



Operated By
NEWSME Landfill Operations, LLC

January 26, 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 and Annual Report and Compliance Certification

Dear Ms. Hovell:

Please find enclosed Juniper Ridge Landfill's (JRL's) semiannual and annual report and certification for the period ending December 31, 2023. This semiannual and annual 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 and Annual 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 and Annual Reports 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: July 1 to December 31, 2023 Annual: January 1 to December 31, 2023
Total Number of Pages Submitted in Certification (including this cover sheet)	37

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.



Jeffrey Pelletier
Environmental Manager
NEWSME Landfill Operations, LLC

01-26-24

Date

SEMIANNUAL AIR LICENSE COMPLIANCE AND PERIODIC MONITORING REPORT FORM

Facility Name Juniper Ridge Landfill License Numbers A-921-70-F-R From 01 Jul to 31 Dec 2023
(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	☒ No deviations or exceedances ☒ Continuous compliance
(2)	New / Amended License Prior to Construction or Modification	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(3)	Establish BMP for Fugitive PM	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(4)	Annual Air License Fee	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(5)	Maintain and Operate Emission Units to Minimize Emissions	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(6)	Records Retention for Six Years	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(7)	Comply with Terms and Conditions of the License	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(8)	Perform Stack Testing within 60 Days of Notification	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(9)	Emissions in Excess of Applicable Standards	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(10)	Maintain Records of Deviations from License	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(11)	Determination of Licensee's Compliance Status	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(12)	Submission of Semiannual Reports of Monitoring	N/A	N/A	N/A	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(14)(D)	Solid Waste Landfill Flares	Short-term Emission Limits	monthly	lb/hr limits for criteria pollutants and opacity limit	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(15)(A)	Control Technology for sulfur	12-month average concentration of TRS in LFG	monthly	1,000 ppmv	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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,	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(24)	General Applicable State Regulations	Open Burning, Emergencies, Ambient Air, Dispersion, and Mercury	N/A	N/A	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(26)	Asbestos Abatement	Standard for Asbestos Demolition and Renovation	When undertaking Asbestos abatement activities	N/A	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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 July 1, 2023 through December 31, 2023.

ANNUAL AIR LICENSE COMPLIANCE AND PERIODIC MONITORING REPORT FORM

Facility Name Juniper Ridge Landfill License Numbers A-921-70-F-R From 01 Jan to 31 Dec 2023
(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>
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(2)	New / Amended License Prior to Construction or Modification	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(3)	Establish BMP for Fugitive PM	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(4)	Annual Air License Fee	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(5)	Maintain and Operate Emission Units to Minimize Emissions	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(6)	Records Retention for Six Years	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(7)	Comply with Terms and Conditions of the License	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(8)	Perform Stack Testing within 60 Days of Notification	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
(9)	Emissions in Excess of Applicable Standards	N/A	N/A	N/A	☒ No deviations or exceedances ☒ Continuous compliance
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(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	☒ No deviations or exceedances ☒ Continuous compliance
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(14)(D)	Solid Waste Landfill Flares	Short-term Emission Limits	Monthly	lb/hr limits for criteria pollutants and opacity limit	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(15)(A)	Control Technology for sulfur	12-month average concentration of TRS in LFG	Monthly	1,000 ppmv	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
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(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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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,	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
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(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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(23)	Annual Emission Statements	Fuel records, TRS data, and hours or operation	Annual reports except for Hazardous Air Pollutants which are reported every three years (e.g., 2023, 2026)	Emission Limits in Air License	☒ No deviations or exceedances ☒ Continuous compliance
(24)	General Applicable State Regulations	Open Burning, Emergencies, Ambient Air, Dispersion, and Mercury	N/A	N/A	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ Continuous compliance
(26)	Asbestos Abatement	Standard for Asbestos Demolition and Renovation	When undertaking Asbestos abatement activities	N/A	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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	☒ No deviations or exceedances ☒ 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, 2023 through December 31, 2023.

Juniper Ridge Landfill
Semi-Annual Compliance Data Summary July 1 to December 31, 2023

Month	Date TRS Sample Taken	TRS Samples Average of 3 samples Total Reduced Sulfur (ppm)		FLOW	Exiting Control Equipment		Total landfill gas flow		Flares #2 & #3 Runtime	Sulfur Control Equipment Downtime
		Inlet	Outlet	(scfm)	Rolling Average TRS (ppm)	Rolling Total SO2 (tons/yr)*	Bypass (scf)	Scrubbed (scf)	hours	hours
July	07/24/23	10,389	682	2,470	596	68.0	82,301	121,333,895	0.0	0.6
August	08/28/23	9,936	579	2,460	593	68.5	22,812	119,058,850	0.0	0.9
September	09/19/23	11,462	515	2,667	590	69.3	453,432	122,162,998	0.0	2.7
October	10/27/23	9,611	543	2,773	606	73.9	72,136	131,452,699	0.0	2.8
November	11/14/23	9,841	646	2,741	620	76.8	0	130,420,445	0.0	0.2
December	12/28/23	9,999	515	2,501	585	87.5	21,281,811	103,065,564	0.0	134.4

*Includes bypass

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 JULY 1 THROUGH DECEMBER 31, 2023

JUNIPER RIDGE LANDFILL

Old Town, Maine

Prepared for NEWSME Landfill Operations, LLC

File No. 2343.24

January 2024



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

January 26, 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).

The report is for the period from July 1 to December 31, 2023. Please contact us with any questions.

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Jeff Doris".

Jeffrey J. Doris
Senior Project Manager

A handwritten signature in black ink, appearing to read "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)

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FIGURE

Figure 1 Landfill Gas Collection and Control System

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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 July 1 through December 31, 2023.

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 160 vertical wells and 87 gas collection trenches installed throughout Cells 1 through 15. LFG is also collected from nine 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).

Although JRL has a system to remove sulfur from the gas, it does not have a “Treatment System” as defined in the NESHAP Subpart AAAA, which is a system to filter, de-water, and compress LFG for sale or beneficial use. A renewable natural gas (RNG) facility is under construction at the landfill. When the RNG facility becomes operational, JRL will then need a Treatment System Monitoring Plan for the LFG delivered to the RNG facility.

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, or approved alternative such as in 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 emissions monitoring (SEM) 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 September 22, 2023 (2023-Q3 scan) and on December 12, 2023 (2023-Q4 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 in 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 Q3-2023 initial scan with a recorded exceedance of the methane surface concentration standard of 500 ppm.

There were five locations during the Q4-2023 initial scan with a recorded exceedance of the methane surface concentration standard of 500 ppm. The Q4 exceedances were corrected before the initial follow-up scan and the return to compliance with the 500-ppm standard was confirmed during the one-month follow-up scan.

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 the gas collection system was operating while the flare system was not operating.

During flare shutdowns, the system is designed for the blower 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.

4.2 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 that provides a description and the duration of periods when the control device was not operating.

4.4 GCCS Downtime

During the reporting period, JRL Flare #4 was the only control device, and therefore, the downtime for the GCCS corresponds to the downtime of the flare presented in Appendix C. When the flare shuts down, the blower system that applies vacuum to the wellfield and delivers gas to the flare is designed to also shut down.

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 might 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 more than 60 days to correct

For exceedances that take more than 60 days to correct, this report should include the root cause analysis for the exceedance, including a description of the recommended corrective actions, the date for corrective actions already completed, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

During the reporting period, there were no exceedances that took more than 60 days to correct.

4.7 Enhanced Temperature Monitoring

Temperature exceedances were resolved within the timeframe allowed by NESHAP Subpart AAAA, and therefore, no enhanced monitoring was performed during the reporting period for temperature exceedances. Table A-1 in Appendix A presents the exceedances of the temperature standards that were recorded and resolved during the reporting period.

4.8 Landfill Cover Integrity

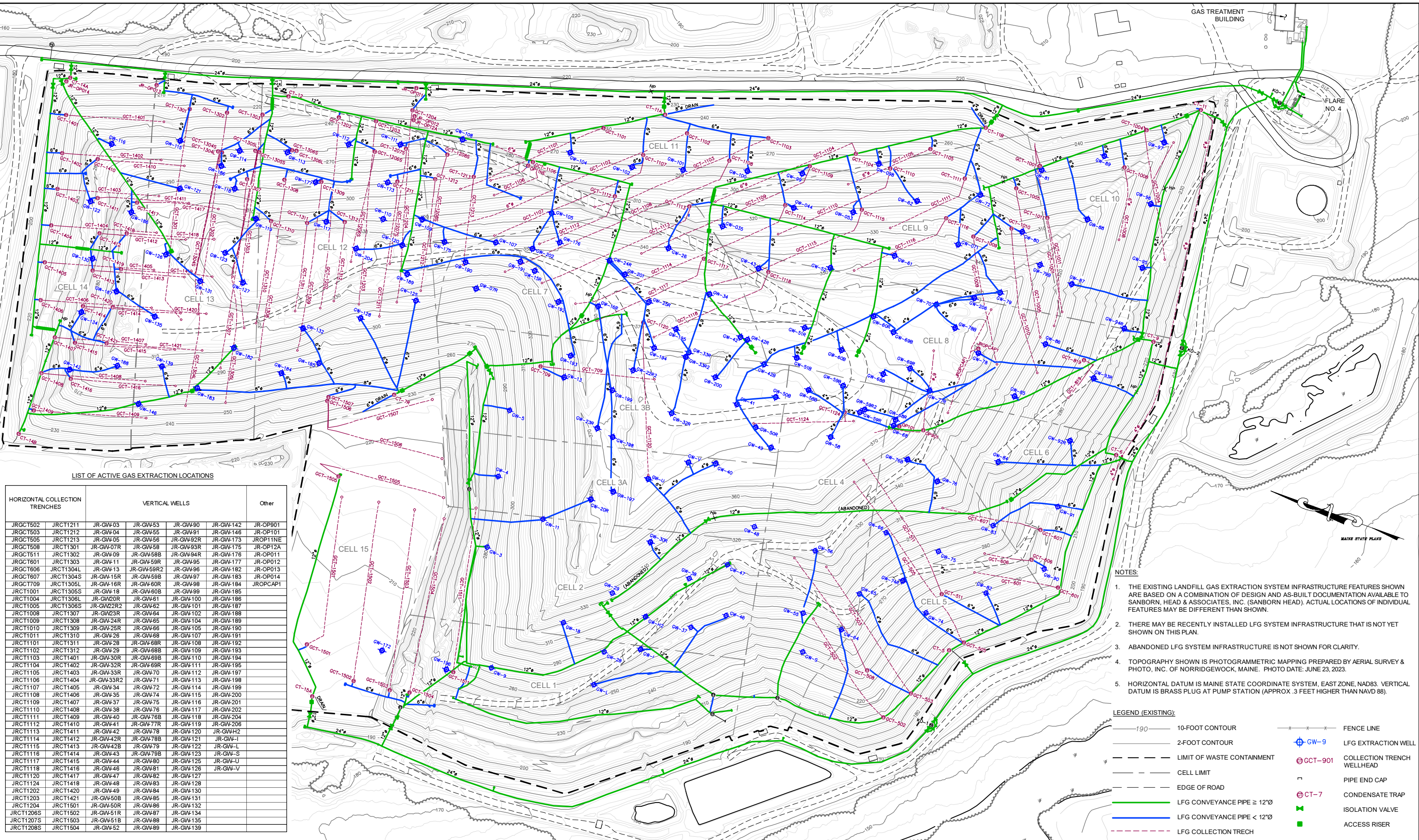
JRL uses geosynthetic membrane cover over portions of the landfill to increase gas collection efficiency, and JRL performs cover repairs and upgrades over the entire landfill cover system as needed to increase gas collection and reduce odors. During the reporting period, JRL performed monthly cover integrity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

P:\2300s\2343.24\Source Files\January 2024 Semiannual Rpt\20240126 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: 1/1/2024



LIST OF ACTIVE GAS EXTRACTION LOCATIONS

HORIZONTAL COLLECTION TRENCHES	VERTICAL WELLS	Other
JR-GCT502	JR-GW-03	JR-GW-53
JR-GCT503	JR-GW-04	JR-GW-55
JR-GCT505	JR-GW-05	JR-GW-56
JR-GCT508	JR-GW-07R	JR-GW-58
JR-GCT511	JR-GW-08	JR-GW-59
JR-GCT501	JR-GW-11	JR-GW-59R
JR-GCT506	JR-GW-13	JR-GW-59R2
JR-GCT507	JR-GW-15R	JR-GW-59B
JR-GCT509	JR-GW-16R	JR-GW-60R
JR-GCT1001	JR-GW-18	JR-GW-60B
JR-GCT1004	JR-GW-20R	JR-GW-61
JR-GCT1005	JR-GW-22R2	JR-GW-62
JR-GCT1008	JR-GW-23R	JR-GW-64
JR-GCT1009	JR-GW-24R	JR-GW-65
JR-GCT1010	JR-GW-25R	JR-GW-66
JR-GCT1011	JR-GW-26	JR-GW-66
JR-GCT1101	JR-GW-28	JR-GW-68R
JR-GCT1102	JR-GW-29	JR-GW-68B
JR-GCT1103	JR-GW-30R	JR-GW-69B
JR-GCT1104	JR-GW-32R	JR-GW-69R
JR-GCT1105	JR-GW-33R	JR-GW-70
JR-GCT1106	JR-GW-33R2	JR-GW-71
JR-GCT1107	JR-GW-34	JR-GW-72
JR-GCT1108	JR-GW-35	JR-GW-74
JR-GCT1109	JR-GW-37	JR-GW-75
JR-GCT1110	JR-GW-38	JR-GW-76
JR-GCT1111	JR-GW-40	JR-GW-76B
JR-GCT1112	JR-GW-41	JR-GW-77R
JR-GCT1113	JR-GW-42	JR-GW-78
JR-GCT1114	JR-GW-42R	JR-GW-78B
JR-GCT1115	JR-GW-42B	JR-GW-79
JR-GCT1116	JR-GW-43	JR-GW-79B
JR-GCT1117	JR-GW-44	JR-GW-80
JR-GCT1118	JR-GW-46	JR-GW-81
JR-GCT1120	JR-GW-47	JR-GW-82
JR-GCT1124	JR-GW-48	JR-GW-83
JR-GCT1202	JR-GW-49	JR-GW-84
JR-GCT1203	JR-GW-50B	JR-GW-85
JR-GCT1204	JR-GW-50R	JR-GW-86
JR-GCT1206S	JR-GW-51R	JR-GW-87
JR-GCT1207S	JR-GW-51B	JR-GW-88
JR-GCT1208S	JR-GW-52	JR-GW-89
JR-GW-90	JR-GW-91	JR-GW-142
JR-GW-92R	JR-GW-173	JR-GW-173
JR-GW-93R	JR-GW-175	JR-GW-175
JR-GW-94R	JR-GW-176	JR-GW-176
JR-GW-95	JR-GW-177	JR-GW-177
JR-GW-96	JR-GW-182	JR-GW-182
JR-GW-97	JR-GW-183	JR-GW-183
JR-GW-98	JR-GW-184	JR-GW-184
JR-GW-99	JR-GW-185	JR-GW-185
JR-GW-100	JR-GW-186	JR-GW-186
JR-GW-101	JR-GW-187	JR-GW-187
JR-GW-102	JR-GW-188	JR-GW-188
JR-GW-104	JR-GW-189	JR-GW-189
JR-GW-105	JR-GW-190	JR-GW-190
JR-GW-107	JR-GW-191	JR-GW-191
JR-GW-108	JR-GW-192	JR-GW-192
JR-GW-109	JR-GW-193	JR-GW-193
JR-GW-110	JR-GW-194	JR-GW-194
JR-GW-111	JR-GW-195	JR-GW-195
JR-GW-112	JR-GW-197	JR-GW-197
JR-GW-113	JR-GW-198	JR-GW-198
JR-GW-114	JR-GW-199	JR-GW-199
JR-GW-115	JR-GW-200	JR-GW-200
JR-GW-116	JR-GW-201	JR-GW-201
JR-GW-117	JR-GW-202	JR-GW-202
JR-GW-118	JR-GW-204	JR-GW-204
JR-GW-119	JR-GW-206	JR-GW-206
JR-GW-120	JR-GW-207	JR-GW-207
JR-GW-121	JR-GW-211	JR-GW-211
JR-GW-122	JR-GW-212	JR-GW-212
JR-GW-123	JR-GW-213	JR-GW-213
JR-GW-124	JR-GW-214	JR-GW-214
JR-GW-125	JR-GW-215	JR-GW-215
JR-GW-126	JR-GW-216	JR-GW-216
JR-GW-127	JR-GW-217	JR-GW-217
JR-GW-128	JR-GW-218	JR-GW-218
JR-GW-129	JR-GW-219	JR-GW-219
JR-GW-130	JR-GW-220	JR-GW-220
JR-GW-131	JR-GW-221	JR-GW-221
JR-GW-132	JR-GW-222	JR-GW-222
JR-GW-133	JR-GW-223	JR-GW-223
JR-GW-134	JR-GW-224	JR-GW-224
JR-GW-135	JR-GW-225	JR-GW-225
JR-GW-136	JR-GW-226	JR-GW-226
JR-GW-137	JR-GW-227	JR-GW-227
JR-GW-138	JR-GW-228	JR-GW-228
JR-GW-139	JR-GW-229	JR-GW-229

- 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):	
	10-FOOT CONTOUR
	2-FOOT CONTOUR
	LIMIT OF WASTE CONTAINMENT
	CELL LIMIT
	EDGE OF ROAD
	LFG CONVEYANCE PIPE ≥ 12"
	LFG CONVEYANCE PIPE < 12"
	LFG COLLECTION TRENCH
	FENCE LINE
	LFG EXTRACTION WELL
	COLLECTION TRENCH WELLHEAD
	PIPE END CAP
	CONDENSATE TRAP
	ISOLATION VALVE
	ACCESS RISER

NO.	DATE	DESCRIPTION	BY

DRAWN BY: R. CLAY
DESIGNED BY: R. CLAY
REVIEWED BY: J. DORIS
PROJECT MGR: J. DORIS
PIC: D. ADAMS
DATE: JANUARY 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 July 1, 2023 through
December 31, 2023

Juniper Ridge Landfill
Old Town, Maine

Device Name	Open Date	NSPS Exceedances					
		Type	Value	Duration (days)	Corrective Action within 5 Days?	Resolved Date	Status
JR-GW68R	7/13/2023	Pressure	Initial Static Pressure: 0.01	0	Yes	7/13/2023	Resolved
JR-GW-70	7/13/2023	Pressure	Initial Static Pressure: 0.04	0	Yes	7/13/2023	Resolved
JR-GW-78	7/13/2023	Temperature	Initial Gas Temperature: 153.8	0	Yes	7/13/2023	Resolved
JR-GW-49	7/13/2023	Temperature	Initial Gas Temperature: 145.6	0	Yes	7/13/2023	Resolved
JR-GW107	7/19/2023	Pressure	Initial Static Pressure: 0.00	0	Yes	7/19/2023	Resolved
JR-GW176	7/19/2023	Pressure	Initial Static Pressure: 0.03	0	Yes	7/19/2023	Resolved
JR-GW23R	8/31/2023	Pressure	Initial Static Pressure: 0.25	20	Yes	9/20/2023	Resolved
JR-GW--U	9/20/2023	Pressure	Initial Static Pressure: 0.11	0	Yes	9/20/2023	Resolved
JR-GW42B	10/4/2023	Temperature	Initial Gas Temperature: 150.1	41	Yes	11/14/2023	Resolved
JR-GW-79	10/4/2023	Temperature	Initial Gas Temperature: 159.6	0	Yes	10/4/2023	Resolved
GW-33R-2	10/19/2023	Pressure	Initial Static Pressure: 0.03	0	Yes	10/19/2023	Resolved
JR-GW176	11/1/2023	Pressure	Initial Static Pressure: 0.00	0	Yes	11/1/2023	Resolved
JR-GW-58	11/14/2023	Pressure	Initial Static Pressure: 0.03	7	Yes	11/21/2023	Resolved
JR-GW76B	11/14/2023	Pressure	Initial Static Pressure: 0.01	0	Yes	11/14/2023	Resolved
JR-GW-70	11/14/2023	Pressure	Initial Static Pressure: 0.05	7	Yes	11/21/2023	Resolved
JR-GW07R	11/14/2023	Pressure	Initial Static Pressure: 0.02	0	Yes	11/14/2023	Resolved
JR-GW-58	12/5/2023	Pressure	Initial Static Pressure: 0.11	0	Yes	12/5/2023	Resolved
JRGW59R2	12/5/2023	Pressure	Initial Static Pressure: 0.00	0	Yes	12/5/2023	Resolved

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 AAAAA.
3. Within five days of each exceedance, wellhead valve adjustments were performed to correct the exceedance. In some cases, additional corrective actions were required to resolve the exceedances. Each exceedance was resolved within the 60-day threshold in NESHAP Subpart AAAAA.



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

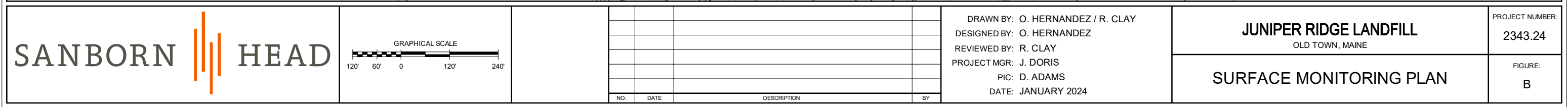


Table B-1
3rd Quarter Surface Emissions Monitoring
Juniper Ridge Landfill
Old Town, Maine

Name	Latitude	Longitude	Initial Reading Date	Initial Reading	Initial Reading Notes	Initial Corrective Action	First Rescan Date	First Rescan Reading	First Rescan Notes	Second Rescan Date	Second Rescan Reading
The 2023-Q3 initial surface scan was performed on September 22, 2023. There were no exceedances of the 500-ppm methane threshold.											

Notes:

1. The initial surface scan was performed by Juniper Ridge Landfill (JRL) personnel on the date noted above.

Table B-2
4th Quarter Surface Emissions Monitoring
Juniper Ridge Landfill
Old Town, Maine

Name	Latitude	Longitude	Initial Reading Date	Initial Reading (ppm)	Initial Reading Notes	Initial Corrective Action	First Rescan Date	First Rescan Reading (ppm)	Second Rescan Date	Second Rescan Reading (ppm)	Status
2023-Q4-01	44.98322	-68.72510	12/12/2023	6,312.5	Vertical, on slope facing into cell 15	Foam placed around boot of well	12/21/2023	1.3	1/15/2024	15.5	Resolved
2023-Q4-02	44.98473	-68.72330	12/12/2023	3,292.9	Base of GW-1902 on north slope	Foam placed around boot of well	12/21/2023	19.8	1/15/2024	18.3	Resolved
2023-Q4-03	44.9808	-68.72390	12/12/2023	581.3	Wall of newly created access road into Cell 15	Additional cover added to location	12/21/2023	117.8	1/15/2024	37.6	Resolved
2023-Q4-04	44.98151	-68.72310	12/12/2023	956.1	Base of GW-7R on slope facing into Cell 15	Foam placed around boot of well	12/21/2023	13.9	1/15/2024	28.9	Resolved
2023-Q4-05	44.98362	-68.72450	12/12/2023	942.3	NW corner of "mohawk" where liner meets soil cover	Additional cover added to location	12/21/2023	258.9	1/15/2024	28.3	Resolved

Notes:

1. The initial surface scan was performed by Juniper Ridge Landfill (JRL) personnel on the date noted above.

Appendix C

Control System Summary

Table C-1
Control System Operating Status Summary
from July 1, 2023 through December 31, 2023

Juniper Ridge Landfill
Old Town, Maine

Date	Approximate Time of Shutdown	Approximate Time of Restart	Downtime (hrs.)	Notes
7/20/2023	8:43 AM	11:04 AM	2.35	Shut down for safety while Archea's flare was being put up.
9/1/2023	6:18 AM	6:31 AM	0.22	Flare troubleshooting.
9/1/2023	8:24 AM	11:47 AM	3.38	Power line construction.
9/3/2023	8:03 AM	9:14 AM	1.18	Power bump.
9/11/2023	11:18 AM	12:05 PM	0.78	Shutdown for KOP3 pump repair.
9/16/2023	11:26 AM	11:51 AM	0.42	Power outage.
9/16/2023	1:01 PM	1:29 PM	0.47	Power bump.
9/16/2023	2:24 PM	2:35 PM	0.18	Power bump.
9/17/2023	7:40 AM	8:46 AM	1.10	Power bump.
10/4/2023	4:25 PM	4:47 PM	0.37	Powerline maint.
10/8/2023	7:32 AM	8:35 AM	1.05	Power outage.
10/8/2023	10:21 AM	11:51 AM	1.50	Power outage.
10/9/2023	1:09 PM	3:05 PM	1.93	KOP1 pump change.
10/18/2023	11:08 AM	11:22 AM	0.23	KOP 1-3 cleanings.
10/24/2023	9:31 AM	10:00 AM	0.48	Flame arrestor cleaning.
10/25/2023	10:07 AM	10:20 AM	0.22	Power outage.
11/15/2023	6:24 PM	7:26 PM	1.03	Power bump.
11/20/2023	9:35 AM	2:36 PM	5.02	Flare pipe cleaning.
11/20/2023	2:54 PM	3:05 PM	0.18	Flame arrestor cleaning.
11/22/2023	8:21 AM	9:01 AM	0.67	Flame arrestor cleaning.
12/7/2023	7:24 AM	9:07 AM	1.72	Plant shutdown to flare for plant welding/frozen valve.
12/7/2023	10:33 AM	11:14 AM	0.68	Flame arrestor cleaning.
12/7/2023	11:39 AM	12:06 PM	0.45	Flame arrestor cleaning.
12/7/2023	1:35 PM	1:49 PM	0.23	Flame arrestor cleaning.
12/8/2023	8:44 AM	9:00 AM	0.27	Plant start up/back online.
12/12/2023	1:38 PM	1:51 PM	0.22	Flame arrestor cleaning.
12/18/2023	11:24 AM	11:49 AM	0.42	Power bump.
12/18/2023	1:09 PM	1:18 PM	0.15	Power bump.
12/18/2023	2:03 PM	2:14 PM	0.18	Power bump.
12/18/2023	2:25 PM	2:34 PM	0.15	Power bump.
12/18/2023	4:31 PM	4:38 PM	0.12	Power bump.
12/18/2023	4:43 PM	4:59 PM	0.27	Power bump.
12/18/2023	6:02 PM	8:29 PM	2.45	Power outage.
12/18/2023	8:39 PM	8:48 PM	0.15	Flare blower fault.
12/19/2023	7:42 AM	11:04 AM	3.37	Replaced flare blower #1 with rebuilt spare.
12/20/2023	11:08 AM	11:32 AM	0.40	Flame arrestor cleaning.
12/23/2023	6:45 AM	6:59 AM	0.23	Flare blower faulted.
12/23/2023	2:10 PM	2:51 PM	0.68	Power restored.
12/28/2023	8:52 AM	9:22 AM	0.50	Flame arrestor cleaning.
12/31/2023	6:41 PM	6:58 PM	0.28	Air dryer fault wet air frozen valves.
Total Flare #4 Downtime hours from July 1, 2023 through December 31, 2023			35.68	

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.

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 July 1, 2023 through December 31, 2023

Juniper Ridge Landfill
Old Town, Maine

Improvement	Date Completed	Completed By
Extended GW-130	7/5/2023	Pipe Crew
Extended GCT-1412	7/6/2023	Pipe Crew
Extended GCT-1419	7/6/2023	Pipe Crew
Installed GW-122 vac 80' of 6"	7/11/2023	Pipe Crew
Installed GCT-1411 vac 20' of 6"	7/11/2023	Pipe Crew
Installed GCT-1410 vac 60' of 6"	7/12/2023	Pipe Crew
Installed 150' of 12" header in C14	7/13/2023	Pipe Crew
Extended GW-116	7/14/2023	Pipe Crew
Extended GCT-1311	7/14/2023	Pipe Crew
Extended GW-119	7/14/2023	Pipe Crew
Installed GW-121 vac 150' of 6"	7/17/2023	Pipe Crew
Installed GW-86 vac 80' of 6"	7/18/2023	Pipe Crew
Extended GCT-1408 10'	8/9/2023	pipe crew
Installed 16' of 12" header in cell 14	8/14/2023	pipe crew
Installed 50' of 12" header in cell 14	8/15/2023	pipe crew
Installed 60' of 6" vac for GCT-1412	8/22/2023	pipe crew
Extended GW-40 10'	8/28/2023	pipe crew
Extended GW-V 10'	8/28/2023	pipe crew
Installed 100' of 12" header in cell 14	8/29/2023	pipe crew
Installed 120' of 6" vac for GW-187 & GCT-1419	8/31/2023	pipe crew
Extended GW-25R	9/5/2023	pipe crew
Drilled GW-131	9/6/2023	Well driller
Drilled GW-123	9/7/2023	Well driller
Drilled GW-126	9/8/2023	Well driller
Installed 127' of 6" vac for GW-135	9/11/2023	pipe crew
Extended GCT-1409,1408,1407,&1415	9/13/2023	pipe crew
Installed 65' of 12" header cell 14	9/14/2023	pipe crew
Installed 80' of 8" drain for CT-15	9/15/2023	pipe crew
Installed 350' of 6" perf for GCT-1507	9/18/2023	pipe crew
Restored vac to GW-23R	9/18/2023	pipe crew
Installed 350' of 6" perf for GCT-1506	9/19/2023	pipe crew
Installed 30' of 6" vac for GW-126	9/20/2023	pipe crew
Installed 350' of 6" perf for GCT-1505	9/21/2023	pipe crew
Installed 120' of 6" vac for GW-123	9/21/2023	pipe crew
Installed 131' of 6" vac for GW-131	9/22/2023	pipe crew
Installed CT-15	9/25/2023	pipe crew
Restored vac to GCT 1415, 1421, 1414, 1420, & GW-134	10/5/2023	pipe crew
Installed GCT-1503 500' of 6"	10/12/2023	pipe crew
Installed GCT-1502 400' of 6"	10/17/2023	pipe crew
Installed cap 1 odor pipe part 1 120' of 6"	10/19/2023	pipe crew
Installed odor pipe part 2 190' of 6"	10/20/2023	pipe crew
Installed GCT-1501 375' of 6" part 1	10/23/2023	pipe crew
Installed GCT-1501 50' of 6" part 2	10/24/2023	pipe crew
Installed new 12" valve cell 1	10/26/2023	pipe crew
Installed upright at cell 1 trap	10/27/2023	pipe crew
Installed 30' of 12" header in cell 15.	11/1/2023	pipe crew
Installed 20' of 6" vac for GCT-1502	11/2/2023	pipe crew
Installed 40' of 6" vac for GCT-1503	11/2/2023	pipe crew
Installed 20' of 6" vac for GCT-1504	11/2/2023	pipe crew
Installed 30' of 12" header in cell 15.	11/6/2023	pipe crew
Installed 120' of 6" header in cell 15	11/9/2023	pipe crew
Installed 70' of 6" vac for restoration of GW-69B	11/13/2023	pipe crew
Installed 20' of 6" vac in cell 15	11/15/2023	pipe crew
Installed 40' of 12" header in cell 15	11/16/2023	pipe crew
Installed 240' of 12" header in cell 15	11/17/2023	pipe crew
Installed 42' of 6" vac for wells on the north face of cells 1-3b	11/21/2023	pipe crew
Installed 80' of 6" vac for GW-201, 202, 204.	11/27/2023	pipe crew
Installed 20' of 6" vac for GW-201, 202, 204.	11/27/2023	pipe crew
Installed 100' of 6" vac for GW-201, 202, 204.	11/28/2023	pipe crew
Installed 210' of 12" header in cell 15	12/22/2023	pipe crew
Installed 62' of 6" vac for GCT-1505	12/22/2023	pipe crew
Drilled GW-172	12/28/2023	Well driller
Drilled GW-196	12/28/2023	Well driller