



Operated By
NEWSME Landfill Operations, LLC

July 29, 2024

Tanya Hovell
Maine Department of Environmental Protection
Bureau of Air Quality
106 Hogan Road
Bangor, Maine 04401

RE: NEWSME Landfill Operations, LLC
DBA Juniper Ridge Landfill (JRL)
(Formerly West Old Town Landfill)
Part 70 Air Emission License A-921-70-F-R
Semiannual Report and Compliance Certification

Dear Ms. Hovell:

Please find enclosed Juniper Ridge Landfill's (JRL's) semiannual report and certification for the period from January 1 to June 30, 2024. This semiannual report was prepared to comply with JRL's Part 70 Air Emission License (A-921-70-F-R) and United States Environmental Protection Agency (USEPA) requirements in Subpart XXX of the New Source Performance Standards (NSPS) and Subpart AAAA of the National Emission Standards for Hazardous Air Pollutants (NESHAP).

If you should require any additional information regarding the enclosed, please feel free to contact me at (207) 249-8025.

Sincerely,

Jeffrey Pelletier
Environmental Manager
NEWSME Landfill Operations, LLC

Enclosure: Part 70 Air Emission License Semiannual Certification
Semiannual Compliance Data Summary
Semiannual NESHAP Subpart AAAA GCCS Report

cc: USEPA Region 1
Lane Gould, Bureau of General Services, State of Maine
Wayne Boyd, NEWSME Landfill Operations, LLC

Semiannual Report Certification Cover Sheet

Facility Name	NEWSME Landfill Operations, LLC DBA Juniper Ridge Landfill
License Number	A-921-70-F-R
Period Covered By Certification	Semiannual: January 1 to June 30, 2024
Total Number of Pages Submitted in Certification (including this cover sheet)	34

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, I believe the information included in the attached document is true, complete, and accurate.



Samuel C. Nicolai
Vice President of Engineering & Compliance
NEWSME Landfill Operations, LLC

07/28/2024

Date

SEMIANNUAL AIR LICENSE COMPLIANCE AND PERIODIC MONITORING REPORT FORM

Facility Name Juniper Ridge Landfill License Numbers A-921-70-F-R From 01 Jan to 30 Jun 2024
(month) (month) (year)

<i>Conditions</i>	<i>Emission Source / Control Device</i>	<i>Periodic Monitoring Parameter</i>	<i>Monitoring Frequency</i>	<i>Limit</i> (From license)	<i>Summary</i>
(1)	Allow Access to Site for Authorized Personnel	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(2)	New / Amended License Prior to Construction or Modification	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(3)	Establish BMP for Fugitive PM	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(4)	Annual Air License Fee	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(5)	Maintain and Operate Emission Units to Minimize Emissions	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(6)	Records Retention for Six Years	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(7)	Comply with Terms and Conditions of the License	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(8)	Perform Stack Testing within 60 Days of Notification	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(9)	Emissions in Excess of Applicable Standards	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(10)	Maintain Records of Deviations from License	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(11)	Determination of Licensee's Compliance Status	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(12)	Submission of Semiannual Reports of Monitoring	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance

Conditions	Emission Source / Control Device	Periodic Monitoring Parameter	Monitoring Frequency	Limit (From license)	Summary
(13)	Submission of Annual Compliance Certification	N/A	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(14)(A)	Solid Waste Landfill Operate to control TRS	Design with cover materials to control moisture and gas	N/A	LFG collection system design criteria	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(14)(B)	Solid Waste Landfill Flares	#2 & #3 shall not operate when #4 is. Hours of operation for #2 & #3	As occurs	100 hours per calendar year for #2 and #3	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(14)(C)	Solid Waste Landfill Flare #4	The top of Flare #4 shall be at least 265 feet above sea level at its location on the southeast end of the facility.	N/A	LFG collection system design criteria	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(14)(D)	Solid Waste Landfill Flares	Short-term Emission Limits	monthly	lb/hr limits for criteria pollutants and opacity limit	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(14)(E)	Solid Waste Landfill Annual Emissions	Tons-per-12-months emissions for SO ₂ , VOC, and HAPs	monthly	Tons-per-12-months limits for SO ₂ , VOC, and HAPs	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(15)(A)	Control Technology for sulfur	12-month average concentration of TRS in LFG	monthly	1,000 ppmv	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(15)(B)	Control Technology for sulfur	Monthly TRS sampling using DEP-approved test method (e.g., lab analysis of grab samples)	monthly	SO ₂ lb/hr and tpy limits and the TRS ppmv limit	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(15)(C)	Control Technology for sulfur	LFG flow, H ₂ S sampling with tubes, downtime, bypass, propane use, calibration of flow meters	Morning and afternoon two days per week	Used as an operational tool and not for compliance with numerical limits	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(15)(D)	Control Technology for sulfur	Compliance Assurance Monitoring (CAM)	Monthly TRS sampling [see (15)(B)] and monthly flow totals	SO ₂ lb/hr and tpy limits and the TRS ppmv limit	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(15)(E)	Control Technology for sulfur	Uptime	Continuous (i.e., every 15-minute) flow readings	95% uptime for all sulfur control equipment on a 12-month rolling total basis	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(16)(A)	NSPS Subpart XXX and NESHAP Subpart AAAA	Operate GCCS and route gas to flare or RNG plant	Continuous for LFG flow and flare temperature	Operational Requirement	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(16)(B)	Follow Standards from NESHAP Subpart AAAA (i.e., temperature limit = 145 °F)	Wellhead pressure and temperature, methane emissions from landfill surface,	Monthly for pressure and temperature, quarterly for	Negative pressure or HOV, 145 °F or HOV, 500 ppm methane,	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance

Conditions	Emission Source / Control Device	Periodic Monitoring Parameter	Monitoring Frequency	Limit (From license)	Summary
		operate control system, close valves within an hour of shutdown	methane emissions, continuous for control system operation	one hour to close valves/stop venting after shutdown	
(16)(C)	NESHAP Subpart AAAAA Monitoring	Wellhead pressure, oxygen, and temperature, enhanced temperature monitoring for exceedances, methane emissions from landfill surface, cover integrity checks, control system flow and flare temperature	Monthly for pressure, oxygen, temperature, and cover integrity, quarterly for methane emissions, continuous for control system flow and flare temperature	Negative pressure or HOV, 145 °F or HOV, 500 ppm methane	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(16)(D)	NESHAP Subpart AAAAA Notifications and Reports	90 days before expanding into area not covered by design plan, Initial Performance Test for the Flare, Semi-Annual Reports, Electronic submission of reports; Notification within 24 hours for wellhead gas temperature of 170 °F or more.	Semi-Annual reporting and additional one-time reporting	170 °F wellhead temperature requires 24-hour notification to DEP	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(16)(E)	NSPS and NESHAP Records	Design Capacity Report and waste acceptance, NESHAP Subpart AAAAA startup date (1/6/21), control system flow, flare temperature, GCCS downtimes and startup times, control device failures, maps for existing and planned GCCS, monitoring exceedances, enhance temperature monitoring, email transmissions of 24-hr 170 °F reports, Root cause analysis for exceedances that take more than 15-days to correct, other NESHAP Subpart AAAAA monitoring	Continuous for control system flow and flare temperature and additional recordkeeping requirements	Negative pressure or HOV, 145 °F or HOV, 500 ppm methane, 170 °F wellhead temperature requires 24-hour notification to DEP	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(17)(A), (B), and (C)	Generator #1 Fuel and Emission Limits	Operate with distillate fuel with sulfur limit of 0.0015% and within emission limits	Fuel deliveries as needed, emissions reported annually	Limits for criteria pollutants	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(17)(D)	Generator #1 Visible Emissions	Log startups, operate in accordance with manufacturer's instructions and good air pollution practices, less than 30 minutes to startup	Log each startup date, time, and duration	20% Opacity except for startup	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(17)(E)	Generator #1 NESHAP Subpart ZZZZ	a. Change the oil and filter b. Inspect the air cleaner; and c. Inspect the hoses and belts. Use oil analysis program as needed	Oil, oil filter, hoses and belts every 500 hours of operation, annually, or as needed. Air cleaner	500 hours for oil, oil filter, hoses and belts, 1,000 hours for air cleaner, 100	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance

Conditions	Emission Source / Control Device	Periodic Monitoring Parameter	Monitoring Frequency	Limit (From license)	Summary
		Non-resettable hour meter 100 hour/year for testing 30 minutes for startup	every 1,000 hours of operation, annually, or as needed. Oil analysis as needed.	hours for testing, 30 minutes for startup.	
(18)	Fugitive Emissions	Visible emissions from a fugitive emission source (including stockpiles and roadways)	5-minute block average basis	20% opacity	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(19)	Parameter Monitor General Requirements	Follow manufacturer recommendations, continuous monitoring, record reliable data	Every 15 minutes for continuous monitoring, at least 3 reading per hour	98% data reliability	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(20)	Compliance Assurance Monitoring (CAM)	Follow CAM Plan for sulfur removal system and coordinate changes to CAM plan with DEP	Continuous monitoring for flow, monthly grab samples for TRS concentrations	SO2 lb/hr and tpy limits	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(21)	Semi-Annual Reporting	Submit to the Bureau of Air Quality semiannual reports which are due on January 31st and July 31st	Semi-Annual Reports	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(22)	Annual Compliance Certification	Submit an annual compliance certification to the Department and EPA by January 31st of each year.	Annual Certifications	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(23)	Annual Emission Statements	Fuel records, TRS data, and hours of operation	Annual reports except for Hazardous Air Pollutants which are reported every three years (e.g., 2023, 2026)	Emission Limits in Air License	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(24)	General Applicable State Regulations	Open Burning, Emergencies, Ambient Air, Dispersion, and Mercury	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(25)	Units Containing Ozone Depleting Substances	Standards for recycling and emission reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. Examples of such units include refrigerators and any size air conditioners that contain CFCs.	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(26)	Asbestos Abatement	Standard for Asbestos Demolition and Renovation	When undertaking Asbestos abatement activities	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance

Conditions	Emission Source / Control Device	Periodic Monitoring Parameter	Monitoring Frequency	Limit (From license)	Summary
(27)	Expiration of a Part 70 license	JRL shall submit a complete Part 70 renewal application at least six but no more than 18 months prior to the expiration of this air license.	Renewal application due between Nov. 24, 2024 and Nov. 24, 2025	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance
(28)	New Source Review (NSR)	JRL is subject to NSR requirements summarized in the license even if the license expires.	N/A	N/A	<input checked="" type="checkbox"/> No deviations <input checked="" type="checkbox"/> Continuous compliance

1. This form certifies compliance with the May 24, 2021 Part 70 Air License (A-921-70-F-R) for the period from January 1, 2024 through June 30, 2024.

Juniper Ridge Landfill
Semiannual Compliance Data Summary January 1 to June 30, 2024

Month	Date TRS Sample Taken	TRS Samples Average of 3 samples Total Reduced Sulfur (ppm)		Flare #4 Flow on Day of TRS Sampling	Exiting Control Equipment		Total landfill gas flow for the Month				Flares #2 & #3 Runtime	Sulfur Control Equipment Downtime
		Inlet	Outlet	(scfm)	12-Month Average TRS (ppm)	12-Month Total SO2 (tons/yr)*	Scrubbed in the Thiopaq (scf)	Bypass of the Thiopaq (scf)	Flow to Flare #4 (scf)	Flow to Archaea's RNG Facility (scf)	hours	hours
January	01/23/24	10,576	636	2,540	595	89	131,781,609	0	131,781,609	0	0	0.2
February	02/20/24	11,888	577	2,819	566	86	130,842,898	527,894	131,370,792	0	0	4.1
March	03/12/24	7,582	454	2,047	563	87	137,234,181	52,465	107,970,138	29,316,508	0	0.6
April	04/09/24	8,598	475	2,207	561	88	121,114,725	0	108,777,932	12,336,793	0	0.2
May	05/14/24	8,884	664	1,746	594	94	126,127,993	0	87,355,295	38,772,698	0	1.3
June	06/11/24	8,751	804	1,869	592	97	120,254,608	2,206,997	91,932,174	30,529,431	0	13.2

*Includes bypass of the Thiopaq sulfur removal system. The sulfur removal system has a 95% uptime requirement.

Additional Conditions:	Limit
Records of inlet and outlet H2S concentrations are maintained onsite and are available upon request.	No limit listed
Records of control equipment downtime are maintained onsite and are available upon request.	No limit listed
Calibration logs of flow meters are maintained on site and are available upon request.	Once per year

**Semiannual Periodic Monitoring Report
NSPS Subpart XXX and NESHAP Subpart AAAA
Landfill Gas Collection and Control System**

FOR PERIOD FROM JANUARY 1 THROUGH JUNE 30, 2024

JUNIPER RIDGE LANDFILL

Old Town, Maine

Prepared for NEWSME Landfill Operations, LLC

File No. 2343.24

July 2024



Jeffrey Pelletier
Environmental Manager
NEWSME Landfill Operations, LLC
358 Emerson Mill Road
Hampden, Maine 04444

July 24, 2024
File No. 2343.24

Re: NSPS and NESHAP Semiannual Periodic Monitoring Report
Gas Collection and Control System
Juniper Ridge Landfill
Old Town, Maine

Dear Jeff:

On behalf of NEWSME Landfill Operations, LLC (NEWSME), Sanborn, Head & Associates, Inc. (Sanborn Head) prepared the enclosed semiannual periodic monitoring report for the gas collection and control system (GCCS) at the Juniper Ridge Landfill (JRL) in Old Town, Maine as required by Subpart XXX of the New Source Performance Standards (NSPS) and Subpart AAAA of the National Emission Standards for Hazardous Air Pollutants (NESHAP).

Please contact us with any questions.

Sincerely
SANBORN, HEAD & ASSOCIATES, INC.

A handwritten signature in black ink that reads "Jeff Doris".

Jeffrey J. Doris
Project Manager

A handwritten signature in black ink that reads "Heather H. Little".

Heather H. Little
Project Director

LMM/JJD/HHL: Imm

Encl. Semiannual Periodic Monitoring Report

cc: Wayne Boyd, NEWSME (electronic copy)
Michael Abbott, NEWSME (electronic copy)
Luigi Pizzuti, NEWSME (electronic copy)
Russell Anderson, NEWSME (electronic copy)

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FIGURE

Figure 1 Landfill Gas Collection and Control System

APPENDICES

Appendix A	Gas Extraction Point Exceedances
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Appendix D	Actions Taken to Improve the Quality and Quantity of Gas Collected

1.0 INTRODUCTION

On behalf of NEWSME Landfill Operations, LLC (NEWSME), Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this semiannual periodic monitoring report (semiannual report) for the gas collection and control system (GCCS) at the Juniper Ridge Landfill (JRL) in Old Town, Maine. We prepared this report to satisfy the requirements from 40 Code of Federal Regulations (CFR) Part 60 Subpart XXX (the New Source Performance Standards [NSPS] for Municipal Solid Waste [MSW] landfills) and 40 CFR Part 63 Subpart AAAAA (the National Emission Standards for Hazardous Air Pollutants [NESHAP] for MSW landfills).

This semiannual report covers the period from January 1 through June 30, 2024.

2.0 SITE DESCRIPTION

JRL is owned by the State of Maine and operated by NEWSME. JRL is located on the western side of Interstate 95 in Old Town, Maine, and is accessible from State Route 16 in Alton, Maine. Under the current license, JRL accepts approximately 2,400 tons per day of construction and demolition debris; residues (ash, front-end process residue [FEPR], and over-sized bulky wastes); bypass MSW; water and wastewater treatment plant sludge; and lesser amounts of miscellaneous non-hazardous wastes.

JRL is located on a 780-acre parcel of land, and the licensed footprint of the landfill is approximately 122 acres. Active filling began in Cell 1 at the site in December 1996. Current landfill operations are in Cell 15. Intermediate and intermediate-final cover have been placed in Cells 1 through 14. The licensed capacity of JRL is approximately 19.63 million cubic yards (15.01 million m³). With a waste compaction density of approximately 0.86 tons of waste per cubic yard, the estimated capacity on a mass basis is approximately 16.9 million tons (15.3 million Mg).

The JRL GCCS, shown in Figure 1, is designed for active collection of landfill gas (LFG) while maintaining anaerobic conditions within the landfill by limiting air intrusion into the waste. The GCCS is monitored using equipment that measures and records the LFG extraction in standard cubic feet per minute (scfm) and the concentration in LFG of methane, oxygen, carbon dioxide, and balance gas (primarily nitrogen) in percent by volume.

The GCCS is regularly expanded by adding gas extraction points and related infrastructure. LFG is managed in Cells 1 through 15 using nearly horizontal sloped gas collection trenches (GCTs) and/or vertical gas extraction wells. GCTs are temporary collectors installed to collect LFG until vertical wells are installed. Vertical wells are installed as needed, including on the outer slopes of the cells as they are filled to final grades. The vacuum applied at each extraction location is adjusted as needed with a manually controlled valve on the extraction location wellhead. The active system contains approximately 154 vertical wells and 87 gas collection trenches installed throughout Cells 1 through 15. LFG is also collected from eight other connections to the leachate and/or condensate collection systems and to additional horizontal collectors to control odors.



The NSPS and NESHAP do not require gas collection in areas where the waste has been in place less than five years, or less than two years for areas that have reached final grade or have been closed. Although not required by its air license, NSPS Subpart XXX, or NESHAP Subpart AAAA, JRL maintains gas collectors and connections to the leachate system and in recently placed waste and uses them as needed to control odors and minimize greenhouse gas emissions. Although these connections are monitored when in use, readings of non-negative pressure are not classified as exceedances of the monitoring standards.

LFG extraction points are connected to common header pipes that convey the gas to a 106.5 million British thermal units per hour (MMBtu/hr) open flare (Flare No. 4), which the Maine Department of Environmental Protection (Maine DEP) approved in November 2008. Open Flares No. 2 and No. 3 are licensed as backup LFG control devices, and do not operate simultaneously with Flare No. 4.

Ahead of the July 1, 2015 license deadline, JRL began operating a Thiopaq® sulfur treatment system to remove total reduced sulfur (TRS) compounds from LFG prior to combustion to reduce emissions of sulfur dioxide (SO₂).

During the reporting period, the third-party renewable natural gas (RNG) facility operated by Archaea Energy began operating adjacent to the JRL gas control system. In addition to sulfur removal to a concentration of 1,000 ppmv or less, LFG delivered to the RNG facility is compressed to at least one pound per square inch (1 psi), filtered in a knockout pot filter that maintains a pressure drop of less than 5 psi, and dewatered in a cooler that decreases the temperature of the compressed gas from approximately 200 degrees Fahrenheit (°F) to 130 °F or less.

3.0 SEMIANNUAL REPORT REQUIREMENTS

The semiannual report is required by 40 CFR Part 63.1981(h)(1) through (8) to contain:

1. The number of times that applicable parameters monitored under §63.1958(b), (c), and (d) were exceeded (i.e., limits for wellhead pressure, wellhead temperature, and methane surface emissions) and when the gas collection and control system was not operating under §63.1958(e) (e.g., occasions when one or more valves in the GCCS did not close during a shutdown, and thereby allowed venting of LFG to the atmosphere for an hour or more), including periods of startup, shutdown, or malfunction. For each instance, the date, time, and duration of each exceedance must be reported. For sites with a treatment system for a beneficial use project, the number of times the parameters in the site-specific treatment system plan were exceeded must be included.
2. Description and duration of periods when the gas stream was diverted from the control device or treatment system through a bypass line.
3. Description and duration of periods when the control device or treatment system was not operating.
4. Periods when the collection system was not operating.

5. The location and concentration of each exceedance of the 500-ppm methane concentration as provided in §63.1958(d). The location of each exceedance must be recorded with an accuracy of at least 4 meters and reported in units of latitude and longitude decimal degrees with at least five decimal places.
6. The date of installation and the location of each well or collection system expansion added pursuant to §63.1960(a)(3) and (4), (b), and (c)(4).
7. For any corrective action analysis for which corrective actions are required in §63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
8. The results of any enhanced monitoring for temperature exceedances.

The semi-annual reports also include the results of monthly landfill cover integrity checks.

4.0 GAS COLLECTION AND CONTROL SYSTEM

4.1 Monitoring

The monitoring required for this report includes the monitoring summarized below for gas extraction points and surface emissions. This section also summarizes the GCCS design and operation to prevent venting of LFG to the atmosphere for an hour or more.

4.1.1 Gas Extraction Point Monitoring

The gas collection wellfield is monitored at least monthly to measure LFG concentrations and the temperature and pressure in the affected wellheads. In areas of the landfill where waste has been in place for at least five years, or areas with final grade and waste in place for at least two years, JRL is required to report gas extraction points with recorded exceedances of the pressure limit (negative gauge pressure, except for areas with geomembrane cover) or temperatures greater than 145° F (or approved alternative). Table A-1 in Appendix A presents the exceedances of the pressure and temperature standards that were recorded during the reporting period.

Operating at the default gas temperature for MSW landfills in NESHAP Subpart AAAA (145° F) has not always been possible at JRL due to the type of waste disposed at the site and the corresponding decomposition temperature. To allow for gas collection with waste decomposition temperatures greater than 145° F, JRL has obtained approval from Maine DEP to operate some gas extraction locations at an alternative operating temperature of 150° F. The HOV approvals are included in Appendix A.

4.1.2 Landfill Surface Monitoring

Landfill surface monitoring scans were performed in general accordance with NSPS Subpart XXX and NESHAP Subpart AAAA requirements to measure the concentration of methane near the surface of the landfill on March 6, 2024 (2024-Q1 scan) and on June 17, 2024 (2024-Q2 scan).

The surface monitoring protocol requires measuring methane surface concentrations within 5 to 10 centimeters (cm; [about 2 to 4 inches]) of the landfill surface while walking at a normal pace around the perimeter of the landfill and along a pattern traversing the landfill at 30-meter (m; approximately 100-foot) intervals.

The walking path for surface monitoring at JRL is included on Figure B in Appendix B. In addition to monitoring along the path, NSPS and NESHAP require surface monitoring in areas with:

- Visible cracks or holes in the landfill cover;
- Visible erosion or water on the landfill surface;
- Visually observed distressed vegetation; and
- Where gas extraction components protrude through the landfill cover system (i.e., where the boots connect to the wells and the lateral collection system piping).

During surface monitoring, JRL personnel used a flame ionization detector (FID) or equivalent device that complies with the NSPS and NESHAP requirements and that was calibrated according to procedures outlined in United States Environmental Protection Agency (USEPA) Method 21.

There were no locations during the Q1-2024 initial scan with a recorded exceedance of the methane surface concentration standard of 500 ppm.

There were seven locations during the Q2-2024 initial scan with recorded exceedances of the methane surface concentration standard of 500 ppm. Six of the Q2 exceedances were corrected before the 10-day follow-up scan. The exceedance that was not resolved before the 10-day rescan, exceedance #1, required a 20-day follow-up scan and the exceedance was resolved ahead of the 20-day rescan.

During the one-month follow-up scan for Q2 exceedances, the methane concentration measured at six of the initial locations was less than 500 ppm for a second consecutive scan. The concentration of exceedance #3 during the one-month rescan, which had been less than 500 ppm at the 10-day rescan, was greater than 500 ppm. Following corrective actions, the location was rescanned on July 24, 2024 and the methane concentration was less than 500 ppm. The result of a final rescan at this location will be included in the next semiannual report.

Surface scan results are presented in Appendix B. The results in Appendix B include the location of each exceedance of the 500-ppm methane concentration standard and the concentration recorded at each exceedance location. For each location, the latitude and longitude are recorded using an instrument with an accuracy of at least four meters and the coordinates are in decimal degrees with at least five decimal places.

4.1.3 Control Device Operation

The GCCS uses a Supervisory Control and Data Acquisition (SCADA) system to monitor the flare temperature and the LFG flow rate to the flare system. The SCADA system records indicate

there were no periods exceeding one hour when gas was being delivered to the flare while the flare system was not operating.

During flare shutdowns, the system is designed for the gas flow to the flare system to shut down also. When the flame goes out on the flare, the temperature monitoring system alerts the control system to turn off the blower system. During the reporting period, the system operated as designed to prevent venting of LFG to the atmosphere for an hour or more, including during periods of startup, shutdown, and malfunction.

4.1.4 Treatment System Monitoring

An RNG facility began operating adjacent to the JRL gas control system during the reporting period. The third-party RNG facility operator, Archaea Energy, monitors the treatment system for the LFG delivered to the RNG facility (i.e., the compression pressure, the filtering pressure drop, and the dewatering cooler outlet temperature). During the reporting period, the LFG was compressed to at least 1 psi, filtered in a knockout pot filter that maintained a pressure drop of less than 5 psi, and dewatered in a cooler that decreased the compressed LFG temperature to 130 °F or less. Archaea Energy records indicate that there were no exceedances of these site-specific monitoring parameters during the reporting period.

4.2 Landfill Gas Diverted from Control Devices

The LFG collection system is not constructed with a bypass line, and correspondingly, during the reporting period, no LFG was diverted from the control system through a bypass line.

4.3 Flare Downtime

A log of flare downtime is presented in Appendix C as Table C-1. The flare downtime log provides a description and the duration of periods when the flare was not operating.

4.4 Gas Collection System Downtime

JRL monitors gas collection system runtime and downtime. A Collection System Operating Status Summary is included in Appendix C as Table C-2 and shows the gas collection system downtime for the reporting period. Gas collection system downtime occurs when the flare and the RNG facility are offline simultaneously.

4.5 Landfill Gas Collection System Modifications

An updated Landfill Gas Collection and Control System Plan is provided as Figure 1. The figure shows additions to the gas collection system since the GCCS Design Report was submitted in July 2019. JRL installs gas collection trenches in some areas of the landfill as waste is placed, which allows gas collection to begin ahead of the schedule required by the standards. To increase LFG collection, and to reduce odors from LFG, these collectors may be used intermittently as needed at relatively low flow rates before gas generation allows negative pressure to be maintained.

JRL monitors gas collection points as they are added to the system, including those collectors in areas that cannot sustain continuous methane extraction. For the collectors installed in waste earlier than required, non-negative pressure is not recorded as an exceedance.

In addition to monitoring and adjusting gas collection points, JRL completes routine maintenance to improve the quality and quantity of LFG collected from the landfill and to improve monitoring of the LFG collection system. A summary of GCCS improvements completed during the reporting period is included as Table D-1 in Appendix D.

4.6 Exceedances that take longer than 60 days to correct

For exceedances that take longer than 60 days to correct, a root cause analysis statement is required in this report, including a description of the corrective actions and a schedule for actions yet to be implemented.

During the reporting period, as shown in Appendix A, there was one pressure exceedance that took longer than 60 days to correct. The exceedance was resolved in 70 days, which is less than the 75-day threshold in NSPS Subpart XXX and NESHAP Subpart AAAA that would require submittal of a corrective action plan.

4.7 Enhanced Temperature Monitoring

No enhanced monitoring was needed during the reporting period for unresolved temperature exceedances. There were no temperature exceedances during the reporting period.

4.8 Landfill Cover Integrity

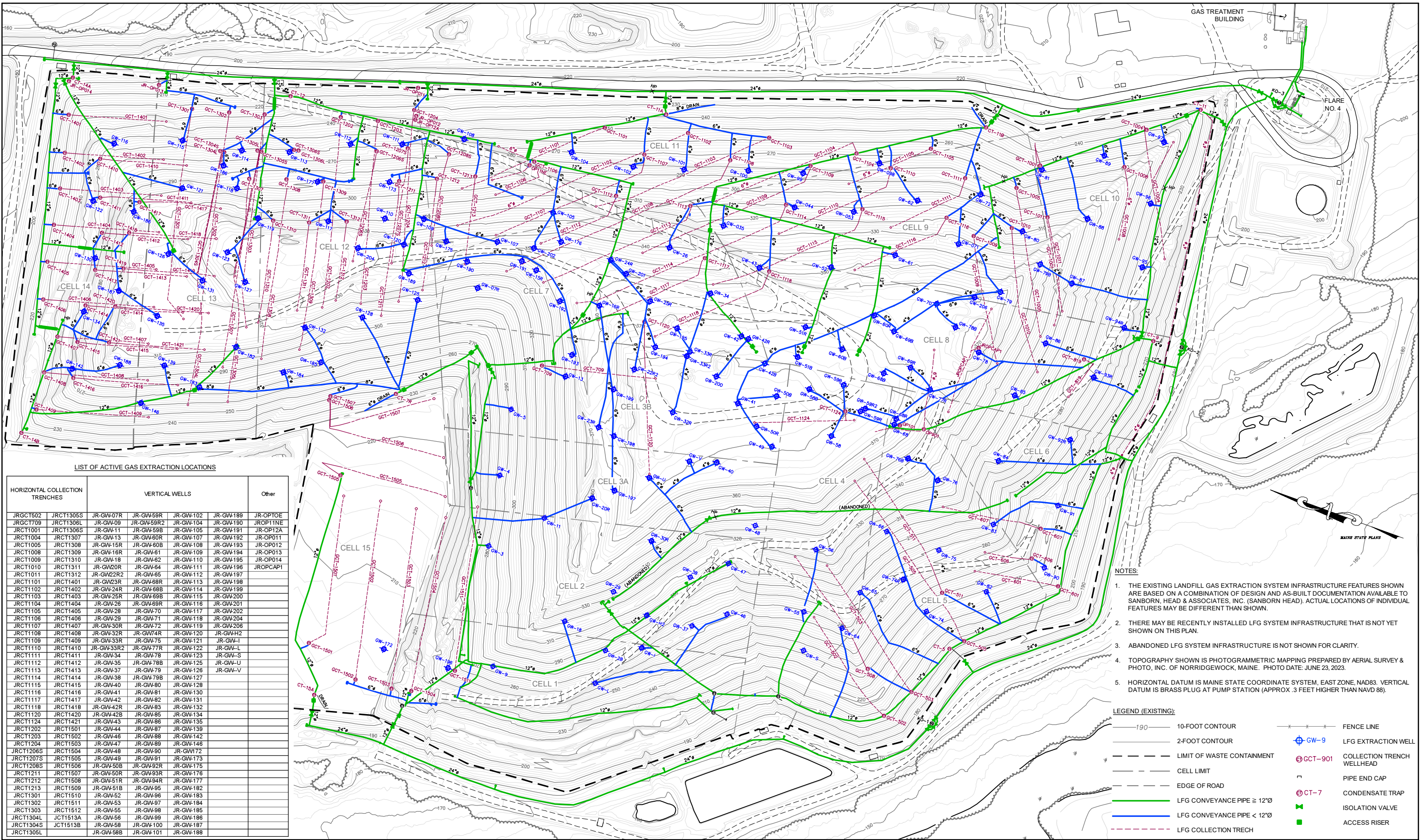
JRL uses geosynthetic membrane cover over portions of the landfill to increase gas collection efficiency, and JRL performs cover repairs and upgrades over the entire landfill cover system as needed to increase gas collection and reduce odors. During the reporting period, JRL performed monthly cover integrity checks and made repairs as needed and as conditions allowed.

P:\2300s\2343.24\Source Files\July 2024 Semiannual Rpt\20240724 JRL NESHAP Subpart AAAA Semiannual Report.docx

Figure

© 2024 SANBORN HEAD & ASSOCIATES, INC.

FILE: P:\2024\2434\JUNIPER RIDGE LANDFILL GAS COLLECTION & CONTROL SYSTEM PLAN.dwg
LAYOUT: 1
DATE: 7/2/2024
DRAWN BY: M. PARENT
DESIGNED BY: L. ZUCHOWSKI
REVIEWED BY: J. DORIS
PROJECT MGR: J. DORIS
PIC: H. LITTLE
DATE: JULY 2024



LIST OF ACTIVE GAS EXTRACTION LOCATIONS

HORIZONTAL COLLECTION TRENCHES		VERTICAL WELLS				Other
JRGCT502	JRCT1305S	JR-GW-07R	JR-GW-59R	JR-GW-102	JR-GW-189	JR-OP01E
JRGCT709	JRCT1306L	JR-GW-09	JR-GW-59R2	JR-GW-104	JR-GW-180	JR-OP11NE
JRGCT1001	JRCT1306S	JR-GW-11	JR-GW-59B	JR-GW-105	JR-GW-181	JR-OP12A
JRGCT1004	JRGCT1307	JR-GW-13	JR-GW-60R	JR-GW-107	JR-GW-182	JR-OP011
JRGCT1005	JRCT1308	JR-GW-15R	JR-GW-60B	JR-GW-108	JR-GW-183	JR-OP012
JRGCT1008	JRCT1309	JR-GW-16R	JR-GW-61	JR-GW-109	JR-GW-184	JR-OP013
JRGCT1009	JRCT1310	JR-GW-18	JR-GW-62	JR-GW-110	JR-GW-185	JR-OP014
JRGCT1010	JRCT1311	JR-GW-20R	JR-GW-64	JR-GW-111	JR-GW-186	JR-OP014
JRGCT1011	JRCT1312	JR-GW-22R2	JR-GW-65	JR-GW-112	JR-GW-187	JR-OP014
JRGCT1101	JRCT1401	JR-GW-23R	JR-GW-68R	JR-GW-113	JR-GW-188	JR-OP014
JRGCT1102	JRCT1402	JR-GW-24R	JR-GW-68B	JR-GW-114	JR-GW-189	JR-OP014
JRGCT1103	JRCT1403	JR-GW-25R	JR-GW-69B	JR-GW-115	JR-GW-190	JR-OP014
JRGCT1104	JRCT1404	JR-GW-26	JR-GW-69R	JR-GW-116	JR-GW-191	JR-OP014
JRGCT1105	JRCT1405	JR-GW-28	JR-GW-70	JR-GW-117	JR-GW-192	JR-OP014
JRGCT1106	JRCT1406	JR-GW-29	JR-GW-71	JR-GW-118	JR-GW-193	JR-OP014
JRGCT1107	JRCT1407	JR-GW-30R	JR-GW-72	JR-GW-119	JR-GW-194	JR-OP014
JRGCT1108	JRCT1408	JR-GW-32R	JR-GW-74R	JR-GW-120	JR-GW-195	JR-OP014
JRGCT1109	JRCT1409	JR-GW-33R	JR-GW-75	JR-GW-121	JR-GW-196	JR-OP014
JRGCT1110	JRCT1410	JR-GW-33R2	JR-GW-77R	JR-GW-122	JR-GW-197	JR-OP014
JRGCT1111	JRCT1411	JR-GW-34	JR-GW-78	JR-GW-123	JR-GW-198	JR-OP014
JRGCT1112	JRCT1412	JR-GW-35	JR-GW-78B	JR-GW-125	JR-GW-199	JR-OP014
JRGCT1113	JRCT1413	JR-GW-37	JR-GW-79	JR-GW-126	JR-GW-200	JR-OP014
JRGCT1114	JRCT1414	JR-GW-38	JR-GW-79B	JR-GW-127	JR-GW-201	JR-OP014
JRGCT1115	JRCT1415	JR-GW-40	JR-GW-80	JR-GW-128	JR-GW-202	JR-OP014
JRGCT1116	JRCT1416	JR-GW-41	JR-GW-81	JR-GW-130	JR-GW-203	JR-OP014
JRGCT1117	JRCT1417	JR-GW-42	JR-GW-82	JR-GW-131	JR-GW-204	JR-OP014
JRGCT1118	JRCT1418	JR-GW-42R	JR-GW-83	JR-GW-132	JR-GW-205	JR-OP014
JRGCT1120	JRCT1420	JR-GW-42B	JR-GW-85	JR-GW-134	JR-GW-206	JR-OP014
JRGCT1124	JRCT1421	JR-GW-43	JR-GW-86	JR-GW-135	JR-GW-207	JR-OP014
JRGCT1202	JRCT1501	JR-GW-44	JR-GW-87	JR-GW-139	JR-GW-208	JR-OP014
JRGCT1203	JRCT1502	JR-GW-46	JR-GW-88	JR-GW-142	JR-GW-209	JR-OP014
JRGCT1204	JRCT1503	JR-GW-47	JR-GW-89	JR-GW-146	JR-GW-210	JR-OP014
JRGCT1206S	JRCT1504	JR-GW-48	JR-GW-90	JR-GW-172	JR-GW-211	JR-OP014
JRGCT1207S	JRCT1505	JR-GW-49	JR-GW-91	JR-GW-173	JR-GW-212	JR-OP014
JRGCT1208S	JRCT1506	JR-GW-50B	JR-GW-92R	JR-GW-175	JR-GW-213	JR-OP014
JRGCT1211	JRCT1507	JR-GW-50R	JR-GW-93R	JR-GW-176	JR-GW-214	JR-OP014
JRGCT1212	JRCT1508	JR-GW-51R	JR-GW-94R	JR-GW-177	JR-GW-215	JR-OP014
JRGCT1213	JRCT1509	JR-GW-51B	JR-GW-95	JR-GW-182	JR-GW-216	JR-OP014
JRGCT1301	JRCT1510	JR-GW-52	JR-GW-96	JR-GW-183	JR-GW-217	JR-OP014
JRGCT1302	JRCT1511	JR-GW-53	JR-GW-97	JR-GW-184	JR-GW-218	JR-OP014
JRGCT1303	JRCT1512	JR-GW-55	JR-GW-98	JR-GW-185	JR-GW-219	JR-OP014
JRGCT1304L	JCT1513A	JR-GW-56	JR-GW-99	JR-GW-186	JR-GW-220	JR-OP014
JRGCT1304S	JCT1513B	JR-GW-58	JR-GW-100	JR-GW-187	JR-GW-221	JR-OP014
JRGCT1305L		JR-GW-58B	JR-GW-101	JR-GW-188	JR-GW-222	JR-OP014

- NOTES:
- THE EXISTING LANDFILL GAS EXTRACTION SYSTEM INFRASTRUCTURE FEATURES SHOWN ARE BASED ON A COMBINATION OF DESIGN AND AS-BUILT DOCUMENTATION AVAILABLE TO SANBORN, HEAD & ASSOCIATES, INC. (SANBORN HEAD). ACTUAL LOCATIONS OF INDIVIDUAL FEATURES MAY BE DIFFERENT THAN SHOWN.
 - THERE MAY BE RECENTLY INSTALLED LFG SYSTEM INFRASTRUCTURE THAT IS NOT YET SHOWN ON THIS PLAN.
 - ABANDONED LFG SYSTEM INFRASTRUCTURE IS NOT SHOWN FOR CLARITY.
 - TOPOGRAPHY SHOWN IS PHOTOGRAMMETRIC MAPPING PREPARED BY AERIAL SURVEY & PHOTO, INC. OF NORRIDGEWOCK, MAINE. PHOTO DATE: JUNE 23, 2023.
 - HORIZONTAL DATUM IS MAINE STATE COORDINATE SYSTEM, EAST ZONE, NAD83. VERTICAL DATUM IS BRASS PLUG AT PUMP STATION (APPROX. 3 FEET HIGHER THAN NAVD 88).

LEGEND (EXISTING):	
190	10-FOOT CONTOUR
240	2-FOOT CONTOUR
---	LIMIT OF WASTE CONTAINMENT
---	CELL LIMIT
---	EDGE OF ROAD
---	LFG CONVEYANCE PIPE ≥ 12"Ø
---	LFG CONVEYANCE PIPE < 12"Ø
---	LFG COLLECTION TRENCH
---	FENCE LINE
GW-9	LFG EXTRACTION WELL
GCT-901	COLLECTION TRENCH WELLHEAD
□	PIPE END CAP
CT-7	CONDENSATE TRAP
✕	ISOLATION VALVE
■	ACCESS RISER

GRAPHICAL SCALE

120' 60' 0' 120' 240'

NO.	DATE	DESCRIPTION	BY

DRAWN BY: M. PARENT
DESIGNED BY: L. ZUCHOWSKI
REVIEWED BY: J. DORIS
PROJECT MGR: J. DORIS
PIC: H. LITTLE
DATE: JULY 2024

JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

AS-BUILT GAS COLLECTION & CONTROL SYSTEM PLAN

PROJECT NUMBER:
2343.24

FIGURE:
1

Appendix A

Gas Extraction Point Exceedances

Table A-1
Gas Extraction Point Exceedances
Wellfield Monitoring from January 1, 2024 through June 30, 2024

Juniper Ridge Landfill
Old Town, Maine

Device Name	Open Date	NSPS/NESHAP Exceedances						
		Type	Value	Duration (days)	Corrective Action within 5 Days?	Resolved within 15 Days?	Resolved Date	Status
JR-GW23R	1/15/2024	Pressure	Initial Static Pressure: 0.04	8	yes	yes	1/23/2024	closed
JR-GW-58	1/15/2024	Pressure	Initial Static Pressure: 0.02	8	yes	yes	1/23/2024	closed
GW-33R-2	2/12/2024	Pressure	Initial Static Pressure: 0.03	0	yes	yes	2/12/2024	closed
JR-GW-58	2/27/2024	Pressure	Initial Static Pressure: 0.08	15	yes	yes	3/13/2024	closed
JR-GW--V	2/27/2024	Pressure	Initial Static Pressure: 0.18	10	yes	yes	3/8/2024	closed
JR-GW--U	2/27/2024	Pressure	Initial Static Pressure: 0.00	0	yes	yes	2/27/2024	closed
JR-GW25R	3/8/2024	Pressure	Initial Static Pressure: 0.06	0	yes	yes	3/8/2024	closed
JR-GW-58	4/2/2024	Pressure	Initial Static Pressure: 0.01	70	yes	no	6/11/2024	closed
JR-GW-40	4/2/2024	Pressure	Initial Static Pressure: 0.07	0	yes	yes	4/2/2024	closed
JR-GW07R	4/25/2024	Pressure	Initial Static Pressure: 0.12	12	yes	yes	5/7/2024	closed
JR-GW-70	5/1/2024	Pressure	Initial Static Pressure: 0.06	6	yes	yes	5/7/2024	closed
JR-GW68R	5/1/2024	Pressure	Initial Static Pressure: 0.06	6	yes	yes	5/7/2024	closed
JRCT1120	5/1/2024	Pressure	Initial Static Pressure: 0.01	0	yes	yes	5/1/2024	closed
JR-GW-70	5/21/2024	Pressure	Initial Static Pressure: 0.09	16	yes	no	6/6/2024	closed
JRGW59R2	5/21/2024	Pressure	Initial Static Pressure: 0.02	0	yes	yes	5/21/2024	closed
JR-GW-70	6/6/2024	Pressure	Initial Static Pressure: 0.02	0	yes	yes	6/6/2024	closed
JR-GW176	6/6/2024	Pressure	Initial Static Pressure: 0.06	0	yes	yes	6/6/2024	closed
JR-GW24R	6/6/2024	Pressure	Initial Static Pressure: 0.10	7	yes	yes	6/13/2024	closed

Notes:

1. Pressure is measured in inches of water and temperature is measured in degrees Fahrenheit.
2. Exceedances recorded during the reporting period were resolved within the timeframe allowed by NESHAP Subpart AAAA.
3. Because the exceedance at JR-GW-58 that started on 4/2/2024 took more than 60 days to resolve, a root-cause analysis statement is included in this report.

Table A-2
Root-Cause Analysis Table
Wellfield Monitoring from January 1, 2024 through June 30, 2024

Juniper Ridge Landfill
Old Town, Maine

Device Name	Exceedance Type	Initial Exceedance Date	Possible Root Cause	Corrective Action		Corrective Action Date	Exceedance Corrected Date	Lifetime
				Proposed	Actual			
JR-GW-58	Pressure	04-02-2024	Insufficient applied vacuum	Increase applied vacuum	Increased applied vacuum	06-11-2024	06-11-2024	70

Note:
1. Stockpiles of construction fines and till for the Stage 2 final closure project delayed access to the vacuum line for repairs causing the pressure exceedance at JR-GW-58 to last more than 60 days. The NSPS/NESHAP regulations require exceedances that take more than 60 days to resolve to be included in the semi-annual report. The exceedance shown at JR-GW-58 was resolved between the 60-day and 75-day thresholds in the NSPS/NESHAP regulations.



JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



MELANIE LOYZIM
COMMISSIONER

April 15, 2021

Jeffrey Pelletier
NEWSME Landfill Operations, LLC
358 Emerson Mill Rd
Hampden, ME 04444

RE: Update to Gas Collectors with Higher Operating Values (HOVs)

Dear Mr. Pelletier,

This letter is in response to a letter dated April 5, 2021, submitted on behalf of NEWSME Landfill Operations, LLC (NEWSME) by Sanborn Head and Associates, Inc. regarding the Juniper Ridge Landfill (JRL) operated by NEWSME and located in Old Town, Maine. This letter addressed updating this list of landfill gas collectors with higher operating values (HOVs).

On January 6, 2021, JRL became subject to the operational standards contained in *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014*, 40 C.F.R. Part 60, Subpart XXX, and *National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills*, 40 C.F.R. Part 63, Subpart AAAA. As a landfill with a design capacity greater than 2.5 million cubic meters and a non-methane organic compound (NMOC) emission rate greater than 34 megagrams per year, NEWSME is required to install and operate a collection and control system (GCCS) at JRL pursuant to the requirements of 40 C.F.R. Part 60, Subpart XXX.

Pursuant to 40 C.F.R. § 60.762(b)(2)(iv) and 40 C.F.R. § 63.1958(c), NEWSME must operate each interior wellhead in the collection system with a landfill gas temperature less than 145 °F. However, NEWSME may establish a higher operating temperature value for a particular well(s) by submitting a request to the Department demonstrating that the elevated temperature neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

NEWSME previously requested, and the Department approved, a temperature HOV of 150 °F for the following landfill gas collectors.

Previous Temperature HOVs			
JRGCT508	JRGCT919	JR-GW-31R	JR-GW-75
JRGCT511	JR-GW-13	JR-GW-33R	JR-GW-76
JRGCT704	JR-GW-19R	JR-GW-51	JR-GW-77R
JRGCT706	JR-GW-20R	JR-GW-59R	JR-GW-79
JRGCT711	JR-GW-23R	JR-GW-60	
JRGCT916	JR-GW-30R	JR-GW-70	

NEWSME has since removed the following collectors from the site's GCCS: JRGCT704, JRGCT916, JRGCT919, JR-GW31R, JR-GW-51, and JR-GW-60.

On January 14, 2021, NEWSME replaced collector JR-GW-51 (which had an approved temperature HOV) with collector JR-GW51R. The replacement collector was installed adjacent to the removed collector with the purpose of collecting the gas generated in the same area. In accordance with 40 C.F.R. § 63.1958(c)(2), NEWSME has requested a temperature HOV of 150°F for the replacement landfill gas collector, JR-GW-51R.

Supporting data provided for the request included temperature, oxygen, and methane levels for the new landfill gas collector from January 2021 through March 2021. The oxygen levels for the new landfill gas collector listed above has averaged well below 5% and methane levels were consistently above 40%.

Based on the supporting information presented by NEWSME, it appears that the methanogenic process is still at an anaerobic phase at the higher landfill gas temperatures and no evidence of subsurface landfill fire is present at the site. Therefore, Maine DEP approves NEWSME's request for an operating temperature HOV of 150°F for landfill gas collector JR-GW-51R. Following is an updated list of landfill gas collectors with approved HOVs of 150 °F.

Current Temperature HOVs			
JRGCT508	JR-GW-19R	JR-GW-51R	JR-GW-77R
JRGCT511	JR-GW-20R	JR-GW-59R	JR-GW-79
JRGCT706	JR-GW-23R	JR-GW-70	
JRGCT711	JR-GW-30R	JR-GW-75	
JR-GW-13	JR-GW-33R	JR-GW-76	

If you have any questions about this matter, please contact me at (207) 287-2229 or lynn.muzzey@maine.gov.

Sincerely,

A handwritten signature in blue ink that reads "Lynn Muzzey". The signature is fluid and cursive, with the first name "Lynn" and last name "Muzzey" clearly legible.

Lynn Muzzey, P.E.
Air Licensing Section

cc: Jeffery Doris [Sanborn Head]
Tanya Hovell [Maine DEP]
Kathy Tarbuck [Maine DEP]

Appendix B

Landfill Surface Monitoring

Table B-1
1st Quarter Surface Emissions Monitoring
Juniper Ridge Landfill
Old Town, Maine

Name	Northing	Easting	Latitude	Longitude	Initial Reading Date	Initial Reading	Initial Reading Notes	10-day Rescan Date	10-day Rescan Reading	10-day Rescan Notes	One Month Rescan Date	One Month Rescan Reading	Status
-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

1. The initial surface scan was performed on March 6, 2024 and there were no exceedances of the methane concentration limit of 500 ppm.

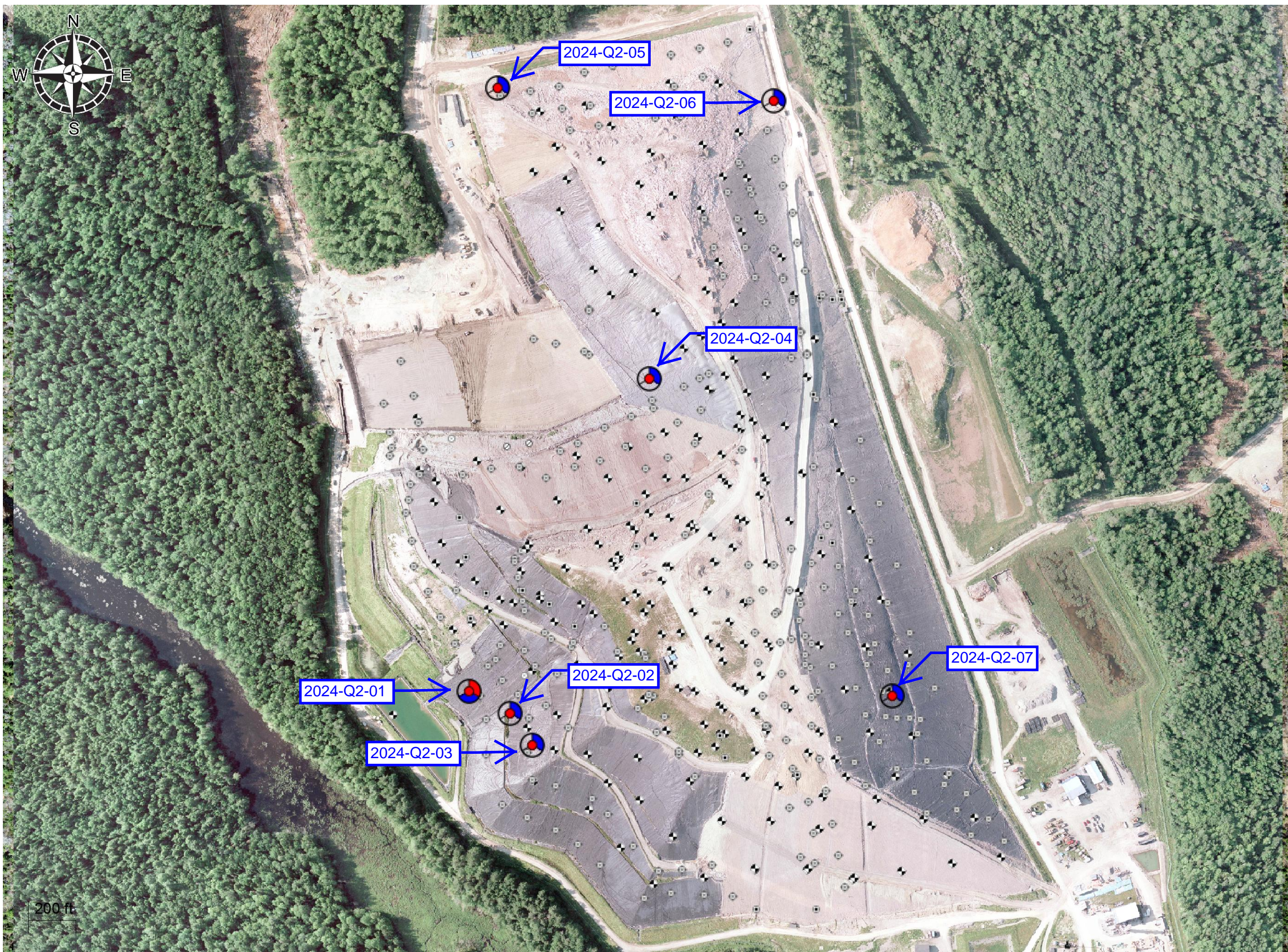
Table B-2
2nd Quarter Surface Emissions Monitoring
Juniper Ridge Landfill
Old Town, Maine

Name	Northing	Easting	Latitude	Longitude	Initial Reading Date	Initial Reading	Initial Reading Notes	10-day Rescan Date	10-day Rescan Reading	10-day Rescan Notes	20-day Rescan Date	20-day Rescan Reading	One Month Rescan Date	One Month Rescan Reading	One Month + 10 days Rescan Date	One Month + 10 days Rescan Reading	One Month + 20 days Rescan Date	One Month + 20 days Rescan Reading	Status
2024-Q2-1	478323.4	925693.7	44.97863	-68.72630	6/17/2024	803 ppm	Decommissioned stick ups through the liner.	6/25/2024	1,924 ppm	Liner was repaired but the wind ripped it apart between the repair and the 10-day rescan.	7/2/2024	198 ppm	7/15/2024	37 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved
2024-Q2-2	478247.1	925838.1	44.97842	-68.72574	6/17/2024	1,025 ppm	Tear in liner	6/25/2024	0 ppm	Repaired liner	Not Applicable	Not Applicable	7/15/2024	3 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved
2024-Q2-3	478140.8	925914.4	44.97813	-68.72545	6/17/2024	1,473 ppm	Tear at stick ups through the liner.	6/25/2024	198 ppm	Repaired liner/sealed area again with sealent	Not Applicable	Not Applicable	7/15/2024	1,066 ppm	7/24/2024	49 ppm			Open
2024-Q2-4	479403.8	926314.3	44.98159	-68.72391	6/17/2024	701 ppm	Tear at stick up in the liner	6/25/2024	44 ppm	Repaired liner around stick up	Not Applicable	Not Applicable	7/15/2024	63 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved
2024-Q2-5	480407.1	925795.8	44.98434	-68.72593	6/17/2024	10,409 ppm	Tear in liner, boulder pushing through.	6/25/2024	0 ppm	Repaired liner	Not Applicable	Not Applicable	7/15/2024	0 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved
2024-Q2-6	480364.0	926747.0	44.98423	-68.72225	6/17/2024	1,116 ppm	Tear in liner at vac line of JR-OP013	6/25/2024	0 ppm	Repaired liner boot around Vac line	Not Applicable	Not Applicable	7/15/2024	0 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved
2024-Q2-7	478310.2	927155.3	44.97860	-68.72065	6/17/2024	1,423 ppm	Tear in liner at decommissioned vacuum line from GCT-915	6/25/2024	8 ppm	Repaired liner around Vac line	Not Applicable	Not Applicable	7/15/2024	26 ppm	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Resolved

Notes:

1. The initial surface scan performed on the date noted above detected the listed "Initial Reading" exceedance(s) of the methane concentration limit of 500 ppm.

2. Exceedance #2024-Q2-3 requires a final scan to complete the Q2-2024 surface emissions monitoring (SEM). The result of the final rescan will be included in the next semiannual report.



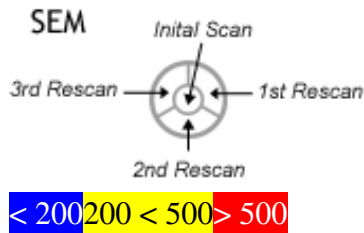
Juniper Ridge Landfill

Q2-2024 Surface Emissions Monitoring

Color Legend

Symbol Legend

- Gas Well
- Horizontal
- Other
- Condensate Trap
- Cleanout
- Flare



A radius of influence of 100 ft. is depicted at each device.

Reporting Period: All Time
Map Generated On: 07/16/2024
SEM: 06/17/2024 - 07/02/2024

Appendix C

Control System Summary

Table C-1
Flare #4 Operating Status Summary
from January 1, 2024 through June 30, 2024

Juniper Ridge Landfill
Old Town, Maine

Date	Approximate Time of Shutdown	Approximate Time of Restart	Downtime (hours)	Notes
1/3/2024	7:55 AM	8:08 AM	0.22	Flame arrestor cleaning
1/11/2024	9:14 AM	12:03 PM	2.82	Flare skid maintenance
1/22/2024	11:21 AM	11:45 AM	0.40	Power bump
1/26/2024	10:12 AM	10:42 AM	0.50	Flare PLC upgrade
2/1/2024	7:58 AM	1:39 PM	5.68	Flare pilot maintenance
2/5/2024	8:29 AM	4:34 PM	8.08	Flare pilot maintenance
2/6/2024	9:28 AM	3:54 PM	6.43	Flare pilot maintenance
2/7/2024	8:31 AM	4:20 PM	7.82	Flare pilot maintenance
2/8/2024	2:34 PM	3:45 PM	1.18	Flare pilot maintenance
2/19/2024	7:31 AM	8:43 AM	1.20	Flare pilot maintenance
2/19/2024	11:25 AM	2:56 PM	3.52	Flare pilot maintenance
2/20/2024	11:46 AM	1:51 PM	2.08	Flare pilot maintenance
2/20/2024	2:15 PM	3:02 PM	0.78	Flare pilot maintenance
2/21/2024	7:32 AM	7:46 AM	0.23	Flare pilot maintenance
2/21/2024	9:52 AM	1:51 PM	3.98	Flare pilot maintenance
2/21/2024	3:30 PM	3:45 PM	0.25	Flare pilot maintenance
2/22/2024	6:57 AM	7:46 AM	0.82	Flare pilot maintenance
2/22/2024	10:27 PM	11:59 PM	1.53	Power outage
2/23/2024	12:00 AM	12:25 AM	0.42	Power outage
2/23/2024	3:51 AM	4:16 AM	0.42	Power restored
2/27/2024	3:25 PM	4:39 PM	1.23	Flare pilot maint
3/1/2024	10:47 AM	12:51 PM	2.07	Flare maint
3/9/2024	11:10 AM	1:30 PM	2.33	Power bump
3/11/2024	1:31 PM	1:49 PM	0.30	Flame arrestor cleaning
3/13/2024	6:48 AM	6:57 AM	0.15	Power bump
3/16/2024	4:59 PM	5:19 PM	0.33	Compressor trip
4/4/2024	5:42 PM	6:52 PM	1.17	Power bump
4/5/2024	5:29 PM	5:43 PM	0.23	Power bump
4/8/2024	1:37 PM	2:09 PM	0.53	Training
4/10/2024	1:22 PM	1:46 PM	0.40	Training
4/19/2024	8:49 AM	9:04 AM	0.25	Air compressor fault
4/24/2024	1:13 PM	1:31 PM	0.30	Cleaned flame arrestor
4/26/2024	11:30 AM	11:39 AM	0.15	Low plant outlet pressure shutdown/ plant interface issues/ adjustments
5/1/2024	5:39 AM	7:57 AM	2.30	Power bump
5/8/2024	7:32 AM	8:18 AM	0.77	Main blower vibration shutdown (changed bearing)
5/15/2024	8:43 PM	9:07 PM	0.40	Water pump trip.
5/20/2024	5:52 AM	6:06 AM	0.23	Air compressor fault
5/20/2024	7:53 AM	8:37 AM	0.73	Solution flow valve troubleshooting
5/22/2024	4:41 PM	7:38 PM	2.95	Power loss
5/22/2024	8:32 PM	8:51 PM	0.32	Power restored
5/23/2024	7:09 AM	7:29 AM	0.33	KOP-3 pump cleaning
5/29/2024	8:38 AM	9:30 AM	0.87	KOP-3 wiring repair
6/5/2024	9:42 AM	9:53 AM	0.18	Troubleshooting
6/11/2024	9:41 AM	10:25 AM	0.73	Power bump
6/20/2024	4:11 PM	4:41 PM	0.50	Power outage
6/20/2024	4:51 PM	5:27 PM	0.60	Power restored
6/21/2024	7:51 AM	9:16 AM	1.42	Flare skid maint
6/24/2024	4:43 PM	5:01 PM	0.30	Power outage
Total Flare #4 Downtime hours from January 1, 2024 through June 30, 2024			70.4	

Notes:

- During the reporting period, Flare #4 at Juniper Ridge Landfill (JRL) operated except for the times shown. Backup Flares #2 and #3 were not used during the reporting period.

Table C-2
Collection System Operating Status Summary
from January 1, 2024 through June 30, 2024

Juniper Ridge Landfill
Old Town, Maine

Month	Collection System Downtime (hours)
January 2024	3.9
February 2024	45.7
March 2024	4.2
April 2024	3.0
May 2024	8.9
June 2024	3.1
Total	68.8

Notes:

1. Collection system downtime occurs when Flare #4 and the RNG facility are offline at the same time.

Appendix D

Actions Taken to Improve The Quality And Quantity of Gas Collected

Table D-1
Actions to Improve the Quality and Quantity of Gas Collected
from January 1, 2024 through June 30, 2024

Juniper Ridge Landfill
Old Town, Maine

Improvement	Date Completed	Completed By
Installed 450' of 6" perf for GCT-1511	1/8/2024	Pipe Crew
Installed 80' of 6" vac cell 15	1/9/2024	Pipe Crew
Installed odor pipe in the north east corner of cell 15.	1/11/2024	Pipe Crew
Extended GCT-1502	1/15/2024	Pipe Crew
Installed 12" valve cell 15	1/16/2024	Pipe Crew
Installed 25' of 6" vac for GW-196 and GCT-1511	1/19/2024	Pipe Crew
Remoted GW-23R 30' up slope 6" vac	1/22/2024	Pipe Crew
Installed 450' of 6" perf for GCT-1510	1/23/2024	Pipe Crew
Restored vac to GW-13	1/24/2024	Pipe Crew
Installed 100' of 6" vac for GCT-1511 & GW-196	1/25/2024	Pipe Crew
Installed 285' of 6" perf for GCT-1513	1/29/2024	Pipe Crew
Installed 270' of 6" perf for GCT-1513	1/31/2024	Pipe Crew
Installed 96' of 12" header cell 15	2/6/2024	Pipe Crew
Installed 180' of 6" perf for GCT-1512	2/7/2024	Pipe Crew
Installed 450' of 6" perf for GCT-1508	2/8/2024	Pipe Crew
Installed 430' of 6" perf for GCT-1509	2/9/2024	Pipe Crew
Installed 18' of perf for GCT-1512	2/23/2024	Pipe Crew
Installed 60' of 6" vac for GCT-1510	2/26/2024	Pipe Crew
Installed 180' of 6" vac for GCT-1509 & GW-172 & GCT-1508	2/26/2024	Pipe Crew
Extended GW-83	3/4/2024	Pipe Crew
Installed 107' of 12" header is cell15	3/6/2024	Pipe Crew
Extended GW-75	3/6/2024	Pipe Crew
Installed 27' of 6" vac for GCT-1512	3/8/2024	Pipe Crew
Installed 80' of 6" vac for GCT-1507	3/8/2024	Pipe Crew
Installed 80' of 6" vac for GCT-1506	3/8/2024	Pipe Crew
Installed north east trap in cell 15	4/1/2024	Pipe crew
Extended GW-74 10'	4/2/2024	Pipe crew
Installed 120' of 12" of header in cell 15	4/3/2024	Pipe crew
Installed 40' of header in cell 15	4/3/2024	Pipe crew
Extended GW-66 10'	4/9/2024	Pipe crew
Installed 110' of 12" header in cell 15	4/12/2024	Pipe crew
Installed 40' of 6" vac for GCT-1513 A/B	5/8/2024	Pipe crew
Extended vac 10' for GCT-1513A/B	5/9/2024	Pipe crew
Installed 50' of 12" header in cell 15	5/23/2024	Pipe crew
Installed 50' of 6" future vac in cell 15	5/24/2024	Pipe crew
Restored vac to GW-1	6/10/2024	Pipe crew
Restored vac and remoted GW-20R	6/11/2024	Pipe crew
Restored vac GW-201	6/12/2024	Pipe crew
Repaired Burned GW-66 15' of 8" solid.	6/24/2024	Pipe crew