybdenum	**0.001**	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/26/16	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	155246.05							
Matrix:	aqueous							
Date Sampled:	4/25/16	Analytical Matrix	Units	Date of Analysis	Method	Analyst		
Date Received:	4/25/16							
Antimony	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Barium	**0.009**	AqTot	mg/L	4/26/16	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Boron	< 0.05	AqTot	mg/L	4/26/16	200.8	DS		
Calcium	**11**	AqTot	mg/L	4/26/16	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Lead	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	4/26/16	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	4/26/16	200.8	DS		

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 10, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 155246
SB-1

PWS ID#
Sample Collection : 4-25-16/1441
Lab ID No: 16.4611
Lab Custody Date: 5-3-16/0935
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.7 ± 0.4	Calc	Calc	0.5
4020	Radium-226	pCi/L	0.5 ± 0.2	5-5-16/1610	EPA 903.0	0.2
4030	Radium-228	pCi/L	0.2 ± 0.4	5-9-16/1523	EPA Ra-05	0.5

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 10, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 155246
SB-4

PWS ID#
Sample Collection : 4-25-16/0957
Lab ID No: 16.4612
Lab Custody Date: 5-3-16/0935
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.3 ± 0.4	Calc	Calc	0.5
4020	Radium-226	pCi/L	0.3 ± 0.3	5-9-16/1119	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.4	5-9-16/1523	EPA Ra-05	0.5

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 10, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 155246
SB-6

PWS ID#
Sample Collection : 4-25-16/1001
Lab ID No: 16.4613
Lab Custody Date: 5-3-16/0935
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.4 ± 0.4	Calc	Calc	0.5
4020	Radium-226	pCi/L	0.4 ± 0.3	5-9-16/1119	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.0 ± 0.4	5-9-16/1523	EPA Ra-05	0.5

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 10, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 155246
SB-13

PWS ID#
Sample Collection : 4-25-16/1240
Lab ID No: 16.4614
Lab Custody Date: 5-3-16/0935
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.5 ± 0.4	Calc	Calc	0.5
4020	Radium-226	pCi/L	0.4 ± 0.3	5-9-16/1119	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.1 ± 0.4	5-9-16/1523	EPA Ra-05	0.5

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 10, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 155246
SB-14

PWS ID#
Sample Collection : 4-25-16/1240
Lab ID No: 16.4615
Lab Custody Date: 5-3-16/0935
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.0 ± 0.4	Calc	Calc	0.5
4020	Radium-226	pCi/L	0.8 ± 0.4	5-9-16/1119	EPA 903.0	0.5
4030	Radium-228	pCi/L	0.2 ± 0.4	5-9-16/1523	EPA Ra-05	0.5

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

1042

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 155246

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	4/25/2016 14:41	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.4616
SB-4	4/25/2016 9:57	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.4612
SB-6	4/25/2016 10:01	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.4613
SB-13	4/25/2016 12:40	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.4614

9pt 5-10-16

EAI SRB# 155246 **Project State: NH**
Project ID: 164

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P
Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method

Eastern Analytical Inc. PO Number: 44442

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
[signature]	4/28/16 1530	UPS
[signature]	5-3-16 0935	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 155246

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	4/25/2016 12:54	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.4615

5-10-16

EAI SRB# 155246 **Project State: NH**
Project ID: 164

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date
QC Deliverables
☒A ☐A+ ☐B ☐B+ ☐C ☐P
Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method

Eastern Analytical Inc. PO Number: 44442

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
[illegible]	4/28/16 1530	UPS
[illegible]	5-2-16 0935	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Cert. No. E87604

May 9, 2016

Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SJ2888
Project ID: 155246 NH 164
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): April 28, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Deborah J Nadeau
Authorized Signature

05/09/2016
Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ2888-001
Report Date: 5/9/2016
PO No.: 44443
Project: 155246 NH 164

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	04/26/2016	04/28/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	5/6/16	EAM	EPA 200.7	4/29/16	TCS	JD29ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ2888-002
Report Date: 5/9/2016
PO No.: 44443
Project: 155246 NH 164

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	04/25/2016	04/28/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	5/6/16	EAM	EPA 200.7	4/29/16	TCS	JD29ICW1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ2888-003
Report Date: 5/9/2016
PO No.: 44443
Project: 155246 NH 164

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	04/25/2016	04/28/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	5/6/16	EAM	EPA 200.7	4/29/16	TCS JD29ICW1		

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ2888-004
Report Date: 5/9/2016
PO No.: 44443
Project: 155246 NH 164

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	04/25/2016	04/28/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	5/6/16	EAM	EPA 200.7	4/29/16	TCS JD29ICW1		

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ2888-005
Report Date: 5/9/2016
PO No.: 44443
Project: 155246 NH 164

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	04/25/2016	04/28/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	5/6/16	EAM	EPA 200.7	4/29/16	TCS JD29ICW1		

Katahdin Analytical Services, LLC. Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KSS	Sampled By: Client
Project:	KIMS Entry By: GV	Delivered By: UPS
KAS Work Order#: SJ2887/SJ2888	KIMS Review By:	Received By: GV
SDG #:	Cooler: — of —	Date/Time Rec.: 4-28-16/11:00

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				✓	Temp (°C): N/A
Samples received at <6 °C w/o freezing?				✓	Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?				✓	The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?				✓	
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?				✓	
Soil/Sediment: Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included			✓	
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

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professional laboratory services

SJ2888

EAI SRB# 155246

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	4/25/2016 14:41	aqueous	Subcontract - Metals by ICP-AES	Lithium
SB-4	4/25/2016 9:57	aqueous	Subcontract - Metals by ICP-AES	Lithium
SB-6	4/25/2016 10:01	aqueous	Subcontract - Metals by ICP-AES	Lithium
SB-13	4/25/2016 12:40	aqueous	Subcontract - Metals by ICP-AES	Lithium

EAI SRB# 155246 **Project State:** NH
Project ID: 164

Company Katahdin Analytical Services,
Address P.O. Box 720
Address Westbrook, ME 04098
Account #
Phone # 926-7777
Fax Number

Results Needed by: Preferred date
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Samples collected via Low Flow Method

Eastern Analytical Inc. PO Number: 44443

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: [signature] 4/26/16 15:30 [signature]

Relinquished by	Date/Time	Received by
	4-28-16/1100	[signature]
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

SJ2888

eastern analytical
professional laboratory services

EAI SRB# 155246

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	4/25/2016 12:54	aqueous	Subcontract - Metals by ICP-AES Lithium	

EAI SRB# 155246 **Project State: NH**

Project ID: 164

Company Katahdin Analytical Services,
Address P.O. Box 720
Address Westbrook, ME 04098
Account #
Phone # 926-7777
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Samples collected via Low Flow Method

Eastern Analytical Inc. PO Number: 44443

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: [signature] 4/26/16 1550

Relinquished by	Date/Time	Received by
	4-28-16/11:20	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

May. 06, 2016
08:16 AM

Login Number: SJ2888

Account: EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming: –

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	44443
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	n/a
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	west.xls
LOGIN INITIALS	:	GN
PM	:	KSS
PROJECT NAME	:	155246 NH 164
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ2888-1	SB-1	25-APR-16 14:41	28-APR-16			10-MAY-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	22-OCT-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	22-OCT-16	250mL Plastic+HNO3		

SJ2888-2	SB-4	25-APR-16 09:57	28-APR-16			10-MAY-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	22-OCT-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	22-OCT-16	250mL Plastic+HNO3		

SJ2888-3	SB-6	25-APR-16 10:01	28-APR-16			10-MAY-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	22-OCT-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	22-OCT-16	250mL Plastic+HNO3		

SJ2888-4	SB-13	25-APR-16 12:40	28-APR-16			10-MAY-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	22-OCT-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	22-OCT-16	250mL Plastic+HNO3		

SJ2888-5	SB-14	25-APR-16 12:54	28-APR-16			10-MAY-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	22-OCT-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	22-OCT-16	250mL Plastic+HNO3		–

Total Samples: *5* ***Total Analyses:*** *10*

CHAIN-OF-CUSTODY RECORD

155246

PSCNH1 p1of2 22

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	4/25/16 14:41	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	4/25/16 09:57	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	4/25/16 10:01	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	4/25/16 12:40	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 164

Project Name Merrimack Station Coal Ash Landfill - Low Flow

State NH

Client (Pro Mgr) Allan Palmer

Customer Eversource Energy

Address 780 North Commercial Street, PO

City Manchester NH 03105-0330

Phone 669-4000 Fax Choose one:

Email: allan.palmer@eversource.com

Direct 634-2439

Results Needed by: Preferred date _____

Notes:

Samples collected via Low Flow Method 2x125ml
Lithium sub to Katahdin - ~~500ml~~ HNO3 container
Please HOLD dissolved metals analyses

QC deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions

☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#

Quote#: 10135-33

Temp 1.6 °C

Ice Y ☒ N ☐

Samples Collected by: JG, JL/EAI

Relinquished by	Date/Time	Received by
	4/25/16 1725	
Relinquished by	Date/Time	Received by

CHAIN-OF-CUSTODY RECORD

155246

PSCNH1 p 2 of 2

23

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
SB-14	4/25/16 12:54	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8

☑ Sampler confirms ID and parameters are accurate

Circle preservative/s: HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)

Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 164

Project Name Merrimack Station Coal Ash Landfill - Low Flow

State NH

Client (Pro Mgr) Allan Palmer

Customer Eversource Energy

Address 780 North Commercial Street, PO

City Manchester NH 03105-0330

Phone 669-4000 Fax Choose one:

Email: allan.palmer@eversource.com

Direct 634-2439

Results Needed by: Preferred date _____

Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions

☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#

Quote#: 1013533

Temp 16.0°C

Ice Y ☒ N ☐

Samples Collected by: JL, JG/EAI

Relinquished by	Date/Time	Received by
	4/25/16 1525	
Relinquished by	Date/Time	Received by

June 2016

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester, NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 156851

Client Identification: Merrimack Station Coal Ash Landfill - Low Flow

Date Received: 6/6/2016

Report revision/reissue: Revision, replaces report dated 6/23/2016

Revision information: Wet chem report revised.

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director | 6.24.16 Date | 22 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **156851**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

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

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
156851.01	SB-1	6/6/16	6/6/16	aqueous		Adheres to Sample Acceptance Policy
156851.02	SB-4	6/6/16	6/6/16	aqueous		Adheres to Sample Acceptance Policy
156851.03	SB-6	6/6/16	6/6/16	aqueous		Adheres to Sample Acceptance Policy
156851.04	SB-13	6/6/16	6/6/16	aqueous		Adheres to Sample Acceptance Policy
156851.05	SB-14	6/6/16	6/6/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **156851**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	156851.01	156851.02	156851.03	156851.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	6/6/16	6/6/16	6/6/16	6/6/16		Analysis			
Date Received:	6/6/16	6/6/16	6/6/16	6/6/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**140**	**230**	**270**	**320**	mg/L	06/08/16	8:30	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	06/14/16	19:57	300.0	KD
Sulfate	**7**	**10**	**8**	**7**	mg/L	06/14/16	19:57	300.0	KD
Chloride	**55**	**110**	**140**	**170**	mg/L	06/07/16	9:15	4500ClE-97	KD

Sample ID:	SB-14						
Lab Sample ID:	156851.05						
Matrix:	aqueous						
Date Sampled:	6/6/16	Analysis					
Date Received:	6/6/16	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**100**	mg/L	06/08/16	8:30	2540C-97	ATA	
Fluoride	< 0.1	mg/L	06/14/16	20:58	300.0	KD	
Sulfate	**4**	mg/L	06/14/16	20:58	300.0	KD	
Chloride	**32**	mg/L	06/07/16	9:26	4500ClE-97	KD	

LABORATORY REPORT

EAI ID#: **156851**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	156851.01	156851.02	156851.03	156851.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	6/6/16	6/6/16	6/6/16	6/6/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	6/6/16	6/6/16	6/6/16	6/6/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Barium	**0.016**	**0.012**	**0.017**	**0.020**	AqTot	mg/L	6/7/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Boron	< 0.05	< 0.05	< 0.05	< 0.05	AqTot	mg/L	6/7/16	200.8	DS
Calcium	**8.2**	**8.0**	**9.3**	**9.9**	AqTot	mg/L	6/7/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	6/7/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	6/7/16	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	156851.05							
Matrix:	aqueous							
Date Sampled:	6/6/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**		
Date Received:	6/6/16							
Antimony	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Barium	**0.006**	AqTot	mg/L	6/7/16	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Boron	< 0.05	AqTot	mg/L	6/7/16	200.8	DS		
Calcium	**7.6**	AqTot	mg/L	6/7/16	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Lead	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	6/7/16	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	6/7/16	200.8	DS		

Katahdin ANALYTICAL SERVICES

Cert. No. E87604

June 16, 2016

Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SJ4124
Project ID: 3949
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): June 08, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Deborah J Nadeau
Authorized Signature

06/16/2016
Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U — Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E — Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J — Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 — The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 — Please refer to cover letter or narrative for further information.

H_ — Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 — The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 — The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 — The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 — The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 — The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 — As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 — The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 — The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ4124-001
Report Date: 6/16/2016
PO No.: 156851
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	06/06/2016	06/08/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	6/14/16	EAM	EPA 200.7	6/14/16	JSJF14ICW1		

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ4124-002
Report Date: 6/16/2016
PO No.: 156851
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	06/06/2016	06/08/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	6/14/16	EAM	EPA 200.7	6/14/16	JS	JF14ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ4124-003
Report Date: 6/16/2016
PO No.: 156851
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	06/06/2016	06/08/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	6/14/16	EAM	EPA 200.7	6/14/16	JS	JF14ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ4124-004
Report Date: 6/16/2016
PO No.: 156851
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	06/06/2016	06/08/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	6/14/16	EAM	EPA 200.7	6/14/16	JS	JF14ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ4124-005
Report Date: 6/16/2016
PO No.: 156851
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	06/06/2016	06/08/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	6/14/16	EAM	EPA 200.7	6/14/16	JS	JF14ICW1	

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KSS	Sampled By: Client	
Project:	KIMS Entry By: AP	Delivered By: UPS	
KAS Work Order#: SJ4124	KIMS Review By:	Received By: AP	
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 6/8/16 1150	

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		/			
2. Chain of Custody present in cooler?	/				
3. Chain of Custody signed by client?	/				
4. Chain of Custody matches samples?	/				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				/	Temp (°C): 3.1
Samples received at <6 °C w/o freezing?				/	Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?				/	The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?				/	
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				/	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				/	
Soil/Sediment:					
Received in airtight container?				/	
Received in methanol?				/	
Methanol covering soil?				/	
D.I. Water - Received within 48 hour HT?				/	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				/	
8. Proper sample containers and volume?	/				
9. Samples within hold time upon receipt?	/				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	/				
Sulfide - >9	N/A			/	
Cyanide – pH >12				/	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

SJ4124

EAI SRB# 156851

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	6/6/2016 12:40	aqueous	Subcontract - Metals by ICP-AES	
SB-4	6/6/2016 9:41	aqueous	Subcontract - Metals by ICP-AES	
SB-6	6/6/2016 9:24	aqueous	Subcontract - Metals by ICP-AES	
SB-13	6/6/2016 12:14	aqueous	Subcontract - Metals by ICP-AES	

Katahdin Analytical Services SJ4124 page 0000009 of 0000011

EAI SRB# 156851 Project State: NH
Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44603

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	6/7/16 1530	UPS
		6/8/16 1150

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 156851

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	6/6/2016 11:20	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 156851 Project State: NH
Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44603

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	6/7/16 1530	VPS
		6/8/16 1150

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Jun. 08, 2016
02:01 PM

Login Number: SJ4124

Account: EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	156851
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	3.1
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	west.xls\
LOGIN INITIALS	:	AP
PM	:	KSS
PROJECT NAME	:	3949
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ4124-1	SB-1	06-JUN-16 12:40	08-JUN-16			18-JUN-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	03-DEC-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	03-DEC-16	250mL Plastic+HNO3		

SJ4124-2	SB-4	06-JUN-16 09:41	08-JUN-16			18-JUN-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	03-DEC-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	03-DEC-16	250mL Plastic+HNO3		

SJ4124-3	SB-6	06-JUN-16 09:24	08-JUN-16			18-JUN-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	03-DEC-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	03-DEC-16	250mL Plastic+HNO3		

SJ4124-4	SB-13	06-JUN-16 12:14	08-JUN-16			18-JUN-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	03-DEC-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	03-DEC-16	250mL Plastic+HNO3		

SJ4124-5	SB-14	06-JUN-16 11:20	08-JUN-16			18-JUN-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	03-DEC-16	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	03-DEC-16	250mL Plastic+HNO3		

Total Samples: 5 *Total Analyses: 10*

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: June 20, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 156851
SB-1

PWS ID#
Sample Collection : 6-6-16/1240
Lab ID No: 16.6289
Lab Custody Date: 6-10-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.6 ± 0.3	6-14-16/0941	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.2 ± 0.5	6-17-16/1029	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: June 20, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 156851
SB-4

PWS ID#
Sample Collection : 6-6-16/0941
Lab ID No: 16.6290
Lab Custody Date: 6-10-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.6 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.2 ± 0.2	6-14-16/0941	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.4 ± 0.5	6-17-16/1029	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

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KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: June 20, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 156851
SB-6

PWS ID#
Sample Collection : 6-6-16/0924
Lab ID No: 16.6291
Lab Custody Date: 6-10-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.5 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.5 ± 0.3	6-14-16/0941	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.5	6-17-16/1029	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: June 20, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 156851
SB-13

PWS ID#
Sample Collection : 6-6-16/1214
Lab ID No: 16.6292
Lab Custody Date: 6-10-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.8 ± 0.3	6-14-16/0941	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.0 ± 0.5	6-17-16/1029	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: June 20, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 156851
SB-14

PWS ID#
Sample Collection : 6-6-16/1120
Lab ID No: 16.6293
Lab Custody Date: 6-10-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.7 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.5 ± 0.2	6-14-16/0941	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.2 ± 0.5	6-17-16/1029	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

20

EAI SRB# 156851

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	6/6/2016 12:40	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.6289
SB-4	6/6/2016 9:41	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.6290
SB-6	6/6/2016 9:24	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.6291
SB-13	6/6/2016 12:14	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.6292

Rpt 6-21-16

EAI SRB# 156851 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 44602

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	6/7/16 1530	UPS
	6-10-16 0945	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 156851

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	6/6/2016 11:20	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

16.6293

6.21.16

EAI SRB# 156851 **Project State: NH**
Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std
QC Deliverables
☒A ☐A+ ☐B ☐B+ ☐C ☐P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 44602

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
Chris Johnson	6/7/16 1530	UPS
	6-10-16 0945	

Relinquished by	Date/Time	Received by

CHAIN-OF-CUSTODY RECORD

156851

22

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	06/06/2016 12:40	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	06/06/2016 0941	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	06/06/2016 09:24	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	06/06/2016 12:14	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-14	06/06/2016 ~~12:14~~ 11:20	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949
Project Name Merrimack Station Coal Ash Landfill - Low Flow
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#
Quote#: 10135533
Temp 3.1 °C
Ice Y ☒ N ☐

Samples Collected by: JG, JL (EAI)

Relinquished by	Date/Time	Received by
	6/6/16 1500	
Relinquished by	**Date/Time**	**Received by**

July 2016

Eastern Analytical, Inc.

professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 158396
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 7/18/2016

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw — 8.4.16 — 22

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

SAMPLE CONDITIONS PAGE

EAI ID#: **158396**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Temperature upon receipt (°C): 5.3 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
158396.01	SB-1	7/18/16	7/18/16	aqueous		Adheres to Sample Acceptance Policy
158396.02	SB-4	7/18/16	7/18/16	aqueous		Adheres to Sample Acceptance Policy
158396.03	SB-6	7/18/16	7/18/16	aqueous		Adheres to Sample Acceptance Policy
158396.04	SB-13	7/18/16	7/18/16	aqueous		Adheres to Sample Acceptance Policy
158396.05	SB-14	7/18/16	7/18/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

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

References include:

1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **158396**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	158396.01	158396.02	158396.03	158396.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/18/16	7/18/16	7/18/16	7/18/16		Analysis			
Date Received:	7/18/16	7/18/16	7/18/16	7/18/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**120**	**220**	**260**	**330**	mg/L	07/20/16	16:30	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	07/25/16	14:06	300.0	KD
Sulfate	**9**	**11**	**9**	**8**	mg/L	07/25/16	14:06	300.0	KD
Chloride	**60**	**100**	**140**	**160**	mg/L	07/25/16	14:06	300.0	KD

Sample ID:	SB-14						
Lab Sample ID:	158396.05						
Matrix:	aqueous						
Date Sampled:	7/18/16	Analysis					
Date Received:	7/18/16	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**68**	mg/L	07/20/16	16:30	2540C-97	ATA	
Fluoride	< 0.1	mg/L	07/25/16	16:24	300.0	KD	
Sulfate	**5**	mg/L	07/25/16	16:24	300.0	KD	
Chloride	**21**	mg/L	07/25/16	16:24	300.0	KD	

LABORATORY REPORT

EAI ID#: **158396**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	158396.01	158396.02	158396.03	158396.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	7/18/16	7/18/16	7/18/16	7/18/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	7/18/16	7/18/16	7/18/16	7/18/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Barium	**0.016**	**0.011**	**0.017**	**0.018**	AqTot	mg/L	7/25/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Boron	**0.07**	< 0.05	< 0.05	< 0.05	AqTot	mg/L	7/25/16	200.8	DS
Calcium	**8.6**	**7.8**	**9.2**	**9.7**	AqTot	mg/L	7/25/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	7/25/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	7/25/16	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	158396.05							
Matrix:	aqueous							
Date Sampled:	7/18/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**		
Date Received:	7/18/16							
Antimony	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Barium	**0.003**	AqTot	mg/L	7/25/16	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Boron	< 0.05	AqTot	mg/L	7/25/16	200.8	DS		
Calcium	**6.3**	AqTot	mg/L	7/25/16	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Lead	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	7/25/16	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	7/25/16	200.8	DS		

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: August 1, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 158396
SB-1

PWS ID#
Sample Collection : 7-18-16/1419
Lab ID No: 16.7815
Lab Custody Date: 7-25-16/0910
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.4 ± 0.6	Calc	Calc	1.0
4020	Radium-226	pCi/L	0.4 ± 0.3	7-27-16/1039	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.6	7-29-16/1029	EPA Ra-05	1.0

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: August 1, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 158396
SB-4

PWS ID#
Sample Collection : 7-18-16/1029
Lab ID No: 16.7816
Lab Custody Date: 7-25-16/0910
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.6	Calc	Calc	0.9
4020	Radium-226	pCi/L	0.4 ± 0.3	7-27-16/1039	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.4 ± 0.6	7-29-16/1029	EPA Ra-05	0.9

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: August 1, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 158396
SB-6

PWS ID#
Sample Collection : 7-18-16/1338
Lab ID No: 16.7817
Lab Custody Date: 7-25-16/0910
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.6	Calc	Calc	0.9
4020	Radium-226	pCi/L	0.5 ± 0.3	7-27-16/1039	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.3 ± 0.6	7-29-16/1029	EPA Ra-05	0.9

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: August 1, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 158396
SB-13

PWS ID#
Sample Collection : 7-18-16/1008
Lab ID No: 16.7818
Lab Custody Date: 7-25-16/0910
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.6	Calc	Calc	1.0
4020	Radium-226	pCi/L	0.8 ± 0.3	7-26-16/1103	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.6	7-29-16/1029	EPA Ra-05	1.0

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: July 29, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 158396
SB-14

PWS ID#
Sample Collection : 7-18-16/1251
Lab ID No: 16.7819
Lab Custody Date: 7-25-16/0910
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.5 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.2 ± 0.2	7-27-16/1039	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.3 ± 0.5	7-29-16/1030	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

16.7815-18

EAI SRB# **158396**

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	7/18/2016 14:19	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-4	7/18/2016 10:29	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-6	7/18/2016 13:38	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-13	7/18/2016 10:08	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

gH 8.2-16

EAI SRB# 158396 **Project State: NH**
Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44807

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
	7/20/16 1530	UPS
Relinquished by	Date/Time	Received by
	072516/0900	KNL

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

16.7819

EAI SRB# 158396

10

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	7/18/2016 12:51	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

8-2-16

EAI SRB# 158396 **Project State: NH**
Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44807

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
[signature]	7/20/16	1530 UPS
Relinquished by	Date/Time	Received by
	07251610	KNL

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Cert. No. E87604

July 27, 2016

Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SJ5524
Project ID: 3949
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): July 21, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Deborah J. Nadeau
Authorized Signature

07/27/2016
Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ5524-001
Report Date: 7/27/2016
PO No.: 158396
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	07/18/2016	07/21/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	7/22/16	EAM	EPA 200.7	7/22/16	JS	JG22ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ5524-002
Report Date: 7/27/2016
PO No.: 158396
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	07/18/2016	07/21/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	7/22/16	EAM	EPA 200.7	7/22/16	JS	JG22ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ5524-003
Report Date: 7/27/2016
PO No.: 158396
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	07/18/2016	07/21/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	7/22/16	EAM	EPA 200.7	7/22/16	JS	JG22ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ5524-004
Report Date: 7/27/2016
PO No.: 158396
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	07/18/2016	07/21/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	7/22/16	EAM	EPA 200.7	7/22/16	JS	JG22ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ5524-005
Report Date: 7/27/2016
PO No.: 158396
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	07/18/2016	07/21/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	7/22/16	EAM	EPA 200.7	7/22/16	JS	JG22ICW1	

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KJS	Sampled By: Client
Project:	KIMS Entry By: SO	Delivered By: UPS
KAS Work Order#: SJ5524	KIMS Review By:	Received By: SO
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 7-21-16 1200

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): 19.7
Samples received at <6 °C w/o freezing?		✓			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?		✓			The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?				✓	
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?		✓			Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

SJ5524

EAI SRB# 158396

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	7/18/2016 14:19	aqueous	Subcontract - Metals by ICP-AES	Lithium Only
SB-4	7/18/2016 10:29	aqueous	Subcontract - Metals by ICP-AES	
SB-6	7/18/2016 13:38	aqueous	Subcontract - Metals by ICP-AES	
SB-13	7/18/2016 10:08	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 158396 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44808

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:_____

Relinquished by	Date/Time	Received by
	7/19/16 1530	UPS
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

Katahdin Analytical Services SJ5524 page 0000009 of 0000011

19

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

SJ5524

EAI SRB# 158396

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	7/18/2016 12:51	aqueous	Subcontract - Metals by ICP-AES	Lithium Only

EAI SRB# 158396 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 44808

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
[signature]	7/19/16	1530 UPS
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

Katahdin Analytical Services SJ5524 page 0000010 of 0000011

20

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Jul. 21, 2016
01:00 PM

Login Number: SJ5524

Account: EASTAN001
Eastern Analytical, Inc.

Project:

NoWeb

Quote/Incoming:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	158396
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	19.7
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	WEST-XLS
LOGIN INITIALS	:	SO
PM	:	KSS
PROJECT NAME	:	3949
QC LEVEL	:	1
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ5524-1	SB-1	18-JUL-16 14:19	21-JUL-16			02-AUG-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	14-JAN-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	14-JAN-17	250mL Plastic+HNO3		

SJ5524-2	SB-4	18-JUL-16 10:29	21-JUL-16			02-AUG-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	14-JAN-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	14-JAN-17	250mL Plastic+HNO3		

SJ5524-3	SB-6	18-JUL-16 13:38	21-JUL-16			02-AUG-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	14-JAN-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	14-JAN-17	250mL Plastic+HNO3		

SJ5524-4	SB-13	18-JUL-16 10:08	21-JUL-16			02-AUG-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	14-JAN-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	14-JAN-17	250mL Plastic+HNO3		

SJ5524-5	SB-14	18-JUL-16 12:51	21-JUL-16			02-AUG-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	14-JAN-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	14-JAN-17	250mL Plastic+HNO3		

Total Samples: *5* ***Total Analyses:*** *10*

CHAIN-OF-CUSTODY RECORD

158396

PSCNH1

22

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	07/18/2016 14:19	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☒ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	07/18/2016 10:29	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☒ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	07/18/2016 13:38	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☒ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	07/18/2016 10:08	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☒ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-14	07/18/2016 12:51	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	7
☒ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949

Project Name Merrimack Station Coal Ash Landfill - Low Flow

State NH

Client (Pro Mgr) Allan Palmer

Customer Eversource Energy

Address 780 North Commercial Street, PO

City Manchester NH 03105-0330

Phone 669-4000 **Fax** Choose one:

Email: allan.palmer@eversource.com

Direct 634-2439

Results Needed by: Preferred date _____

Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses
Diss. Metals not needed per customer ADB 8/4/16

QC deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions

☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#

Quote#:

Temp 5.3°C

Ice Y ☒ N ☐

Samples Collected by: JG, JL (EAI)

Relinquished by	Date/Time	Received by
	07/18/2016 1640	
Relinquished by	**Date/Time**	**Received by**

August 2016

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 159903
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 8/30/2016

Dear Mr. Palmer :

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director | 9.21.16 Date | 22 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **159903**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Temperature upon receipt (°C): 0.7 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
159903.01	SB-1	8/30/16	8/30/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals canceled per customer request.
159903.02	SB-4	8/30/16	8/30/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals canceled per customer request.
159903.03	SB-6	8/30/16	8/30/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals canceled per customer request.
159903.04	SB-13	8/30/16	8/30/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals canceled per customer request.
159903.05	SB-14	8/30/16	8/30/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals canceled per customer request.

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

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

References include:

1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **159903**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13		Analysis			
Lab Sample ID:	159903.01	159903.02	159903.03	159903.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	8/30/16	8/30/16	8/30/16	8/30/16					
Date Received:	8/30/16	8/30/16	8/30/16	8/30/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**120**	**210**	**280**	**270**	mg/L	08/31/16	16:00	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	09/13/16	21:07	300.0	KD
Sulfate	**7**	**12**	**9**	**8**	mg/L	09/13/16	21:07	300.0	KD
Chloride	**49**	**88**	**140**	**150**	mg/L	08/31/16	11:05	4500ClE-97	KD

Sample ID:	SB-14				Analysis			
Lab Sample ID:	159903.05							
Matrix:	aqueous							
Date Sampled:	8/30/16							
Date Received:	8/30/16	**Units**	**Date**	**Time**	**Method**	**Analyst**		
Solids Dissolved	**71**	mg/L	08/31/16	16:00	2540C-97	ATA		
Fluoride	< 0.1	mg/L	09/13/16	23:25	300.0	KD		
Sulfate	**4**	mg/L	09/13/16	23:25	300.0	KD		
Chloride	**14**	mg/L	08/31/16	11:22	4500ClE-97	KD		

LABORATORY REPORT

EAI ID#: **159903**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	159903.01	159903.02	159903.03	159903.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	8/30/16	8/30/16	8/30/16	8/30/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	8/30/16	8/30/16	8/30/16	8/30/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	**0.001**	AqTot	mg/L	9/1/16	200.8	DS
Barium	**0.017**	**0.010**	**0.018**	**0.020**	AqTot	mg/L	9/1/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Boron	< 0.05	< 0.05	< 0.05	< 0.05	AqTot	mg/L	9/1/16	200.8	DS
Calcium	**7.9**	**6.8**	**9.1**	**8.1**	AqTot	mg/L	9/1/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	**0.002**	AqTot	mg/L	9/1/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	9/1/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	9/1/16	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	159903.05							
Matrix:	aqueous							
Date Sampled:	8/30/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**		
Date Received:	8/30/16							
Antimony	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Barium	**0.002**	AqTot	mg/L	9/1/16	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Boron	< 0.05	AqTot	mg/L	9/1/16	200.8	DS		
Calcium	**5.3**	AqTot	mg/L	9/1/16	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Lead	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	9/1/16	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	9/1/16	200.8	DS		

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: September 14, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 159903
SB-1

PWS ID#
Sample Collection : 8-30-16/1323
Lab ID No: 16.9480
Lab Custody Date: 9-8-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.7 ± 0.4	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.4 ± 0.3	9-12-16/1227	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.3 ± 0.4	9-13-16/1108	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: September 14, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 159903
SB-4

PWS ID#
Sample Collection : 8-30-16/1044
Lab ID No: 16.9481
Lab Custody Date: 9-8-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.2 ± 0.4	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.2 ± 0.2	9-12-16/1227	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.4	9-13-16/1108	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: September 14, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 159903
SB-6

PWS ID#
Sample Collection : 8-30-16/1336
Lab ID No: 16.9482
Lab Custody Date: 9-8-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.4 ± 0.4	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.4 ± 0.2	9-12-16/1227	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.0 ± 0.4	9-13-16/1108	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: September 14, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 159903
SB-13

PWS ID#
Sample Collection : 8-30-16/1004
Lab ID No: 16.9483
Lab Custody Date: 9-8-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.4 ± 0.4	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.8 ± 0.3	9-12-16/1227	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.6 ± 0.4	9-13-16/1108	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: September 15, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 159903
SB-14

PWS ID#
Sample Collection : 8-30-16/1150
Lab ID No: 16.9484
Lab Custody Date: 9-8-16/0945
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.4 ± 0.3	9-12-16/1227	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.4 ± 0.5	9-14-16/1006	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 159903

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	8/30/2016 13:23	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-4	8/30/2016 10:44	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-6	8/30/2016 13:36	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	
SB-13	8/30/2016 10:04	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

16.9480 - 83 ~~85~~ 9463

9-15-16

EAI SRB# 159903 **Project State: NH**
Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
~~**Metals: Lithium only: 2 - 250ml containers per sample**~~

Eastern Analytical Inc. PO Number: 45041

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	9-8-16 / 945	
Relinquished by	**Date/Time**	**Received by**
	9-9-16 @ 5:30 UPS	

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 159903

10

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	8/30/2016 11:50	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

16-9484

EAI SRB# 159903 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

~~**Metals: Lithium Only: 2 - 250ml containers per Sample**~~

Eastern Analytical Inc. PO Number: 45041

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
	8-31-16/945	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Cert. No. E87604

September 14, 2016

Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SJ6969
Project ID: 3949
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): September 02, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Leslie Dimond

Authorized Signature

09/14/2016

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ6969-001
Report Date: 9/14/2016
PO No.: 45040
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	08/30/2016	09/02/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	9/7/16	EAM	EPA 200.7	9/7/16	MD	JI07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ6969-002
Report Date: 9/14/2016
PO No.: 45040
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	08/30/2016	09/02/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	9/7/16	EAM	EPA 200.7	9/7/16	MD	JI07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ6969-003
Report Date: 9/14/2016
PO No.: 45040
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	08/30/2016	09/02/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	9/7/16	EAM	EPA 200.7	9/7/16	MD	JI07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ6969-004
Report Date: 9/14/2016
PO No.: 45040
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	08/30/2016	09/02/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	9/7/16	EAM	EPA 200.7	9/7/16	MD	JI07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ6969-005
Report Date: 9/14/2016
PO No.: 45040
Project: 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	08/30/2016	09/02/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	9/7/16	EAM	EPA 200.7	9/7/16	MD	JI07ICW1	

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM:	Sampled By: Client
Project:	KIMS Entry By: SO	Delivered By: Client
KAS Work Order#: SJ6969	KIMS Review By:	Received By: SO
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 9-2-16 1010

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?				✓	
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 9.7
Samples received at <6 °C w/o freezing?	✓	✓			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?	✓				Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

SJ6969

EAI SRB# 159903

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	8/30/2016 13:23	aqueous	Subcontract - Metals by ICP-AES	
SB-4	8/30/2016 10:44	aqueous	Subcontract - Metals by ICP-AES	
SB-6	8/30/2016 13:36	aqueous	Subcontract - Metals by ICP-AES	
SB-13	8/30/2016 10:04	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 159903 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 45040

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

9/6/16 1005

Relinquished by **Date/Time** **Received by**

9/2/16 0730 DB

Relinquished by **Date/Time** **Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 159903

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	8/30/2016 11:50	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# **159903** Project State: NH

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 45040

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
	9/2/16 1005	
	0730	
	9/2/16 DB	
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

Katahdin Analytical Services SJ6969 page 0000010 of 0000011

20

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Sep. 02, 2016
11:34 AM

Login Number: SJ6969

Account:EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	45040
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	9.7
DELIVERY SERVICES	:	Client
EDD FORMAT	:	WEST-XLS
LOGIN INITIALS	:	SO
PM	:	KSS
PROJECT NAME	:	3949
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ6969-1	SB-1	30-AUG-16 13:23	02-SEP-16			14-SEP-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	26-FEB-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	26-FEB-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ6969-2	SB-4	30-AUG-16 10:44	02-SEP-16			14-SEP-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	26-FEB-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	26-FEB-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ6969-3	SB-6	30-AUG-16 13:36	02-SEP-16			14-SEP-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	26-FEB-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	26-FEB-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ6969-4	SB-13	30-AUG-16 10:04	02-SEP-16			14-SEP-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	26-FEB-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	26-FEB-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ6969-5	SB-14	30-AUG-16 11:50	02-SEP-16			14-SEP-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	26-FEB-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	26-FEB-17	250mL Plastic+HNO3		

Total Samples: 5 *Total Analyses: 10*

CHAIN-OF-CUSTODY RECORD

159903

22

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	8/30/16 13:23	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	8/30/16 10:44	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	8/30/16 13:36	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	8/30/16 10:04	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-14	8/30/16 11:50	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949

Project Name Merrimack Station Coal Ash Landfill - Low Flow

State NH

Client (Pro Mgr) Allan Palmer

Customer Eversource Energy

Address 780 North Commercial Street, PO

City Manchester NH 03105-0330

Phone 669-4000 **Fax** Choose one:

Email: allan.palmer@eversource.com

Direct 634-2439

Results Needed by: Preferred date _____

Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions

☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#

Quote#:

Temp 0.7° C

Ice Y (X) N ☐

Samples Collected by: J. Gagne, J. Lane/EAI

Relinquished by	Date/Time	Received by
	8/30/16 1600	
Relinquished by	**Date/Time**	**Received by**

October 2016

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory & drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 161723
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 10/17/2016

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director — 11.4.16 Date — 22 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **161723**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Temperature upon receipt (°C): 0.7 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
161723.01	SB-1	10/17/16	10/17/16	aqueous		Adheres to Sample Acceptance Policy
161723.02	SB-4	10/17/16	10/17/16	aqueous		Adheres to Sample Acceptance Policy
161723.03	SB-6	10/17/16	10/17/16	aqueous		Adheres to Sample Acceptance Policy
161723.04	SB-13	10/17/16	10/17/16	aqueous		Adheres to Sample Acceptance Policy
161723.05	SB-14	10/17/16	10/17/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

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

References include:

1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **161723**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	161723.01	161723.02	161723.03	161723.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	10/17/16	10/17/16	10/17/16	10/17/16		Analysis			
Date Received:	10/17/16	10/17/16	10/17/16	10/17/16	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**130**	**190**	**260**	**260**	mg/L	10/19/16	12:15	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	10/31/16	12:18	300.0	KD
Sulfate	**6**	**10**	**8**	**8**	mg/L	10/31/16	12:18	300.0	KD
Chloride	**60**	**100**	**150**	**150**	mg/L	10/21/16	11:19	4500ClE-97	KD

Sample ID:	SB-14						
Lab Sample ID:	161723.05						
Matrix:	aqueous						
Date Sampled:	10/17/16	Analysis					
Date Received:	10/17/16	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**29**	mg/L	10/19/16	12:15	2540C-97	ATA	
Fluoride	< 0.1	mg/L	10/31/16	13:18	300.0	KD	
Sulfate	**4**	mg/L	10/31/16	13:18	300.0	KD	
Chloride	**11**	mg/L	10/21/16	11:24	4500ClE-97	KD	

LABORATORY REPORT

EAI ID#: **161723**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	161723.01	161723.02	161723.03	161723.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	10/17/16	10/17/16	10/17/16	10/17/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	10/17/16	10/17/16	10/17/16	10/17/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Barium	**0.017**	**0.012**	**0.018**	**0.015**	AqTot	mg/L	10/20/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Boron	< 0.05	< 0.05	< 0.05	< 0.05	AqTot	mg/L	10/20/16	200.8	DS
Calcium	**9.7**	**8.4**	**10**	**8.8**	AqTot	mg/L	10/20/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	10/20/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/20/16	200.8	DS

Sample ID:	SB-14								
Lab Sample ID:	161723.05								
Matrix:	aqueous								
Date Sampled:	10/17/16				**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	10/17/16								
Antimony	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Arsenic	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Barium	**0.002**				AqTot	mg/L	10/20/16	200.8	DS
Beryllium	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Boron	< 0.05				AqTot	mg/L	10/20/16	200.8	DS
Calcium	**4.0**				AqTot	mg/L	10/20/16	200.8	DS
Cadmium	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Chromium	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Cobalt	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Lead	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Mercury	< 0.0001				AqTot	mg/L	10/20/16	200.8	DS
Molybdenum	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Selenium	< 0.001				AqTot	mg/L	10/20/16	200.8	DS
Thallium	< 0.001				AqTot	mg/L	10/20/16	200.8	DS

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: November 2, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 161723
SB-1

PWS ID#
Sample Collection : 10-17-16/1414
Lab ID No: 16.11855
Lab Custody Date: 10-21-16/1015
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.6 ± 0.4	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.6 ± 0.4	10-27-16/1125	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.4	10-29-16/1509	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: November 2, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 161723
SB-4

PWS ID#
Sample Collection : 10-17-16/1113
Lab ID No: 16.11856
Lab Custody Date: 10-21-16/1015
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.3 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.3 ± 0.3	10-27-16/1125	EPA 903.0	0.5
4030	Radium-228	pCi/L	0.0 ± 0.5	10-28-16/1804	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: November 2, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 161723
SB-6

PWS ID#
Sample Collection : 10-17-16/1400
Lab ID No: 16.11857
Lab Custody Date: 10-21-16/1015
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.2 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.2 ± 0.3	10-27-16/1125	EPA 903.0	0.5
4030	Radium-228	pCi/L	0.0 ± 0.5	10-29-16/1509	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: November 2, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 161723
SB-13

PWS ID#
Sample Collection : 10-17-16/1034
Lab ID No: 16.11858
Lab Custody Date: 10-21-16/1015
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.3 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.7 ± 0.4	10-27-16/1125	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.6 ± 0.5	10-29-16/1509	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: November 2, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 161723
SB-14

PWS ID#
Sample Collection : 10-17-16/1231
Lab ID No: 16.11859
Lab Custody Date: 10-21-16/1015
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.2 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.2 ± 0.3	10-28-16/1431	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.5	10-29-16/1509	EPA Ra-05	0.7

Alpha Standard: Th-230

James W Hayes

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

CHAIN-OF-CUSTODY RECORD

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professional laboratory services

EAI SRB# 161723

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	10/17/2016 14:14	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.11E55
SB-4	10/17/2016 11:13	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.11E56
SB-6	10/17/2016 14:00	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.11E57
SB-13	10/17/2016 10:34	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.11E58

RH 11-3-16

EAI SRB# 161723 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 45289

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Chris Johnson 10/18/16 1530 UPS

Relinquished by **Date/Time** **Received by**

10/21/16 1015 KNL

Relinquished by **Date/Time** **Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

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professional laboratory services

10

EAI SRB# 161723

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	10/17/2016 12:31	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16 11859

DT 11-3-16

EAI SRB# 161723 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 45289

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: Chris Johnson 10/18/16 1530 UPS

Relinquished by	Date/Time	Received by
	10/21/16 1015	EAI
Relinquished by	**Date/Time**	**Received by**

Katahdin
ANALYTICAL SERVICES

nelac
Cert. No. E87604

November 2, 2016

Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SJ8635
Project ID: ID # 3949
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): October 19, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Lissa Dimond

Authorized Signature

11/02/2016

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

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ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ8635-001
Report Date: 11/2/2016
PO No.:
Project: ID # 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	10/17/2016	10/19/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	10/21/16	JS	EPA 200.7	10/21/16	MD	JJ211CW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ8635-002
Report Date: 11/2/2016
PO No.:
Project: ID # 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	10/17/2016	10/19/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	10/21/16	JS	EPA 200.7	10/21/16	MD	JJ211CW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ8635-003
Report Date: 11/2/2016
PO No.:
Project: ID # 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	10/17/2016	10/19/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	10/21/16	JS	EPA 200.7	10/21/16	MD	JJ211CW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ8635-004
Report Date: 11/2/2016
PO No.:
Project: ID # 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	10/17/2016	10/19/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	10/21/16	JS	EPA 200.7	10/21/16	MD	JJ211CW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SJ8635-005
Report Date: 11/2/2016
PO No.:
Project: ID # 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	10/17/2016	10/19/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	10/21/16	JS	EPA 200.7	10/21/16	MD	JJ21ICW1	

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KSS	Sampled By: Client
Project:	KIMS Entry By: SO	Delivered By: UPS
KAS Work Order#: SJ8635	KIMS Review By: AMH	Received By: KMB
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 10/19/16 @ 11:15

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): 5.4
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:				✓	
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

SJ 8635

CHAIN-OF-CUSTODY RECORD

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19

EAI SRB# 161723

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	10/17/2016 14:14	aqueous	Subcontract - Metals by ICP-AES	
SB-4	10/17/2016 11:13	aqueous	Subcontract - Metals by ICP-AES	
SB-6	10/17/2016 14:00	aqueous	Subcontract - Metals by ICP-AES	
SB-13	10/17/2016 10:34	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 161723 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number:

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
		11:15
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

Katahdin Analytical Services SJ8635 page 0000009 of 0000011

SJ8635

CHAIN-OF-CUSTODY RECORD

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professional laboratory services

20

EAI SRB# 161723

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	10/17/2016 12:31	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 161723 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number:

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
		11:15
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Oct. 20, 2016
11:14 AM

Login Number: SJ8635

Account: EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	5.4
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	WEST-XLS
LOGIN INITIALS	:	SO
PM	:	KSS
PROJECT NAME	:	ID # 3949
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ8635-1	SB-1	17-OCT-16 14:14	19-OCT-16			31-OCT-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	15-APR-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	15-APR-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ8635-2	SB-4	17-OCT-16 11:13	19-OCT-16			31-OCT-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	15-APR-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	15-APR-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ8635-3	SB-6	17-OCT-16 14:00	19-OCT-16			31-OCT-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	15-APR-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	15-APR-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ8635-4	SB-13	17-OCT-16 10:34	19-OCT-16			31-OCT-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	15-APR-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	15-APR-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SJ8635-5	SB-14	17-OCT-16 12:31	19-OCT-16			31-OCT-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	15-APR-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	15-APR-17	250mL Plastic+HNO3		

Total Samples: 5 ***Total Analyses: 10***

CHAIN-OF-CUSTODY RECORD

161723

PSCNH

22

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
SB-1	10/17/16 14:14	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☐
SB-4	10/17/16 11:13	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☐
SB-6	10/17/16 14:00	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☐
SB-13	10/17/16 16:34	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☐
SB-14	10/17/16 12:31	aqueous (Grab) or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☐ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☐

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949
Project Name Merrimack Station Coal Ash Landfill - Low Flow
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC ☐ NO FAX
☒ EDD PDF ☐ Partial FAX
☒ EDD email ☐ PDF Invoice
☒ PDF prelim, NO FAX ☐ EQUIS
☐ e-mail Login Confirmation

PO# PO#
Quote#: 135533
Temp 0.7° C
Ice Y ☒ N ☐

Samples Collected by: J. Gagne, J. Lane/EAI

Relinquished by	Date/Time	Received by
	10/17/16 1645	
Relinquished by	**Date/Time**	**Received by**

November 2016

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory and drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 163327
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 11/29/2016

Dear Mr. Palmer:

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw, Lab Director — 1.12.17 Date — 23 # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **163327**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

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 Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
163327.01	SB-1	11/29/16	11/29/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals placed on HOLD per customer.
163327.02	SB-4	11/29/16	11/29/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals placed on HOLD per customer.
163327.03	SB-6	11/29/16	11/29/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals placed on HOLD per customer.
163327.04	SB-13	11/29/16	11/29/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals placed on HOLD per customer.
163327.05	SB-14	11/29/16	11/29/16	aqueous		Adheres to Sample Acceptance Policy Dissolved metals placed on HOLD per customer.

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

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

References include:

1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

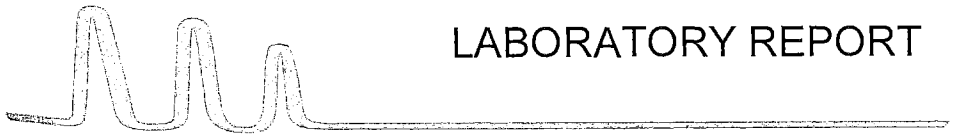
EAI ID#: **163327**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-14					
Lab Sample ID:	163327.01	163327.05					
Matrix:	aqueous	aqueous					
Date Sampled:	11/29/16	11/29/16					
Date Received:	11/29/16	11/29/16					
				Analysis			
			Units	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**88**	**12**	mg/L	12/01/16	14:20	2540C-97	ATA
Fluoride	< 0.1	< 0.1	mg/L	12/06/16	22:26	300.0	KD
Sulfate	**6**	**4**	mg/L	12/06/16	22:26	300.0	KD
Chloride	**62**	**7**	mg/L	12/06/16	22:26	300.0	KD

Sample ID:	SB-4	SB-6	SB-13					
Lab Sample ID:	163327.02	163327.03	163327.04					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	11/29/16	11/29/16	11/29/16					
Date Received:	11/29/16	11/29/16	11/29/16					
					Analysis			
				Units	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**180**	**230**	**240**	mg/L	12/01/16	14:20	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	mg/L	12/07/16	1:19	300.0	KD
Sulfate	**10**	**9**	**8**	mg/L	12/07/16	1:19	300.0	KD
Chloride	**100**	**130**	**140**	mg/L	12/07/16	12:09	300.0	KD



LABORATORY REPORT

EAI ID#: **163327**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	163327.01	163327.02	163327.03	163327.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	11/29/16	11/29/16	11/29/16	11/29/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	11/29/16	11/29/16	11/29/16	11/29/16					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Arsenic	< 0.001	**0.001**	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Barium	**0.016**	**0.012**	**0.016**	**0.016**	AqTot	mg/L	12/1/16	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Boron	< 0.05	< 0.05	< 0.05	< 0.05	AqTot	mg/L	12/1/16	200.8	DS
Calcium	**8.0**	**7.0**	**8.1**	**7.4**	AqTot	mg/L	12/1/16	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	**0.001**	AqTot	mg/L	12/1/16	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	12/1/16	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	12/1/16	200.8	DS

Sample ID:	SB-14						
Lab Sample ID:	163327.05						
Matrix:	aqueous						
Date Sampled:	11/29/16	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**	
Date Received:	11/29/16						
Antimony	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Arsenic	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Barium	**0.002**	AqTot	mg/L	12/1/16	200.8	DS	
Beryllium	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Boron	< 0.05	AqTot	mg/L	12/1/16	200.8	DS	
Calcium	**2.9**	AqTot	mg/L	12/1/16	200.8	DS	
Cadmium	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Chromium	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Cobalt	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Lead	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Mercury	< 0.0001	AqTot	mg/L	12/1/16	200.8	DS	
Molybdenum	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Selenium	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	
Thallium	< 0.001	AqTot	mg/L	12/1/16	200.8	DS	

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: December 28, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 163327
SB-1

PWS ID#
Sample Collection : 11-29-16/1338
Lab ID No: 16.14458
Lab Custody Date: 12-9-16/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.8 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	1.0 ± 0.4	12-16-16/1018	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.8 ± 0.5	12-19-16/1113	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: December 28, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 163327
SB-4

PWS ID#
Sample Collection : 11-29-16/1015
Lab ID No: 16.14459
Lab Custody Date: 12-9-16/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.2 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.7 ± 0.3	12-16-16/1018	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.5 ± 0.5	12-19-16/1113	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: December 28, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 163327
SB-6

PWS ID#
Sample Collection : 11-29-16/1305
Lab ID No: 16.14460
Lab Custody Date: 12-9-16/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.3 ± 0.5	Calc	Calc	0.8
4020	Radium-226	pCi/L	0.5 ± 0.2	12-16-16/1018	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.8 ± 0.5	12-27-16/1108	EPA Ra-05	0.8

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: December 28, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 163327
SB-13

PWS ID#
Sample Collection : 11-29-16/1531
Lab ID No: 16.14461
Lab Custody Date: 12-9-16/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.3 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.6 ± 0.3	12-16-16/1018	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.7 ± 0.5	12-23-16/1033	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: December 27, 2016

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 163327
SB-14

PWS ID#
Sample Collection : 11-29-16/1150
Lab ID No: 16.14462
Lab Custody Date: 12-9-16/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.4 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.2 ± 0.4	12-19-16/1533	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.2 ± 0.5	12-23-16/1033	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

1 of 2

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI SRB# 163327

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	11/29/2016 13:38	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.14458
SB-4	11/29/2016 10:15	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.14459
SB-6	11/29/2016 13:05	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.14460
SB-13	11/29/2016 15:31	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	16.14461

EAI SRB# 163327 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 45509

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: _____

Relinquished by	Date/Time	Received by
[signature]	12-9-16 1530	DPS
[signature]	12-9-16 1650	
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

20f2

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

10

EAI SRB# 163327

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	11/29/2016 11:50	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

16.14462

GA 12-28-16

EAI SRB# 163327 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Eastern Analytical Inc. PO Number: 45509

Please call prior to analyzing, if RUSH surcharges will be applie

Samples Collected by: _____

Relinquished by	Date/Time	Received by
[signature]	12-5-16 1530	UPS
[signature]	12-9-16	1030
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI ID# 163327

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-6	11/29/2016 13:05	aqueous	Radium 228 Combined Subcontract KNL *	16.14460

EAI ID# 163327 **Project State: NH**
Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.

*Please include WI EAI # 163327 Radium 226 Sample previously submitted. Need Results ASAP!!

PO #: **EAI ID# 163327**

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
[signature]	12/15/16 15:30	UPS
	12-19-16/0900	KNL

Relinquished by	Date/Time	Received by

Katahdin
ANALYTICAL SERVICES

nelac
Cert. No. E87604

December 19, 2016

Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: TJ0241
Project ID: 3949 - EAI SRB# 163327
Project Manager: Ms. Kristen Schultz
Sample Receipt Date(s): December 06, 2016

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

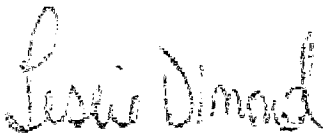
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES



Authorized Signature

12/19/2016
Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: TJ0241-001
Report Date: 12/16/2016
PO No.: 45508
Project: 3949 - EAI SRB# 163327

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	11/29/2016	12/06/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	12/9/16	MD	EPA 200.7	12/7/16	MD	JL07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: TJ0241-002
Report Date: 12/16/2016
PO No.: 45508
Project: 3949 - EAI SRB# 163327

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	11/29/2016	12/06/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	12/9/16	MD	EPA 200.7	12/7/16	MD	JL071CW1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: TJ0241-003
Report Date: 12/16/2016
PO No.: 45508
Project: 3949 - EAI SRB# 163327

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	11/29/2016	12/06/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	12/9/16	MD	EPA 200.7	12/7/16	MD	JL07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: TJ0241-004
Report Date: 12/16/2016
PO No.: 45508
Project: 3949 - EAI SRB# 163327

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	11/29/2016	12/06/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	12/9/16	MD	EPA 200.7	12/7/16	MD	JL07ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: TJ0241-005
Report Date: 12/16/2016
PO No.: 45508
Project: 3949 - EAI SRB# 163327

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	11/29/2016	12/06/2016

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	12/9/16	MD	EPA 200.7	12/7/16	MD	JL07ICW1	

Katahdin Analytical Services, LLC. Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KSS	Sampled By: Client
Project:	KIMS Entry By: SO	Delivered By: UPS
KAS Work Order#: TJ0241	KIMS Review By:	Received By: SO
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 12-16-16 930

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): -0.4
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

TJ0241

EAI SRB# 163327

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	11/29/2016 13:38	aqueous	Subcontract - Metals by ICP-AES	
SB-4	11/29/2016 10:15	aqueous	Subcontract - Metals by ICP-AES	
SB-6	11/29/2016 13:05	aqueous	Subcontract - Metals by ICP-AES	
SB-13	11/29/2016 15:31	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 163327 **Project State: NH**
Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std
QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:
Email pdf of results and invoice to customerservice@eailabs.com.
Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 45508

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: 12/5/16 15:30 JPS

Relinquished by	Date/Time	Received by
	12-6-16 930	
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

TJ0241

EAI SRB# 163327

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	11/29/2016 11:50	aqueous	Subcontract - Metals by ICP-AES	

EAI SRB# 163327 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

Eastern Analytical Inc. PO Number: 45508

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: [signature] 12/5/16 15:30 UPS

Relinquished by	Date/Time	Received by
Relinquished by	**Date/Time**	**Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 07, 2016
11:58 AM

Login Number: TJ0241

Account: EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	45508
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	-0.4
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	WEST-XLS
LOGIN INITIALS	:	SO
PM	:	KSS
PROJECT NAME	:	3949 - EAI SRB# 163327
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TJ0241-1	SB-1	29-NOV-16 13:38	06-DEC-16			18-DEC-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	28-MAY-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	28-MAY-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TJ0241-2	SB-4	29-NOV-16 10:15	06-DEC-16			18-DEC-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	28-MAY-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	28-MAY-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TJ0241-3	SB-6	29-NOV-16 13:05	06-DEC-16			18-DEC-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	28-MAY-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	28-MAY-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TJ0241-4	SB-13	29-NOV-16 15:31	06-DEC-16			18-DEC-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	28-MAY-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	28-MAY-17	250mL Plastic+HNO3		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TJ0241-5	SB-14	29-NOV-16 11:50	06-DEC-16			18-DEC-16	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	28-MAY-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	28-MAY-17	250mL Plastic+HNO3		

Total Samples: 5 ***Total Analyses: 10***

CHAIN-OF-CUSTODY RECORD

163327

23

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	11/29/2016 13:35	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-4	11/29/2016 10:15	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-6	11/29/2016 13:05	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-13	11/29/2016 15:31	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒
SB-14	11/29/2016 11:50	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☒

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949
Project Name Merrimack Station Coal Ash Landfill - Low Flow
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#
Quote#:
Temp 5.7 °C
Ice Y ☒ N ☐

Samples Collected by: JL, JG (EAI)

Relinquished by	Date/Time	Received by
	11/29/2016 1710	
Relinquished by	Date/Time	Received by

April 2017

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory and drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 167806
Client Identification: Merrimack Station Coal Ash Landfill - Low Flow
Date Received: 4/19/2017

Dear Mr. Palmer :

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw — 5.5.17 — 22

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

SAMPLE CONDITIONS PAGE

EAI ID#: **167806**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

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

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
167806.01	SB-1	4/19/17	4/19/17	aqueous		Adheres to Sample Acceptance Policy Diss. metals are on HOLD per customer.
167806.02	SB-4	4/19/17	4/19/17	aqueous		Adheres to Sample Acceptance Policy Diss. metals are on HOLD per customer.
167806.03	SB-6	4/19/17	4/19/17	aqueous		Adheres to Sample Acceptance Policy Diss. metals are on HOLD per customer.
167806.04	SB-13	4/19/17	4/19/17	aqueous		Adheres to Sample Acceptance Policy Diss. metals are on HOLD per customer.
167806.05	SB-14	4/19/17	4/19/17	aqueous		Adheres to Sample Acceptance Policy Diss. metals are on HOLD per customer.

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **167806**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	167806.01	167806.02	167806.03	167806.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	4/19/17	4/19/17	4/19/17	4/19/17		Analysis			
Date Received:	4/19/17	4/19/17	4/19/17	4/19/17	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**120**	**260**	**190**	**270**	mg/L	04/21/17	10:15	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	04/26/17	21:11	300.0	KD
Sulfate	**8**	**9**	**9**	**8**	mg/L	04/26/17	21:11	300.0	KD
Chloride	**56**	**120**	**100**	**130**	mg/L	04/26/17	21:11	300.0	KD

Sample ID:	SB-14						
Lab Sample ID:	167806.05						
Matrix:	aqueous						
Date Sampled:	4/19/17	Analysis					
Date Received:	4/19/17	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**120**	mg/L	04/21/17	10:15	2540C-97	ATA	
Fluoride	< 0.1	mg/L	04/27/17	2:47	300.0	KD	
Sulfate	**5**	mg/L	04/27/17	2:47	300.0	KD	
Chloride	**56**	mg/L	04/27/17	2:47	300.0	KD	

LABORATORY REPORT

EAI ID#: **167806**

Client: **Eversource Energy**

Client Designation: **Merrimack Station Coal Ash Landfill - Low Flow**

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	167806.01	167806.02	167806.03	167806.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	4/19/17	4/19/17	4/19/17	4/19/17	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	4/19/17	4/19/17	4/19/17	4/19/17					
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Arsenic	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Barium	**0.016**	**0.019**	**0.013**	**0.016**	AqTot	mg/L	4/20/17	200.8	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Boron	< 0.05	< 0.05	< 0.05	< 0.05	AqTot	mg/L	4/20/17	200.8	DS
Calcium	**10**	**10**	**7.4**	**8.0**	AqTot	mg/L	4/20/17	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	4/20/17	200.8	DS
Molybdenum	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	4/20/17	200.8	DS

Sample ID:	SB-14							
Lab Sample ID:	167806.05							
Matrix:	aqueous							
Date Sampled:	4/19/17	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**		
Date Received:	4/19/17							
Antimony	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Arsenic	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Barium	**0.010**	AqTot	mg/L	4/20/17	200.8	DS		
Beryllium	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Boron	< 0.05	AqTot	mg/L	4/20/17	200.8	DS		
Calcium	**10**	AqTot	mg/L	4/20/17	200.8	DS		
Cadmium	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Chromium	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Cobalt	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Lead	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Mercury	< 0.0001	AqTot	mg/L	4/20/17	200.8	DS		
Molybdenum	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Selenium	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		
Thallium	< 0.001	AqTot	mg/L	4/20/17	200.8	DS		

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 5, 2017

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 167806
SB-1
Project ID No. 3949

PWS ID#
Sample Collection : 4-19-17/1511
Lab ID No: 17.4645
Lab Custody Date: 4-25-17/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.6 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.4 ± 0.3	5-4-17/1201	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.2 ± 0.5	5-4-17/1124	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 5, 2017

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 167806
SB-4
Project ID No. 3949

PWS ID#
Sample Collection : 4-19-17/1016
Lab ID No: 17.4646
Lab Custody Date: 4-25-17/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.3 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.3 ± 0.3	5-4-17/1201	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.0 ± 0.5	5-4-17/1124	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 5, 2017

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 167806
SB-6
Project ID No. 3949

PWS ID#
Sample Collection : 4-19-17/1321
Lab ID No: 17.4647
Lab Custody Date: 4-25-17/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.6 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.4 ± 0.3	5-4-17/1201	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.2 ± 0.5	5-4-17/1124	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 5, 2017

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 167806
SB-13
Project ID No. 3949

PWS ID#
Sample Collection : 4-19-17/1102
Lab ID No: 17.4648
Lab Custody Date: 4-25-17/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	1.2 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.9 ± 0.3	5-4-17/1201	EPA 903.0	0.4
4030	Radium-228	pCi/L	0.3 ± 0.5	5-4-17/1124	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

KNL ENVIRONMENTAL TESTING

DOH Certification #E84025

Report Date: May 5, 2017

Eastern Analytical, Inc.
25 Chenell Dr.
Concord, NH 03301

Field Custody: Client
Client/Field ID: 167806
SB-14
Project ID No. 3949

PWS ID#
Sample Collection : 4-19-17/1254
Lab ID No: 17.4649
Lab Custody Date: 4-25-17/1030
Sample Description: Water

CERTIFICATE OF ANALYSIS

Contam Code	Parameter	Units	Results	Analysis Date/Time	Method	Detection Limit
4010	Radium-226 + Radium-228	pCi/L	0.8 ± 0.5	Calc	Calc	0.7
4020	Radium-226	pCi/L	0.7 ± 0.3	5-4-17/1201	EPA 903.0	0.3
4030	Radium-228	pCi/L	0.1 ± 0.5	5-4-17/1124	EPA Ra-05	0.7

Alpha Standard: Th-230

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI ID# 167806

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	4/19/2017 15:11	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	17.4645
SB-4	4/19/2017 10:16	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	17.4646
SB-6	4/19/2017 13:21	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	17.4647
SB-13	4/19/2017 11:02	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	17.4648

EAI ID# 167806 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

PO #:46061 **EAI ID# 167806**

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Relinquished by	Date/Time	Received by
Chris Johnson	4/20/17 1530	UPS
	4-25-16 1030	

Relinquished by	Date/Time	Received by

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI ID# 167806

10

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	4/19/2017 12:54	aqueous	Radium 226 & Radium 228 Combined Subcontract KNL	

17.4649

EAI ID# 167806 **Project State: NH**

Project ID: 3949

Company KNL Environmental Testing
Address 3202 N. Florida Ave.
Address Tampa, FL 33603
Account #
Phone # 813-229-2879
Fax Number 813-229-0002

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

PO #:46061 **EAI ID# 167806**

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Chris Johnson 4/20/17 1530 UPS

Relinquished by **Date/Time** **Received by**

4-25-17 1030 MB

Relinquished by **Date/Time** **Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Cert. No. E87604

May 3, 2017

Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord,NH 03301

RE: Katahdin Lab Number: SK3195
Project ID: EAI ID#167806, Project 3949
Project Manager: Mr. Galen Nickerson
Sample Receipt Date(s): April 21, 2017

To Whom it May Concern:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert.html for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Lorie Dimond

Authorized Signature

05/03/2017

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U — Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E — Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J — Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 — The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 — Please refer to cover letter or narrative for further information.

H_ — Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 — The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 — The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 — The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 — The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 — The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 — As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 — The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 — The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SK3195-001
Report Date: 5/1/2017
PO No.: 46062
Project: EAI ID#167806, Project 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-1	AQ	No(Total)	04/19/2017	04/21/2017

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	4/27/17	MD	EPA 200.7	4/27/17	MD	KD27ICW1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SK3195-002
Report Date: 5/1/2017
PO No.: 46062
Project: EAI ID#167806, Project 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-4	AQ	No(Total)	04/19/2017	04/21/2017

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	4/27/17	MD	EPA 200.7	4/27/17	MD	KD27ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SK3195-003
Report Date: 5/1/2017
PO No.: 46062
Project: EAI ID#167806, Project 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-6	AQ	No(Total)	04/19/2017	04/21/2017

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	4/27/17	MD	EPA 200.7	4/27/17	MD	KD27ICW1	

Katahdin
ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SK3195-004
Report Date: 5/1/2017
PO No.: 46062
Project: EAI ID#167806, Project 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-13	AQ	No(Total)	04/19/2017	04/21/2017

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	4/27/17	MD	EPA 200.7	4/27/17	MD	KD27ICW1	

Katahdin ANALYTICAL SERVICES

REPORT OF ANALYTICAL RESULTS

Client: Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive
Concord, NH 03301

Lab Sample ID: SK3195-005
Report Date: 5/1/2017
PO No.: 46062
Project: EAI ID#167806, Project 3949

Sample Description	Matrix	Filtered	Date Sampled	Date Received
SB-14	AQ	No(Total)	04/19/2017	04/21/2017

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
LITHIUM	U 0.100	mg/L	0.100	1	0.1	EPA 200.7	4/27/17	MD	EPA 200.7	4/27/17	MD	KD27ICW1	

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eastern Analytical	KAS PM: KSS	Sampled By: Client
Project:	KIMS Entry By: SO	Delivered By: UPS
KAS Work Order#: SK3195	KIMS Review By:	Received By: SO
SDG #:	Cooler: ___ of ___	Date/Time Rec.: 4-21-17 1130

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				✓	Temp (°C): N/A
Samples received at <6 °C w/o freezing?				✓	Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?				✓	The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?				✓	
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

SK3195

EAI ID# 167806

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-1	4/19/2017 15:11	aqueous	Subcontract - Metals by ICP-AES	
SB-4	4/19/2017 10:16	aqueous	Subcontract - Metals by ICP-AES	
SB-6	4/19/2017 13:21	aqueous	Subcontract - Metals by ICP-AES	
SB-13	4/19/2017 11:02	aqueous	Subcontract - Metals by ICP-AES	

EAI ID# 167806 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

PO #:46062 **EAI ID# 167806**

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Chris Johnson 4/20/17 1530 UAS

Relinquished by Date/Time Received by

Relinquished by Date/Time Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

EAI ID# 167806

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
SB-14	4/19/2017 12:54	aqueous	Subcontract - Metals by ICP-AES	

EAI ID# 167806 **Project State: NH**

Project ID: 3949

Company Katahdin Analytical Services,
Address 600 Technmology Way
Address Scarborough, ME 04074
Account #
Phone # (207) 874-2400
Fax Number

Results Needed by: Preferred date Std

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Metals: Lithium only: 2 - 250ml containers per sample

PO #: 46062 **EAI ID# 167806**

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Chris Johnson 4/20/17 1530 UPS

Relinquished by **Date/Time** **Received by**

Relinquished by **Date/Time** **Received by**

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Apr. 21, 2017
12:00 PM

Login Number: SK3195

Account:EASTAN001 NoWeb
Eastern Analytical, Inc.

Project:

Primary Report Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301
customerservice@eailabs.com

Primary Invoice Address:
Eastern Analytical, Inc.
Eastern Analytical, Inc.
25 Chenell Drive

Concord,NH 03301

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming:

Login Information:

ANALYSIS INSTRUCTIONS	:	
CHECK NO.	:	
CLIENT PO#	:	46062
CLIENT PROJECT MANAGE	:	
CONTRACT	:	
COOLER TEMPERATURE	:	n/a
DELIVERY SERVICES	:	UPS
EDD FORMAT	:	WEST-XLS
LOGIN INITIALS	:	SO
PM	:	KSS
PROJECT NAME	:	EAI ID#167806, Project 3949
QC LEVEL	:	I
REGULATORY LIST	:	
REPORT INSTRUCTIONS	:	email pdf, EDD and invoice to customerservice@eailabs.com, no HC
SDG ID	:	
SDG STATUS	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SK3195-1	SB-1	19-APR-17 15:11	21-APR-17			03-MAY-17	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	16-OCT-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	16-OCT-17	250mL Plastic+HNO3		

SK3195-2	SB-4	19-APR-17 10:16	21-APR-17			03-MAY-17	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	16-OCT-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	16-OCT-17	250mL Plastic+HNO3		

SK3195-3	SB-6	19-APR-17 13:21	21-APR-17			03-MAY-17	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	16-OCT-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	16-OCT-17	250mL Plastic+HNO3		

SK3195-4	SB-13	19-APR-17 11:02	21-APR-17			03-MAY-17	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	16-OCT-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	16-OCT-17	250mL Plastic+HNO3		

SK3195-5	SB-14	19-APR-17 12:54	21-APR-17			03-MAY-17	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E200.7-LITHIUM	16-OCT-17	250mL Plastic+HNO3		
Aqueous	S	E200.7-PREP	16-OCT-17	250mL Plastic+HNO3		

Total Samples: *5* ***Total Analyses:*** *10*

CHAIN-OF-CUSTODY RECORD

167806

22

Sample IDs	Date/Time (Composites need start and stop dates/times)	Matrix	Parameters and Sample Notes	# of containers
SB-1	04/19/2017 15:11	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☑
SB-4	04/19/2017 10:16	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☑
SB-6	04/19/2017 13:21	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☑
SB-13	04/19/2017 11:02	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☑
SB-14	04/19/2017 12:54	aqueous Grab or Comp	AqTot/Cl/F/SO4/TDS/Rad226Rad228ComboSubKNL/ICPMets.B.Ca.Sb.As.Ba.Be.Cd.Cr.Co.Pb.Li.Hg.Mo.Se.Tl AqDis/ICPMets.Sb.As.B.Ba.Be.Cd.Cr.Co.Pb.Hg.Se.Tl	8
☑ Sampler confirms ID and parameters are accurate			*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)	Dissolved Sample Field Filtered ☑

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949

Project Name Merrimack Station Coal Ash Landfill - Low Flow

State NH

Client (Pro Mgr) Allan Palmer

Customer Eversource Energy

Address 780 North Commercial Street, PO

City Manchester NH 03105-0330

Phone 669-4000 **Fax** Choose one:

Email: allan.palmer@eversource.com

Direct 634-2439

Results Needed by: Preferred date _____

Notes:

Samples collected via Low Flow Method
Lithium sub to Katahdin - 500ml HNO3 container
Please HOLD dissolved metals analyses

QC deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions

☒ HC
☒ EDD PDF
☒ EDD email
☒ PDF prelim, NO FAX
☐ e-mail Login Confirmation
☐ NO FAX
☐ Partial FAX
☐ PDF Invoice
☐ EQUIS

PO# PO#

Quote#:

Temp 3.1 °C

Ice Y ☒ N ☐

Samples Collected by: JG, JL (EAI)

Relinquished by	Date/Time	Received by
[signature]	04/19/2017 17:30	[signature]
Relinquished by	Date/Time	Received by

November 2017

SANBORN HEAD

Eastern Analytical, Inc.

professional laboratory and drilling services

Allan Palmer
Eversource Energy
780 North Commercial Street, PO Box 330
Manchester , NH 03105-0330

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 176142
Client Identification: Merrimack Station Coal Ash Landfill
Date Received: 11/17/2017

Dear Mr. Palmer :

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

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

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

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

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

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

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

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

12.8.17 — Date

6 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **176142**

Client: **Eversource Energy**

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

Temperature upon receipt (°C): 1.7 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
176142.01	SB-1	11/17/17	11/17/17	aqueous		Adheres to Sample Acceptance Policy
176142.02	SB-4	11/17/17	11/17/17	aqueous		Adheres to Sample Acceptance Policy
176142.03	SB-6	11/17/17	11/17/17	aqueous		Adheres to Sample Acceptance Policy
176142.04	SB-13	11/17/17	11/17/17	aqueous		Adheres to Sample Acceptance Policy
176142.05	SB-14	11/17/17	11/17/17	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
All results contained in this report relate only to the above listed samples.
References include:
1) EPA 600/4-79-020, 1983
2) Standard Methods for Examination of Water and Wastewater,20th Edition, 1998 and 22nd Edition, 2012
3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **176142**

Client: **Eversource Energy**

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

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	176142.01	176142.02	176142.03	176142.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	11/17/17	11/17/17	11/17/17	11/17/17		Analysis			
Date Received:	11/17/17	11/17/17	11/17/17	11/17/17	**Units**	**Date**	**Time**	**Method**	**Analyst**
Solids Dissolved	**120**	**170**	**230**	**220**	mg/L	11/20/17	15:10	2540C-97	ATA
Fluoride	< 0.1	< 0.1	< 0.1	< 0.1	mg/L	11/28/17	5:09	300.0	KD
Sulfate	**8**	**13**	**11**	**9**	mg/L	11/28/17	5:09	300.0	KD
Chloride	**68**	**77**	**130**	**110**	mg/L	11/29/17	16:11	4500ClE-97	KD

Sample ID:	SB-14						
Lab Sample ID:	176142.05						
Matrix:	aqueous						
Date Sampled:	11/17/17	Analysis					
Date Received:	11/17/17	**Units**	**Date**	**Time**	**Method**	**Analyst**	
Solids Dissolved	**59**	mg/L	11/20/17	15:10	2540C-97	ATA	
Fluoride	< 0.1	mg/L	11/28/17	8:02	300.0	KD	
Sulfate	**5**	mg/L	11/28/17	8:02	300.0	KD	
Chloride	**18**	mg/L	11/29/17	16:19	4500ClE-97	KD	

LABORATORY REPORT

EAI ID#: **176142**

Client: **Eversource Energy**

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

Sample ID:	SB-1	SB-4	SB-6	SB-13					
Lab Sample ID:	176142.01	176142.02	176142.03	176142.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	11/17/17	11/17/17	11/17/17	11/17/17	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	11/17/17	11/17/17	11/17/17	11/17/17					
Boron	**0.05**	< 0.05	< 0.05	< 0.05	AqTot	mg/L	11/21/17	200.8	DS
Calcium	**12**	**10**	**9.9**	**7.0**	AqTot	mg/L	11/21/17	200.8	DS

Sample ID:	SB-14					
Lab Sample ID:	176142.05					
Matrix:	aqueous					
Date Sampled:	11/17/17	**Analytical Matrix**	**Units**	**Date of Analysis**	**Method**	**Analyst**
Date Received:	11/17/17					
Boron	< 0.05	AqTot	mg/L	11/21/17	200.8	DS
Calcium	**8.0**	AqTot	mg/L	11/21/17	200.8	DS

LABORATORY REPORT

EAI ID#: **176142**

Client: **Eversource Energy**

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

Sample ID:	SB-1	SB-4	SB-6	SB-13				
Lab Sample ID:	176142.01	176142.02	176142.03	176142.04				
Matrix:	aqueous	aqueous	aqueous	aqueous				
Date Sampled:	11/17/17	11/17/17	11/17/17	11/17/17				
Date Received:	11/17/17	11/17/17	11/17/17	11/17/17	**Units**	**Date of Analysis**	**Method**	**Analyst**
Field pH	**5.7**	**5.8**	**5.6**	**5.8**	SU	11/17/17	SM4500H	JG

Sample ID:	SB-14			
Lab Sample ID:	176142.05			
Matrix:	aqueous			
Date Sampled:	11/17/17			
Date Received:	11/17/17	**Units**	**Date of Analysis**	**Method**	**Analyst**
Field pH	**5.6**	SU	11/17/17	SM4500H	JL

1 of 2 PA- 11/20/17

Eastern Analytical, Inc. CHAIN-OF-CUSTODY RECORD

176142

Sample IDs	Date/Time *Composites need start and stop dates/times*	Matrix	Parameters and Sample Notes	# of containers
SB-1	11/17/2017 11:29 JL ~~12:05~~	aqueous Grab or Comp	AqTot/F/Cl/FieldpH/SO4/TDS/ICPMets.B.Ca	3
☒ Sampler confirms ID and parameters are accurate	*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)			Dissolved Sample Field Filtered ☐
SB-4	11/17/2017 09:54	aqueous Grab or Comp	AqTot/F/Cl/FieldpH/SO4/TDS/ICPMets.B.Ca	3
☒ Sampler confirms ID and parameters are accurate	*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)			Dissolved Sample Field Filtered ☐
SB-6	11/17/2017 12:04	aqueous Grab or Comp	AqTot/F/Cl/FieldpH/SO4/TDS/ICPMets.B.Ca	3
☒ Sampler confirms ID and parameters are accurate	*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)			Dissolved Sample Field Filtered ☐
SB-13	11/17/2017 09:50	aqueous Grab or Comp	AqTot/F/Cl/FieldpH/SO4/TDS/ICPMets.B.Ca	3
☒ Sampler confirms ID and parameters are accurate	*Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE)			Dissolved Sample Field Filtered ☐

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949
Project Name Merrimack Station Coal Ash Landfill
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC ☐ NO FAX
☒ EDD PDF ☐ Partial FAX
☒ EDD email ☐ PDF Invoice
☒ PDF prelim, NO FAX ☐ EQUIS
☐ e-mail Login Confirmation

PO# 02291429
Quote#:
Temp 1.7 °C
Ice Y ☒ N ☐

Samples Collected by: JG, JL (EAI)

Relinquished by	Date/Time	Received by
[signature]	11/17/2017 1430	[signature]
Relinquished by	Date/Time	Received by

2 of 2 PA 11/20/17

Eastern Analytical, Inc. CHAIN-OF-CUSTODY RECORD **176142**

PSCNH1

Sample IDs	Date/Time *Composites need start and stop dates/times*	Matrix	Parameters and Sample Notes	# of containers
SB-14	11/17/2017 13:32	aqueous Grab or Comp	AqTot/F/Cl/FieldpH/SO4/TDS/ICPMets.B.Ca	3

☐ **Sampler confirms ID and parameters are accurate** *Circle preservative/s:* HCL (HNO3) H_2SO_4 NaOH MEOH $Na_2S_2O_3$ (ICE) Dissolved Sample Field Filtered ☐

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 3949
Project Name Merrimack Station Coal Ash Landfill
State NH
Client (Pro Mgr) Allan Palmer
Customer Eversource Energy
Address 780 North Commercial Street, PO
City Manchester NH 03105-0330
Phone 669-4000 **Fax** Choose one:
Email: allan.palmer@eversource.com
Direct 634-2439

Results Needed by: Preferred date _____
Notes:

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ PC

ReportingOptions
☒ HC ☐ NO FAX
☒ EDD PDF ☐ Partial FAX
☒ EDD email ☐ PDF Invoice
☒ PDF prelim, NO FAX ☐ EQUIS
☐ e-mail Login Confirmation

PO# 02291429
Quote#:
Temp 1.7 °C
Ice Y ☒ N ☐

Samples Collected by: JG, JL (EAI)

Relinquished by	Date/Time	Received by
[signature]	11/17/2017 1430	[signature]
Relinquished by	**Date/Time**	**Received by**