January 27, 2026

Benton County Board of Commissioners
4500 SW Research Way
Corvallis, OR 97333

RE: LU-24-027
Testimony in response to ODEQ Pre-Enforcement Notice (PEN) of Nov. 6, 2025
Paul Nietfeld, Benton County resident

Chair Malone and Commissioners Wyse and Shepherd:

Summary

A simple calculation using data supplied by the landfill operator to ODEQ indicates that in 2025 more than 50% of the gas produced by the Coffin Butte landfill was not captured by the collection system, and therefore was released into the environment in north Benton County. The large gas emission volume is consistent with the numerous methane "exceedances" found by the EPA in 2022 and 2024, the high emission readings obtained by a new detection device in 2025, recent research comparing actual landfill gas emissions to EPA estimates, and the extensive record of odor complaints lodged by the public. This calculated "fugitive" gas volume is approximately 3.5 times the fugitive volume estimate used in the odor study submitted in this matter.

Because prior testimony in LU-24-027 has established that these gas emissions seriously interfere with uses on adjacent property and seriously interferes with the character of the area, because the large gas emissions occurred despite the landfill operators self-reported efforts to prevent or minimize them, and because an expansion of the landfill as proposed in LU-24-027 would increase the volume and duration of gas emission output, this Conditional Use Permit should be denied.

Background

The ODEQ PEN of November 6, 2025 is based on measurements conducted by the EPA in 2022 and 2024 which discovered "a significant number of exceedances" in methane emission levels (PEN, Page 1). These readings triggered corrective action investigations which resulted in multiple findings of violations by the landfill operator.

This testimony looks for the probable underlying cause of the original numerous and high methene readings by calculating the quantity of "fugitive" leakage of gas from Coffin Butte landfill, compares the size of the calculated fugitive gas volume to the assumed value used as the basis for the applicant's odor study, and provides references with which to gauge the magnitude of the calculated fugitive emissions.

FUGITVE GAS CALCULATION

Landfill gas production and capture data for CY2025

A landfill gas generation report (attached with this testimony) was submitted by the applicant to ODEQ in October 2025. This report documents expected total landfill gas generation using the "LandGEM" spreadsheet tool, based on landfill intake tonnage history and other factors.

For calendar year 2025, the LandGEM modeling (Page 2 of the report) estimates a total gas generation volume of 103,332,334 cubic meters (**3,649,146,937 cubic feet**) for the year. This is the franchisee's formal estimate of the total landfill gas produced for the 2025 year.

From the franchisee's Title V monthly reports of April through September 2025 (6 months), a total of 822,590,412 cubic feet of landfill gas was captured by the gas collection system (reports attached). This is the franchisee's formally reported landfill gas collection total for these 6 months. Multiplication by 2 yields the equivalent yearly capture total of **1,645,180,826 cubic feet** for the 2025 year.

The gas capture ratio is calculated by dividing the total gas captured in the year by the total gas produced in the year (see DOCUMENTATION section below for details):

> **Gas Capture Ratio = 1,645,180,826 / 3,649,146,937 = 0.4508 (45.08%)**

Thus, in CY2025 less than half of the generated landfill gas was captured.

Calculated fugitive landfill gas volume for CY2025

> For 2025, an estimated landfill gas volume of **2,003,966,111 cubic feet escaped into the Benton County environment** (gas generated – gas captured).
>
> Approximately **1,062,102,039 cubic feet of these "fugitive" emissions were methane** (53%).

The fugitive releases are far in excess of the figure used as the basis for the applicant's odor study.

As noted in the PEN (Page 10), landfill gas contains methane, a potent greenhouse gas, and other organic compounds, some of which "are known or suspected carcinogens and may cause other serious health effects." The large calculated emission volume indicates the greenhouse gas and health effect impacts of the existing landfill are greater than previously known; it is reasonable and prudent to expect that the proposed expansion landfill cell(s) will exhibit similar characteristics, thereby seriously interfering with uses on adjacent property, per previous testimony in this matter.

Consistency with other data

The large fugitive gas releases calculated above are consistent with other data indicating a significant escaping volumetric flow of gas from the Coffin Butte landfill:

- **Independent (EPA) testing in 2022 and 2024**

  The 2022 and 2024 EPA reports (attached to this submission) documented over 100 methane emission exceedances (> 500ppm), some of which were measured at explosive levels (i.e. ≥ 44,000 ppm).

  Many of the extensive number of EPA documented leaks and the extreme concentrations measured are likely due to significant landfill gas pressure under the cover material, coupled with tears, holes and other penetrations of the cover, as documented in the PEN. Significant landfill gas pressure under the cover material would be consistent with the large volumes of fugitive gas projected from the low Gas Capture Ratio figure calculated above.

- **Exceedances documented by a novel (Rover) methane sampling device**

  In June and July of 2025 the landfill operator employed a novel self-propelled methane measuring device identified as the "Rover." This device was used to traverse sections of the landfill typically avoided by the normal test procedure and discovered 66 leaks in excess of 500 ppm. The normal manual search reported only 9 leaks in excess of 500 ppm for this measurement period. See the Rover Methane Sampling section below for further detail on the Rover device and see the Coffin Butte Landfill Semi-Annual Report 2025 (file Coffin_Butte_ODEQ_SAR_Rpt_2025.pdf, attached) for measurement data.

  The dramatic increase in large-volume methane leaks discovered by the Rover indicate that the standard methane monitoring performed by the operator is inadequate and points to the need for more effective technologies such as drone monitoring as recommended by ODEQ (PEN, Page 9, Corrective Action Request #1).

- **Extensive public testimony of serious, repeated odor events emanating from the landfill, confirmed by multiple odor complaints from citizens**

  The large calculated landfill gas emissions are consistent with the multiple citizen odor complaints over a period of years. For example, see complaint filings in the Community Concerns Annual Reports for 2021 – 2024:
  BOC1_T0298_10092025_SFTP_EKLUND_Ken, pp. 567-8, p. 576, p. 674, p. 723;

  T0443_04212025_PURCELL_Rachel-ChairBentonCountyDisposalSiteAdvisoryCommittee

As documented in the PEN, "VLI has consistently failed to conduct SEM [Surface Emission Monitoring] as required… by consistently excluding large areas of the landfill where SEM is required" [PEN, Page 2]. These unapproved area exclusions may at

least in part explain the relative dearth of high-emission SEM results typically reported by the franchisee, in contrast to the EPA and Rover data.

Furthermore, the calculated Gas Capture Ratio of 45% is consistent with research findings and authoritative federal regulations:

- **Recent research comparing actual landfill gas emissions to EPA estimates**

  Based on an extensive study utilizing satellite methane observations, atmospheric scientists reported in 2024 that overall methane emissions from landfills are 51% higher than the default EPA estimates (see below), and calculated an average landfill recovery efficiency of 0.50 (50%) (Nesser et al., 2024). This figure is comparable to the 45% value calculated above for the Coffin Butte landfill.

- **Federal Regulations guidance**

  40 CFR Part 98.348 Subpart HH Table HH-3 (eCFR, Page 22) defines a "Landfill gas collection efficiency" guidance of 50% for "A3" construction (daily soil cover and active gas collection).

Contrast to EPA and Odor Study figures

The EPA uses a default "Collection Efficiency" value of 0.75 (75%) figure for landfills with methane collection systems (EPA 2023, Page 689). Based on the applicant's own data as shown above, this default value overstates the effectiveness of Coffin Butte's gas collection system by approximately 66%. The EPA default value is important because it was used as a basis for estimating fugitive gas volume in the applicant's odor study (below).

Applicant's odor study submitted for LU-24-027 assumed a 75% gas capture ratio (A0073_061625_E36_Resubmit-Revised2025OdorStudy_SUBMISSION-1 compressed.pdf, Page 13), meaning that the odor study assumed that only 25% of the total generated gas escaped as fugitive emissions. Additionally, the odor study utilized total gas generation figures from an outdated LandGEM calculation. Per the odor study report (Page 42) the study used a 2023 "Fugitives" volume of 4.05E+07 lb/year, equivalent to approximately 519 Million cubic feet in the year. Utilizing the 2025 LandGEM report's calculation for CY 2023 (6,240 cubic feet per minute) and applying the Gas Capture Ratio calculated above results in an estimated total fugitive volume of 1,805 Million cubic feet for CY 2023, a factor of 3.48 times greater.

Thus, the odor study is based on a fugitive gas volume estimate of less than 29% of the actual value, based on the landfill operator's data.

IMPACTS

Total fugitive landfill gas volume

The sheer volume of fugitive gas emissions is difficult to grasp. At over 2 billion cubic feet per year, the total fugitive volume is equivalent to

- Over 3,800 cubic feet per minute,
- Almost 5.5 million cubic feet per day, or roughly the livable space volume of 343 houses with a floor space of 2000 square feet, *per day*.

This volume of escaping landfill gas validates the odor complaints of residents, and poses serious questions for Benton County in terms of mitigating the effects of this flow.

Per the PEN, the landfill operator is (understandably) struggling to mange this massive flow of landfill gas. As the values in 40 CFR Part 98.348 Subpart HH Table HH-3 make plain, even with heavy final cover and an active (and properly functioning) gas collection system, an estimated 15% of the generated landfill gas will escape into the environment (configuration A5, collection efficiency CE5 below):

Table HH-3 to Subpart HH of Part 98—Landfill Gas Collection Efficiencies

TABLE HH-3 TO SUBPART HH OF PART 98—LANDFILL GAS COLLECTION EFFICIENCIES

Description	Term ID	Landfill gas collection efficiency
A1: Area with no waste in-place	Not applicable; do not use this area in the calculation.	
A2: Area without active gas collection, regardless of cover type	CE2	0%.
A3: Area with daily soil cover and active gas collection	CE3	50%.
A4: Area with an intermediate soil cover, or a final soil cover not meeting the criteria for A5 below, and active gas collection	CE4	65%.
A5: Area with a final soil cover of 3 feet or thicker of clay or final cover (as approved by the relevant agency) and/or geomembrane cover system and active gas collection	CE5	85%.
Area weighted average collection efficiency for landfills	CEave1 = (A2*CE2 + A3*CE3 + A4*CE4 + A5*CE5)/(A2 + A3 + A4 + A5).	

At the 2025 total landfill gas production rate, this means that even after proper closure the landfill would leak almost 550 million cubic feet of landfill gas into the environment.

The total landfill gas production is expected to decline over time after closure (following a period of some years), but this provides an indication of the future gas problem the landfill will present to Benton County and its citizens. Additional waste deposits, already scheduled to last until about 2036, would increase by about 70% if the proposed new cell(s) are approved, increasing the magnitude of the problem.

CONCLUSION

Using figures provided by the landfill operator (the 2025 LandGEM report and the Title V gas consumption values), straightforward calculations reveal

- **The Coffin Butte gas collection system is capturing less than half (45%) of the total gas produced by the landfill, as of CY2025.**
- **In CY2025 over 2 Billion (2,000,000,000) cubic feet of landfill gas was released into the north Benton County environment, including over 1 Billion (1,000,000,000) cubic feet of methane.**

The enormous volume of these landfill gas emissions validates extensive public testimony in this matter attesting that the existing landfill seriously interferes with uses on adjacent property. These emissions have occurred despite the landfill operator's self-reported best efforts to comply with regulations, so it is unreasonable and imprudent to speculate that any expansion cells approved under this permit request would not result in similar emission rates. The Conditional Use Permit request should be denied on this basis.

Furthermore, the enormous volume of the landfill gas emissions, including the potent greenhouse gas and suspected carcinogen components as noted in the PEN (Page 10), seriously interferes with and degrades the pastoral/residential character of the north Benton County area in which the landfill is located, consisting of farms, residences, businesses and schools. Additional landfill volume as proposed under this application would increase the total volume of waste in place and therefore the total landfill gas emissions, and would extend the emissions in time. The Conditional Use Permit request should be denied on this basis.

Author information

The author is a retired electrical engineer (MSEE) and served on the Benton County Solid Waste Process workgroup ("BCTT") as a member of the subcommittee tasked with documenting the landfill intake volume history and estimating its forward operational life.

DOCUMENTATION

Gas capture efficiency ratio calculation

Gas output, from results table, for CY 2025

103,332,334	m^3/yr
3,649,146,937	**ft^3/yr**

Gas consumption, per monthly Title V reports (ft^3)

123,347,478	**Apr'25**	PNGC_IC_Engines	77,409,190
		ENCLOSEDFL	45,938,288
146,564,883	**May'25**	PNGC_IC_Engines	81,732,941
		ENCLOSEDFL	64,831,942
139,336,805	**Jun'25**	PNGC_IC_Engines	80,089,733
		ENCLOSEDFL	59,247,072
140,876,876	**Jul'25**	PNGC_IC_Engines	81,125,568
		ENCLOSEDFL	59,751,308
128,895,348	**Aug'25**	PNGC_IC_Engines	80,066,638
		ENCLOSEDFL	48,828,710
143,569,023	**Sep'25**	PNGC_IC_Engines	79,228,308
		ENCLOSEDFL	64,340,715
822,590,413	**Total for 6 months (ft^3)**		

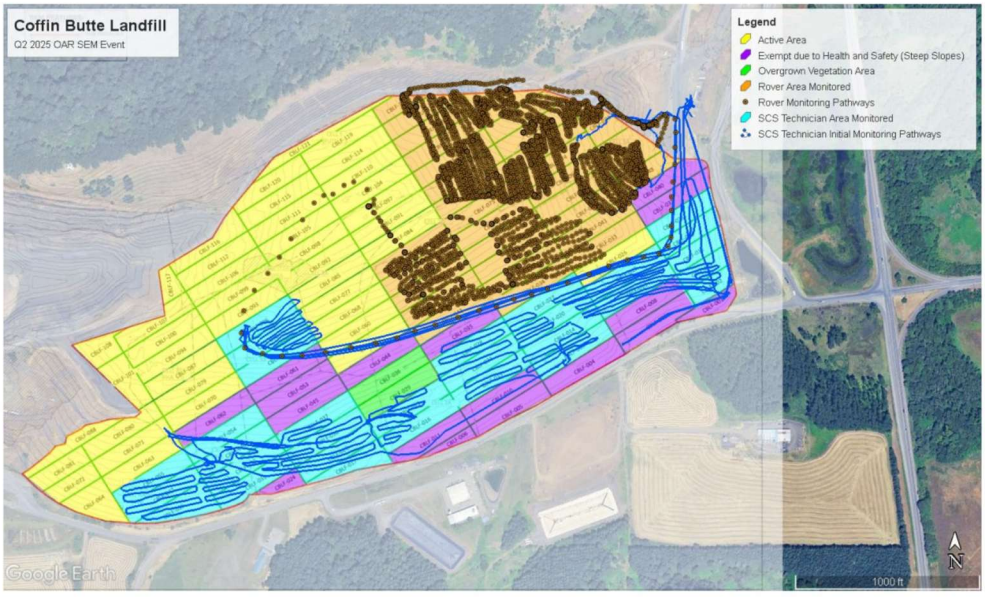
Calculation of capture efficiency

45.08%	6 month total / (yearly total / 2)
2,003,966,111	Net fugitive per year (ft^3)
1,062,102,039	Net fugitive methane per year (ft^3), @ 53%

Rover methane sampling

The self-propelled “Rover” methane measuring system used in June and July 2025:

The Rover track for June and July 2025 methane emission measurements (tracks shown in brown). Standard (walking) tracks shown in blue.



Second Quarter 2025
Initial Surface Emissions Monitoring Pathway
Coffin Butte Landfill, Corvallis, Oregon

REFERENCES

eCFR :: 40 CFR Part 98 Subpart HH -- Municipal Solid Waste Landfills, https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98/subpart-HH.

Nesser, H., Jacob, D., Maasakkers, J., Lorente, A., Chen, Z., Lu, x., Shen, L., Qu, Z., Sulprizio, M., Winter, M, Ma, S., Bloom, A., Worden, J., Stavins, R., and Randles, C.: High-resolution US methane emissions inferred from an inversion of 2019 TROPOMI satellite data: contributions from individual states, urban areas, and landfills, Atmos. Chem Phys., 24, 5069-2024, 2024.

EPA (2023): Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021, U.S. Environmental Protection Agency, 430-R-23-002, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021 (accessed 26 January 2026).

To: Benton County Staff

From: Paul Nietfeld

Subject: LU-24-047 Reconsideration

Attachment files for Nietfeld testimony

Date: January 27, 2026

Dear Benton County Staff:

My testimony in the LU-24-027 Reconsideration matter before the Benton County Board of Commissioners involves a number of files that I am providing by attachment. These files are being supplied via the SFTP portal created in my name. The list of filenames is below:

These files are referenced in the body of my testimony document, which I will be providing via email submission to the landfillappeals@bentoncountyor.gov address.

My contact information is

Paul Nietfeld

37049 Moss Rock Dr.

Corvallis, OR 97330

pnietfeld@gmail.com

Thank you,

Paul Nietfeld

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

May 16, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – April 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-04

Dear Ms. Luttrell:

Please find the attached monthly Title V report for April 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
4/24/2025	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

First Quarter 2025 Surface Emissions Monitoring Report

April 21, 2025
File No. 07222178.00

Mr. Paul Koster
Republic Services – Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, Oregon 97330

Subject: Coffin Butte Landfill - Corvallis, Oregon

Surface Emissions Monitoring for First Quarter 2025.

Dear Mr. Koster:

SCS Field Services (SCS-FS) is pleased to provide Republic Services, with the enclosed report summarizing the surface emissions monitoring services provided at the Coffin Butte Landfill (Site) during the first quarter of 2025. This report includes the results of the surface scan, component emissions, and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS-FS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Stephan Harquail at (503) 867-2369 or Maxfield Morning at (510) 277-5122 if you have any questions or comments.

Sincerely,

Maxfield Morning

Maxfield Morning
Senior Data Analyst
SCS Field Services

Stephen Harquail
PNW Region Manager
SCS Field Services

Coffin Butte Landfill

Oregon Landfill Gas Emissions Rule (OAR) and Surface Emissions Monitoring

First Quarter 2025

Presented to:

Mr. Paul Koster
28972 Coffin Butte Road
Corvallis, Oregon 97330

SCS FIELD SERVICES

File No. 0722178.00 | April 21, 2025

SCS FIELD SERVICES
15949 SW 72nd Ave
Portland, Or 97224

Coffin Butte Landfill

Oregon Landfill Gas Emissions Rule (OAR) and Surface Emissions Monitoring First Quarter 2025

INTRODUCTION

This letter provides the results of the February 26, 27 and March 7, 23, and 24, 2025, OAR landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the Coffin Butte Landfill. All work was performed in accordance with our approved Work Scope dated August 29, 2022, and the OAR requirements.

2025 State Regulatory Applicability

CBL is subject to the Oregon-specific landfill gas emission regulations in OAR Chapter 340 Division 239. These SEM regulations are detailed below. The following requirements are stricter than the NESHAP regulations in previous Sections and require additional compliance:

SURFACE EMISSION METHANE CONCENTRATION LIMITS

> *340-239-0200 (1) Surface Emission Methane Concentration Limits. Except as provided in OAR 340-239-0110(4), 340-239-0110(5), 340-239-0300, and 340-239-0600(1), beginning August 1, 2022, or upon commencing operation of a newly installed gas collection and control system or modification of an existing gas collection and control system pursuant to OAR 340-239-0110(1), whichever is later, no location on the landfill surface may exceed either of the following methane concentration limits:*
>
> *(a) 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with OAR 340-239-0800(3)(b);*
>
> *(b) An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with OAR 340-239-800(3)(c).*

The 500 ppmv limit is already a requirement in the Federal regulations above, but an average methane concentration limit of 25 ppmv will be adhered to as required.

SURFACE EMISSION RECORDKEEPING

> *340-239-0700(2)(a)(C) All instantaneous surface readings of 100 ppmv methane or greater. All exceedances of the limits in OAR 340-239-0100(6)(b) and 340-239-0200, including the location of the leak (or affected grid), leak concentration in ppmv methane, date and time of measurement, the action taken to repair the leak, date of repair, any required remonitoring and the remonitored concentration in ppmv methane, wind speed during surface sampling, and the installation date and location of each well installed as part of a gas collection system expansion;*

The Federal regulations only require monitored surface emissions over 500 ppmv to be documented, so all of the above recordkeeping will be performed on emission points 100 ppmv or over. All repeatable

instantaneous records of 100 ppm or higher (taken during SEM) must be kept for 5 years AND recorded in the semi-annual reports.

SUMMARY AND CONCLUSIONS

As stipulated in OAR, if uncorrectable exceedances within the 10-day limitation are detected or emissions are discovered during an inspection by Regulatory Agencies, the landfill must perform monitoring on a 25-foot pathway on a quarterly basis for active disposal sites. Upon completion of four consecutive SEM events without an uncorrectable exceedance of the 25 ppmv or 500 ppmv standards, other than non-repeatable momentary readings, the landfill may perform the monitoring on a 100-foot spacing on an annual basis for closed landfills or quarterly for active disposal sites. In accordance with the provisions of the OAR, the monitoring of the landfill was done on a 25-foot pathway based on a prior inspection, in which exceedances were observed.

On February 26, 27 and March 23 and 24, 2025, SCS performed first quarter 2025 surface emissions monitoring testing as required by the Oregon Landfill Gas emission Rule. Instantaneous surface emissions monitoring results indicated that seven (7) locations exceeded the 500 ppmv maximum concentration on the above-mentioned dates (Table 1 in Attachment 3). The required first 10-day (OAR) and 1-Month (NSPS) follow-up monitoring indicated that all areas returned to below regulatory compliance limits following system adjustments and remediation by site personnel. Based on these monitoring results no additional follow-up testing was required. These results are discussed in a subsequent section of this report.

Also, during SCS's instantaneous monitoring event, SCS performed integrated monitoring of the landfill surface. As required by the OAR, the landfill was divided into 50,000 square foot areas. The Coffin Butte Landfill surface is divided into 105 grids, as shown in Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, per the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place before the monitoring event. During the monitoring event, no grid areas were observed to exceed the 25 ppmv OAR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results no additional follow-up testing was required at this time. These results are discussed in a subsequent section of this report.

In addition, quarterly monitoring of the pressurized piping or components of the Gas Collection and Control System (GCCS) under positive pressure must be performed. The results of the testing of the landfill gas (LFG) Blower Flare Station (BFS) pressurized pipe and components indicated that all test locations were in compliance with the 500 ppmv requirements.

Further, as required under the OAR, any location on the landfill that has an observed instantaneous methane concentration above 100 ppmv, must be included within the surface emission monitoring report and if any instantaneous location records above 250 ppmv, it must be monitored in a 5-foot grid around the location to determine extents of the methane leak. During this reporting period, no locations showed elevated concentrations between 100-499 ppmv, of the reporting threshold. When these readings are observed, they are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual OAR report. Finally, to help prevent potential future exceedances, SCS recommends that the landfill surface be routinely inspected and any observed surface erosion be routinely repaired.

BACKGROUND

The Coffin Butte Landfill is an active organic refuse disposal site. By way of background, organic materials buried in a landfill decompose anaerobically (in the absence of oxygen) producing a

combustible gas that contains approximately 50 to 60 percent methane gas, 40 to 50 percent carbon dioxide, and a trace amount of various other gases, some of which are odorous. The Coffin-Butte/Corvallis property contains a system to control the combustible gases generated in the landfill.

SURFACE EMISSIONS MONITORING

On February 26, 27 and March 23 and 24, 2025, the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the OAR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the OAR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

The instruments used to perform the landfill surface emission testing consisted of the following:

- Thermo Scientific TVA 2020 portable Flame Ionization Detector (FID). This instrument measures methane in the air over a range of 1 to 50,000 ppmv. The TVA 2020 meets the State of California Air Resources Board (CARB) requirements for combined instantaneous and integrated monitoring and was calibrated in accordance with the United States Environmental Protection Agency (US EPA) Method 21.

- Weather Anemometer with continuous recorder for meteorological conditions in accordance with the OAR.

Instrument calibration logs and weather information are shown in Attachments 5 and 6.

SURFACE EMISSIONS MONITORING PROCEDURES

Surface emissions monitoring was conducted in accordance with the OAR and SEM requirements. Monitoring was performed with the FID inlet held within 2 inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 or 100 feet apart over the landfill's surface. Cracks, holes, and other cover penetrations in the surface were also tested. Surface emissions readings were monitored continuously and recorded every 5 seconds. Any areas exceeding the 100 or 500 ppmv standards (reporting and compliance levels, respectively) would be GPS-tagged and stake-marked for on-site personnel to perform remediation or repairs.

The integrated average is based on the readings stored on the instrument, which are recorded every 5 seconds. The readings are then downloaded and the averages are calculated for each grid using SCS eTools®. All readings are maintained in this secure SCS Database. The readings are not provided in the report due to the volume of readings but can be furnished upon request.

Recorded wind speed results are shown in Attachment 6. Wind speed averages were observed to remain below the alternative threshold of 10 miles per hour, and no instantaneous speeds exceeded 20 miles per hour. No rainfall occurred within 72 hours of the monitoring events. Therefore, site meteorological conditions were within the alternatives of the OAR requirements on the above-mentioned dates.

TESTING RESULTS

During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rule as required under the OAR. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the OAR or NSPS threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring (OAR).

On February 27, 2025, SCS performed first quarter 2025 instantaneous emissions monitoring testing as required by the Oregon DEQ/OAR. During this monitoring, surface emissions results indicated that seven (7) locations exceeded the 500 ppmv maximum concentration. The required first 10-day (OAR) and 1-month confirmation (NSPS) follow-up monitoring performed on March 7 and 24, 2025, indicated that all locations returned below compliance limits as required, following system adjustments and remediation by site personnel. Based on these monitoring results no additional follow-up testing was required. Results of the initial and follow-up monitoring are shown in Attachment 3 (Table 1). Calibration logs for the monitoring equipment are provided in Attachment 5. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, calculated integrated monitoring indicated no integrated exceedances of the 25-ppmv requirement on February 26, March 23 and 24, 2025. Results of the initial and follow-up monitoring are shown in Attachment 4 (Table 2). Calibration logs for monitoring equipment are provided in Attachment 5.

During this monitoring event, several grids were not monitored, in accordance with the OAR, due to active landfilling activities, unsafe conditions, overgrown vegetation, or no waste in place. SCS will continue to monitor all accessible locations during the second quarter of 2025.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On February 27, 2025, quarterly leak monitoring was performed in accordance with the OAR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS. Monitoring was performed with the detector inlet held one-half of an inch from the pressurized pipe and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 3.50 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized pipes and components located at the LFG BFS were in compliance at the time of our testing.

PROJECT SCHEDULE

According to the OAR, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the second quarter 2025 (April through June) surface emissions testing event is scheduled to be performed by the end of June 2025.

STANDARD PROVISIONS

This report addresses the conditions of the subject site during the testing dates only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the surface emissions at the subject site or adjacent properties.

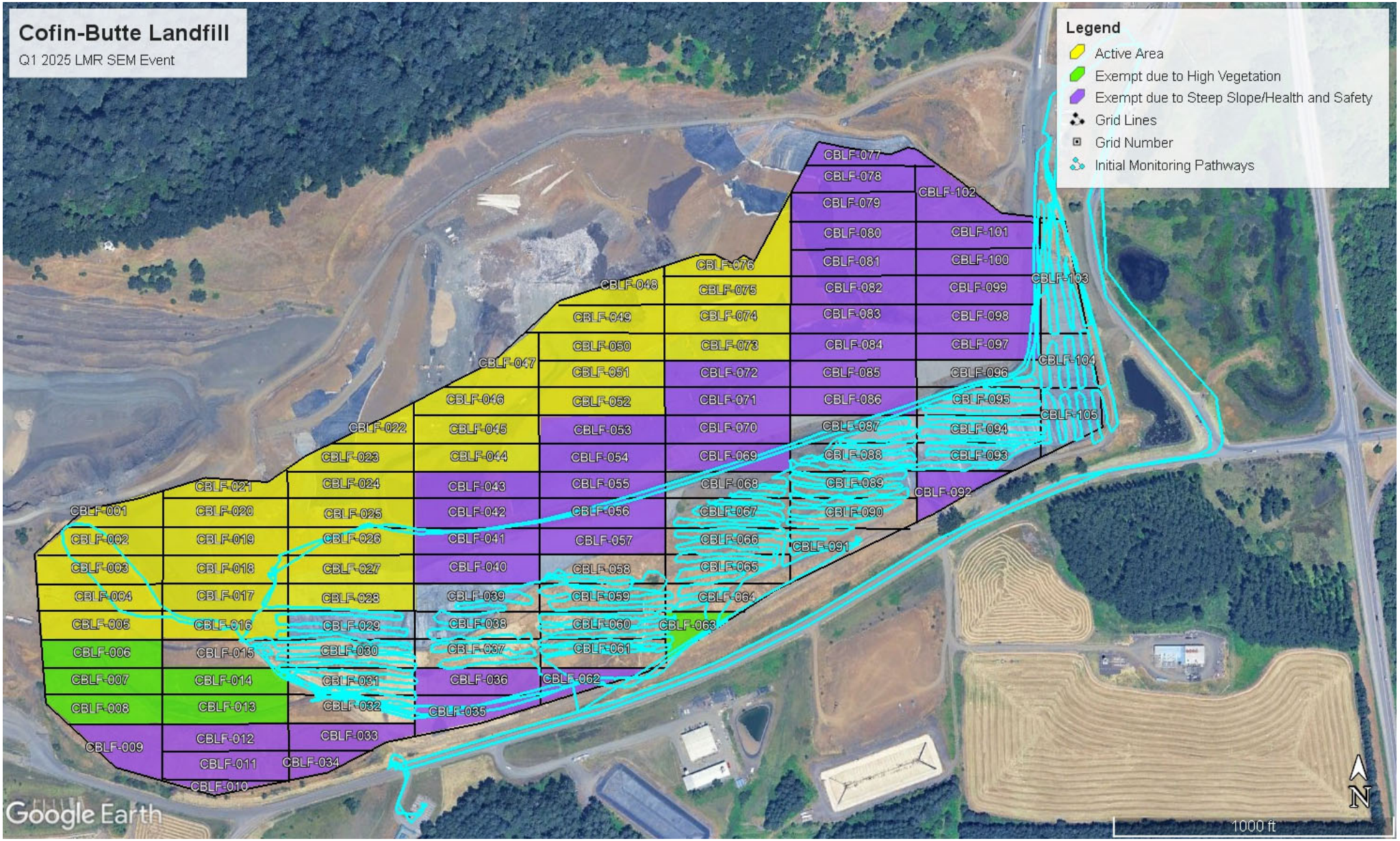
Attachment 1

Landfill Grid

Surface Emissions Monitoring Site Grid Map
Coffin Butte Landfill, Corvallis, Oregon

Attachment 2

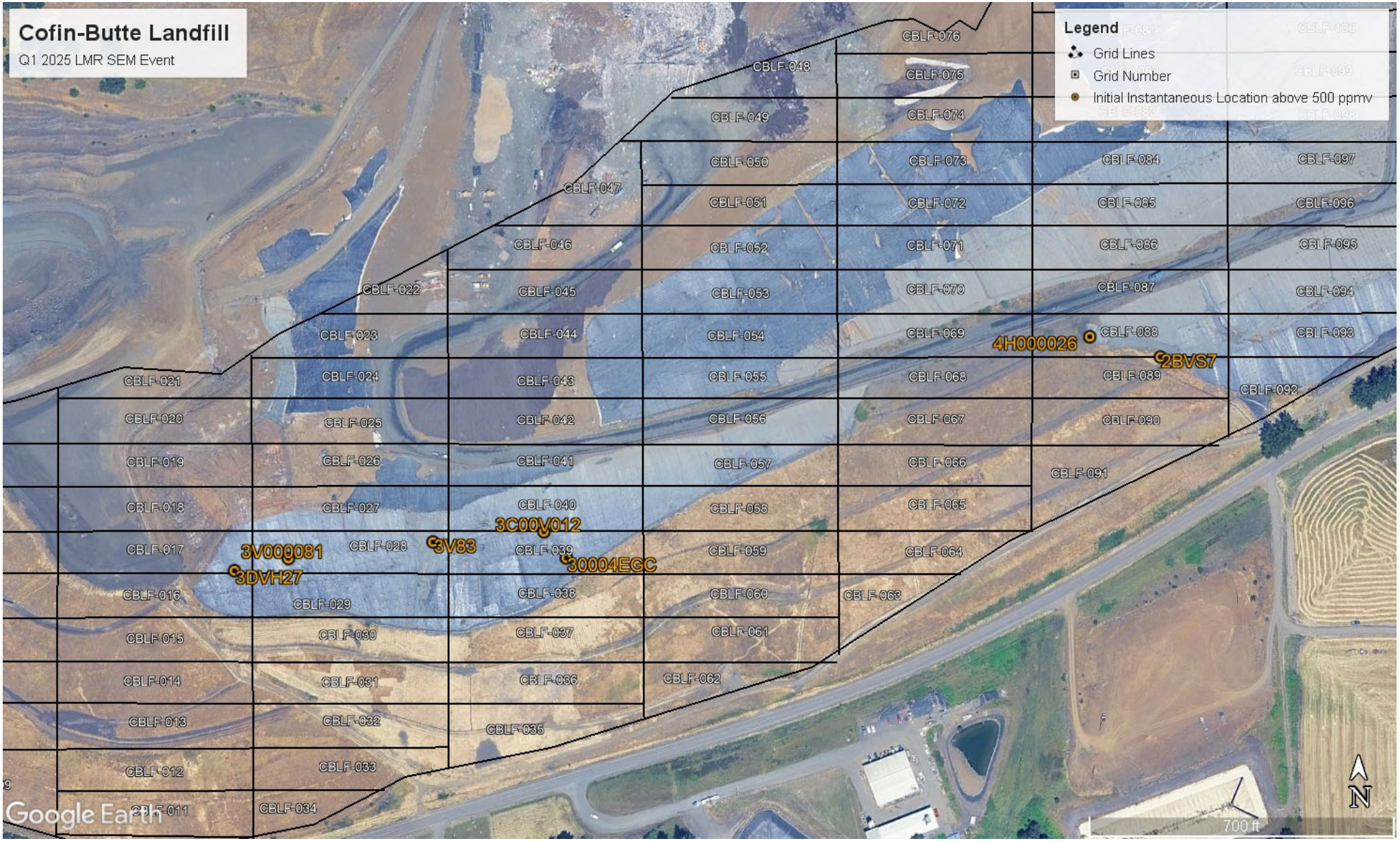
Surface Pathway



First Quarter 2025
Initial Surface Emissions Monitoring Pathway
Coffin Butte Landfill, Corvallis, Oregon

Attachment 3

Instantaneous and Component Emissions Monitoring Results



First Quarter 2025
Initial Emissions Monitoring Results Greater than 500 ppmv
Coffin Butte Landfill, Corvallis, Oregon

First Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

SCS Instantaneous Data Report for February 27, March 7, and 24, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 2/27/2025		First 10-Day Monitoring Results (ppmv) 3/7/2025		1-Month Confirmation Results (ppmv) 3/24/2025		Latitude	Longitude
	Time	PPM	Time	PPM	Time	PPM		
2BVS7	10:38am	2,677	11:11am	287	1:55pm	133	44.6992520	-123.2274420
4H000026	10:43am	3,501	10:50am	101	12:57pm	353	44.6993783	-123.2280617
3DVH27	11:33am	2,396	12:27pm	11	1:35pm	74	44.6979140	-123.2355740
3V000081	12:19pm	974	12:51pm	328	1:25pm	256	44.6979900	-123.2351000
30004EGC	12:27pm	3,993	11:45am	190	1:40pm	118	44.6979930	-123.2326590
3C00V012	12:38pm	6,800	10:35am	15	1:42pm	9	44.6981570	-123.2328560
3V83	12:43pm	6,285	11:22am	5	1:27pm	9	44.6980930	-123.2338300

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	2/27/2025	3.50

No other exceedances of the 500 ppmv threshold were observed during the first quarter of 2025 monitoring.

Attachment 4

Integrated Monitoring Results

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-001	--	--	Active Area
CBLF-002	--	--	Active Area
CBLF-003	--	--	Active Area
CBLF-004	--	--	Active Area
CBLF-005	--	--	Active Area
CBLF-006	--	--	Exempt due to High Vegetation
CBLF-007	--	--	Exempt due to High Vegetation
CBLF-008	--	--	Exempt due to High Vegetation
CBLF-009	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-010	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-011	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-012	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-013	--	--	Exempt due to High Vegetation
CBLF-014	--	--	Exempt due to High Vegetation
CBLF-015	2/27/2025	3.29	
CBLF-016	--	--	Active Area
CBLF-017	--	--	Active Area
CBLF-018	--	--	Active Area
CBLF-019	--	--	Active Area
CBLF-020	--	--	Active Area
CBLF-021	--	--	Active Area
CBLF-022	--	--	Active Area
CBLF-023	--	--	Active Area
CBLF-024	--	--	Active Area
CBLF-025	--	--	Active Area
CBLF-026	--	--	Active Area
CBLF-027	--	--	Active Area
CBLF-028	--	--	Active Area
CBLF-029	2/27/2025	4.89	
CBLF-030	2/27/2025	4.10	
CBLF-031	2/27/2025	3.21	
CBLF-032	2/27/2025	3.07	
CBLF-033	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-034	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-035	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-036	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-037	3/24/2025	2.52	
CBLF-038	3/24/2025	2.69	
CBLF-039	3/24/2025	2.87	
CBLF-040	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-041	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-042	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-043	--	--	Exempt due to Steep Slope/Health and Safety

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-044	--	--	Active Area
CBLF-045	--	--	Active Area
CBLF-046	--	--	Active Area
CBLF-047	--	--	Active Area
CBLF-048	--	--	Active Area
CBLF-049	--	--	Active Area
CBLF-050	--	--	Active Area
CBLF-051	--	--	Active Area
CBLF-052	--	--	Active Area
CBLF-053	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-054	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-055	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-056	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-057	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-058	3/24/2025	3.09	
CBLF-059	3/24/2025	3.43	
CBLF-060	3/24/2025	4.07	
CBLF-061	3/24/2025	4.96	
CBLF-062	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-063	--	--	Exempt due to High Vegetation
CBLF-064	3/23/2025	2.99	
CBLF-065	3/23/2025	3.26	
CBLF-066	3/23/2025	3.41	
CBLF-067	3/23/2025	3.62	
CBLF-068	3/23/2025	3.61	
CBLF-069	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-070	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-071	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-072	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-073	--	--	Active Area
CBLF-074	--	--	Active Area
CBLF-075	--	--	Active Area
CBLF-076	--	--	Active Area
CBLF-077	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-078	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-079	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-080	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-081	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-082	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-083	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-084	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-085	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-086	--	--	Exempt due to Steep Slope/Health and Safety

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-087	3/23/2025	11.47	
CBLF-088	3/23/2025	7.48	
CBLF-089	3/23/2025	4.74	
CBLF-090	3/23/2025	4.77	
CBLF-091	3/23/2025	5.58	
CBLF-092	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-093	2/27/2025	3.95	
CBLF-094	2/27/2025	8.32	
CBLF-095	2/27/2025	8.16	
CBLF-096	2/27/2025	10.10	
CBLF-097	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-098	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-099	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-100	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-101	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-102	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-103	2/27/2025	6.24	
CBLF-104	2/27/2025	8.07	
CBLF-105	2/27/2025	4.13	

Attachment 5

Calibration Logs

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 2/26/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 4 MPH Wind Direction: NE Barometric Pressure: 30.05

Air Temperature: 47 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	499	1
2	0	501	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 0.8 ppm

Downwind SW side of site Reading: 2.9 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 2/27/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 2 MPH Wind Direction: W Barometric Pressure: 30.15

Air Temperature: 55 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on W side. Reading: 2.7 ppm

Downwind E side of site Reading: 3.1 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 3/23/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 10 MPH Wind Direction: SW Barometric Pressure: 30.17

Air Temperature: 57 deg F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	500	0
2	0	499	1
3	0	501	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on SW side. Reading: 1.7 ppm

Downwind NE side of site Reading: 4.1 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 3/24/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 3 MPH Wind Direction: SW Barometric Pressure: 30.21

Air Temperature: 68 deg F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

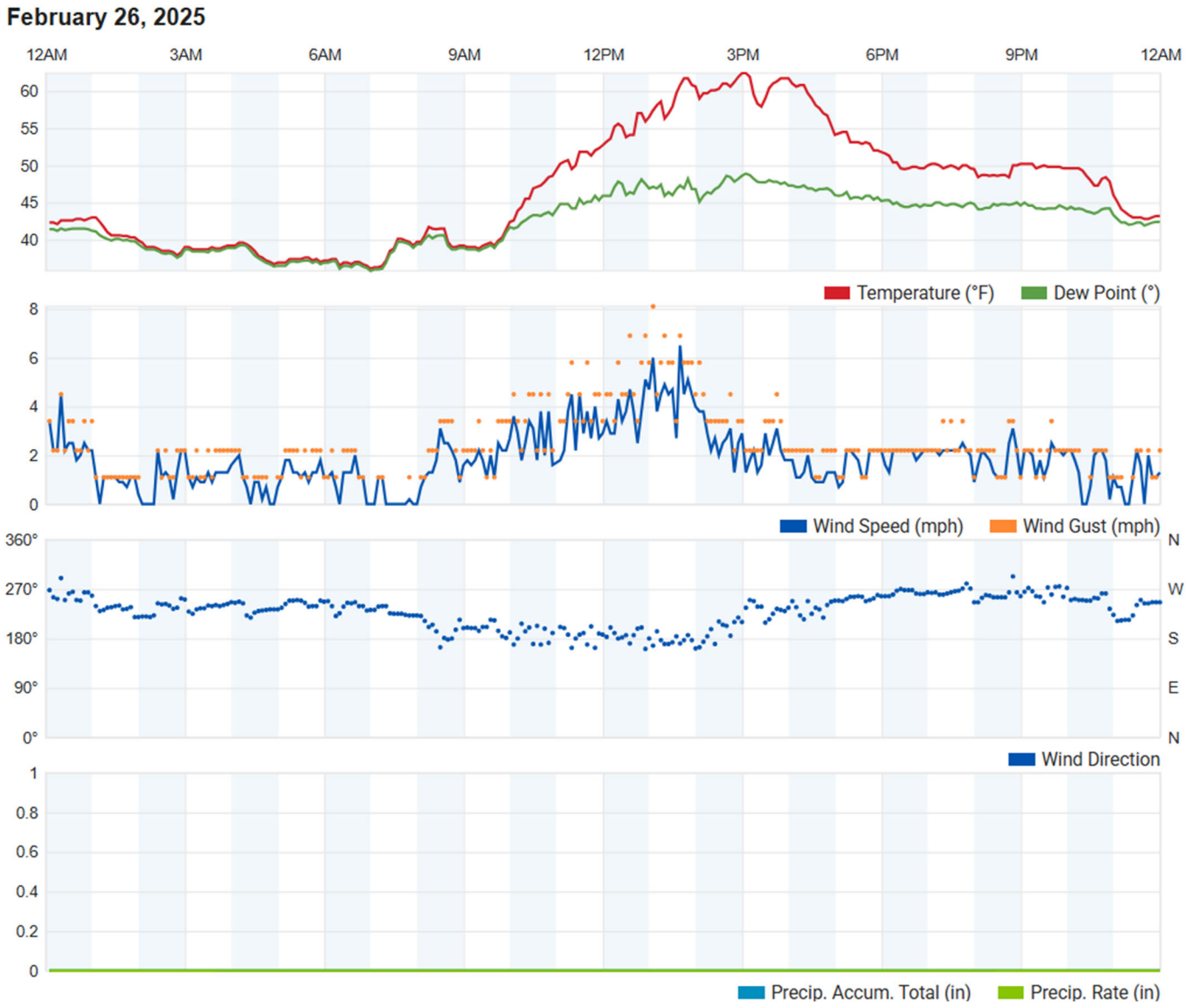
Up Wind of landfill area on SW side. Reading: 1.9 ppm

Downwind NE side of site Reading: 2.2 ppm

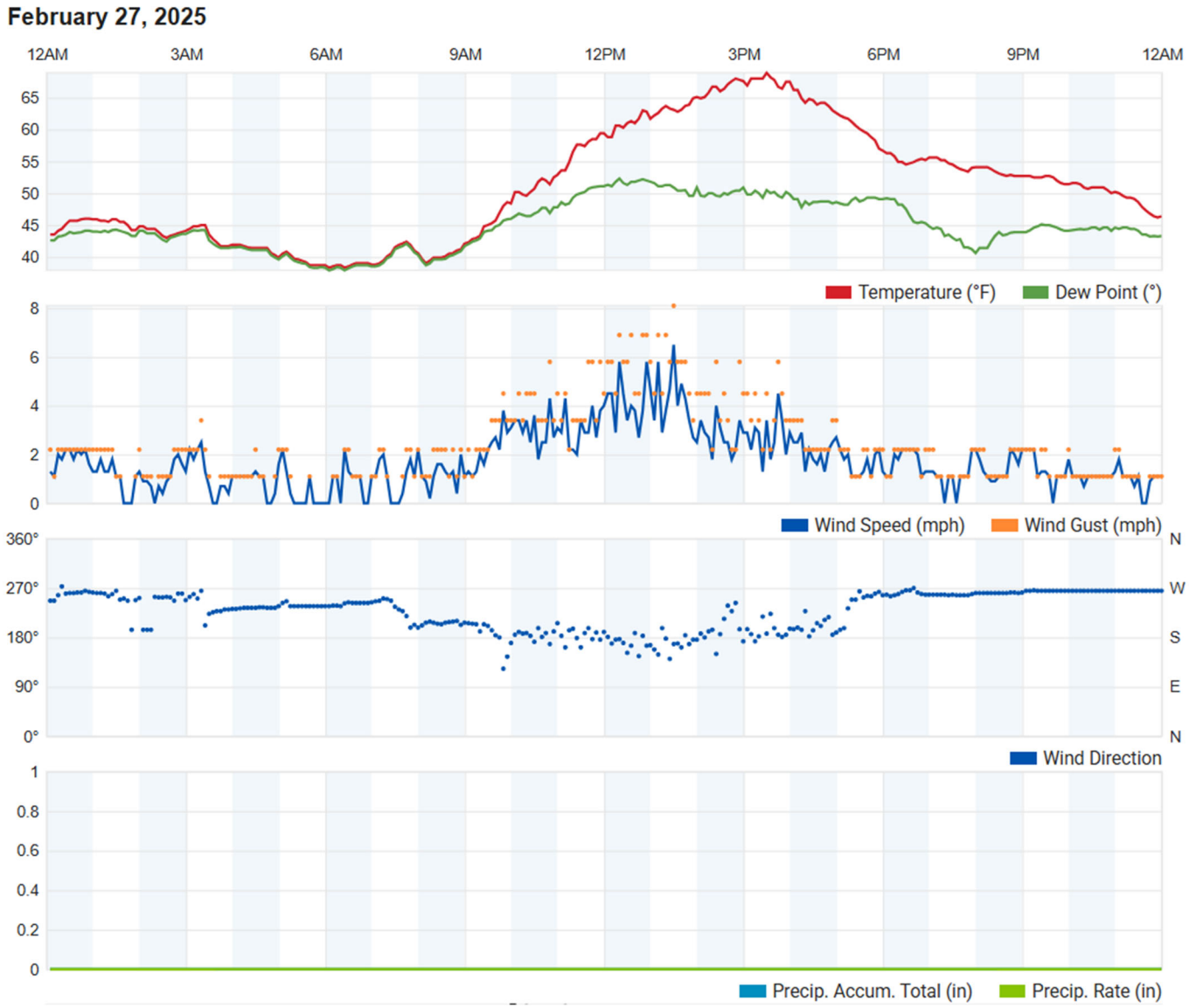
NOTES:

Attachment 6

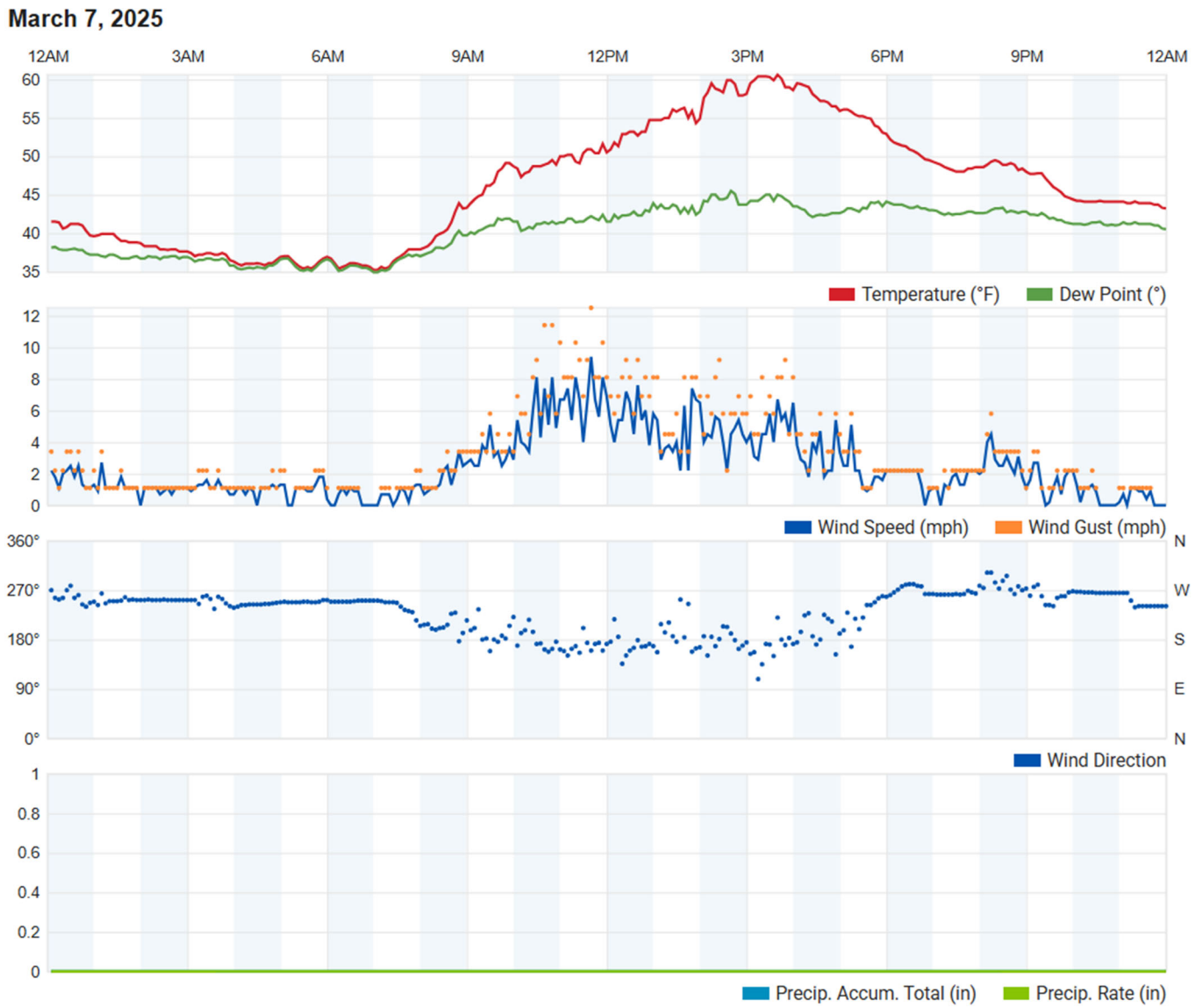
Weather Data



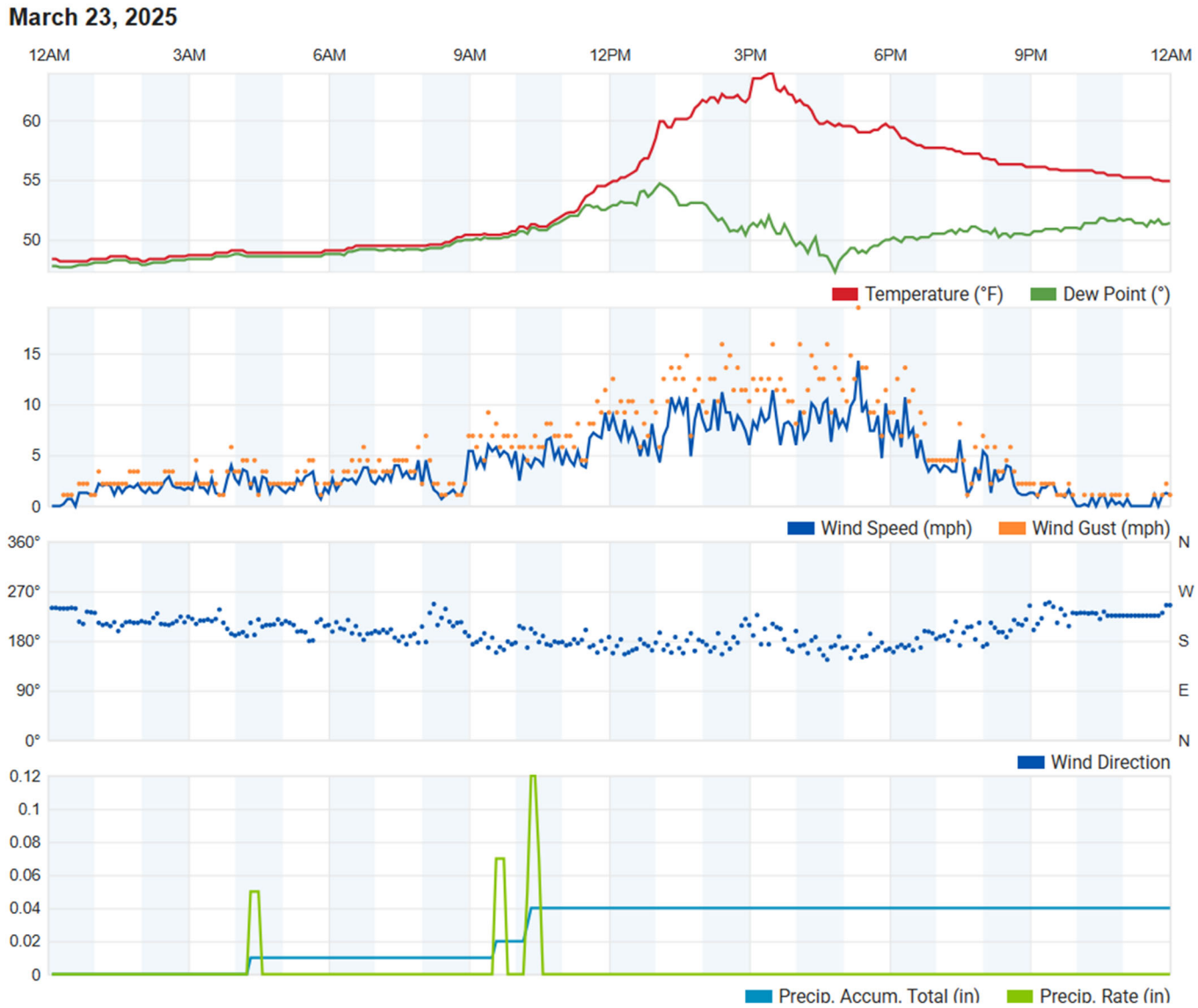
February 26, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



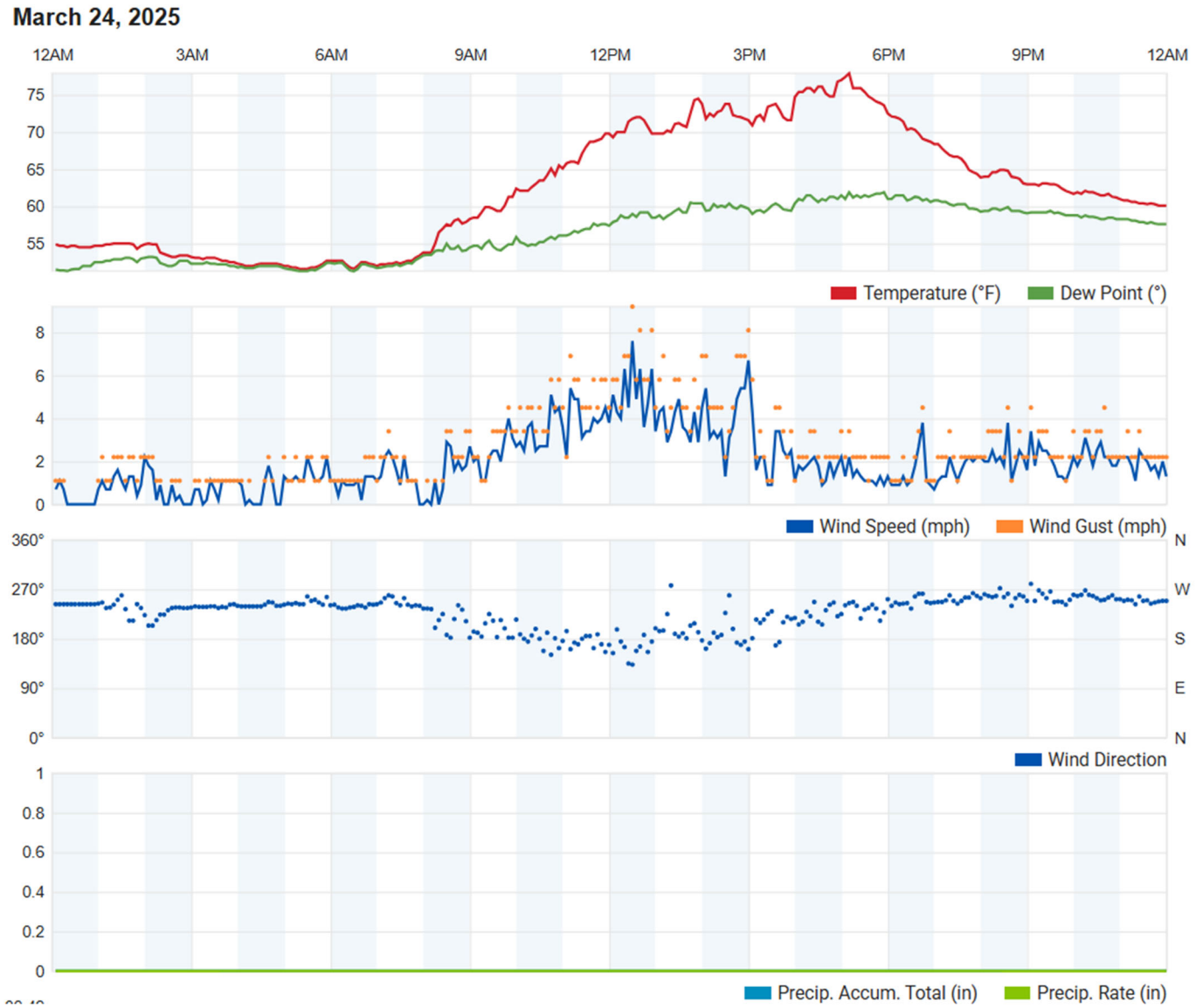
February 27, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



March 7, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



March 23, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



March 24, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon

Second quarter surface emissions monitoring did not occur in April 2025.

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	0.0
2	Engine service	2.0
3	Engine service	2.0
4	Engine service	2.0
5	Engine service	5.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Sump cleaning, replaced head #9, flare testing, service and replaced heads #1 and #11, #8 cylinder head guttered	68.0
2	Sump cleaning, flare testing, rebuilt starter drives	7.0
3	Sump cleaning, flare testing, gen windings	5.0
4	Sump cleaning	1.0
5	Sump cleaning, update rate shut down, cylinder #13 high temp, differential trip, bad thermocouple #13, replaced #13 cylinder header, replaced leaking cylinder head #13	11.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	No operational problems	N/A

Coffin Butte Resource Project- April 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours
March-25	251,416	651

Date	Time	Event
4/2/25	1.00	sump cleaning
4/4/25	2.00	replaced head #9
4/14/25	3.00	flare testing
4/16/25	4.00	service and replaced heads #1 and #11
4/20/25	59.00	#8 cylinder head guttered

Total Hours Off-line **69.00**

Unit # 2

Date	Total Hours	On-line Hours
March-25	249,518	711

Date	Scheduled Time	Event
4/2/25	1.00	sump cleaning
4/14/25	6.00	flare testing and rebuilt starter drives
4/23/25	2.00	Service

Total Hours Off-line **9.00**

Unit #3

Date	Total Hours	On-line Hours
March-25	248,676	713

Date	Scheduled Time	Event
4/2/25	2.00	Service and sump cleaning
4/14/25	3.00	Flare testing
4/14/25	2.00	gen windings

Total Hours Off-line **7.00**

Unit # 4

Date	Total Hours	On-line Hours
March-25	147,529	717

Date	Scheduled Time	Event
4/2/25	1.00	sump cleaning
4/10/25	2.00	service

Total Hours Off-line **3.00**

Unit # 5

Date	Total Hours	On-line Hours
March-25	147,423	704

Date	Scheduled Time	Event
4/2/25	1.00	sump cleaning
4/7/25	1.00	update rate shut down
4/8/25	1.00	cylinder #13 high temp
4/10/25	1.00	differential trip
4/10/25	1.00	bad thermocouple #13
4/11/25	3.00	replaced #13 cylinder head
4/11/25	3.00	replaced leaking cylinder head #13
4/18/25	5.00	Service

Total Hours Off-line **16.00**

Note: **Mar-25** 720

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
5D0V0426	4/1/2025
2D0V0402	4/2/2025
5C0V0418	4/2/2025
5B0V0412	4/3/2025
5B0V0422	4/4/2025
5B0V0407	4/4/2025
2D0V0402	4/16/2025
5B0V0407	4/16/2025
5B0V0412	4/16/2025
5C0V0418	4/16/2025
5E0V0422	4/16/2025
5D0V0426	4/16/2025
6H0000011	4/16/2025
6H0000012	4/16/2025
6H0000013	4/16/2025

Decommissioned Wells

Well ID	Date Decommissioned
5H000071	4/9/2025
5H000072	4/9/2025

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	77,409,190
ENCLOSEDFL	45,938,288

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	651.0
2	711.0
3	713.0
4	717.0
5	704.0
Total Operating Hours	**3,496.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	678.7

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received an email from ODEQ detailing the following air quality complaints for April 2025:

Date	Time	Reporting Person	Location	Comment
4/3/2025	9:38 AM	Forwarded from DEQ	N/A	"landfill garbage smell bad today"

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

September 17, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – August 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-08

Dear Ms. Luttrell:

Please find the attached monthly Title V report for August 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

Statement of certification:

"I have reviewed this report and all supporting documentation in their entirety and to the best of my knowledge, information, and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate, and complete."

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*
Paul Koster, Valley Landfills, Inc. *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
8/18/2024	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

Second Quarter 2025 Surface Emissions Monitoring Report

July 21, 2025
File No. 07222178.00

Mr. Paul Koster
Republic Services – Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, Oregon 97330

Subject: Coffin Butte Landfill - Corvallis, Oregon

Surface Emissions Monitoring for Second Quarter 2025.

Dear Mr. Koster:

SCS Field Services (SCS-FS) is pleased to provide Republic Services with the enclosed report summarizing the surface emissions monitoring services provided at the Coffin Butte Landfill (Site) during the second quarter of 2025. This report includes the results of the surface scan, component emissions, and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS-FS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Stephan Harquail at (503) 867-2369 or Maxfield Morning at (510) 277-5122 if you have any questions or comments.

Sincerely,

Maxfield Morning

Maxfield Morning
Senior Data Analyst
SCS Field Services

Stephen Harquail
PNW Region Manager
SCS Field Services

Coffin Butte Landfill

Oregon Landfill Gas Emissions Rule (OAR) and Surface Emissions Monitoring

Second Quarter 2025

Presented to:

Mr. Paul Koster
28972 Coffin Butte Road
Corvallis, Oregon 97330

SCS FIELD SERVICES

File No. 0722178.00 | July 21, 2025

SCS FIELD SERVICES
15949 SW 72nd Ave
Portland, Or 97224

Coffin Butte Landfill

Oregon Landfill Gas Emissions Rule (OAR) and Surface Emissions Monitoring Second Quarter 2025

INTRODUCTION

This letter provides the results of the May 21, 23, 25, 30, June 3, 6, 9, 25, 26, 27, and July 11, 2025, OAR landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the Coffin Butte Landfill. All work was performed in accordance with our approved Work Scope dated August 29, 2022, and the OAR requirements.

Coffin Butte Landfill is an active landfill that continues to expand. For the monitoring starting in the second quarter of 2025, the grid map has been adjusted to accommodate this added extent of waste boundaries (Attachment 1).

A technology experiment data collection method was performed during the second quarter SEM event using a tank-Rover unit in areas with steep slopes and side slopes covered in plastic deemed unsafe for field staff. The intent of the Drone/Rover monitoring is to maximize safety on integrated grid paths covered in plastic.

2025 State Regulatory Applicability

CBL is subject to the Oregon-specific landfill gas emission regulations in OAR Chapter 340 Division 239. These SEM regulations are detailed below. The following requirements are stricter than the NESHAP regulations in previous Sections and require additional compliance:

SURFACE EMISSION METHANE CONCENTRATION LIMITS

340-239-0200 (1) Surface Emission Methane Concentration Limits. Except as provided in OAR 340-239-0110(4), 340-239-0110(5), 340-239-0300, and 340-239-0600(1), beginning August 1, 2022, or upon commencing operation of a newly installed gas collection and control system or modification of an existing gas collection and control system pursuant to OAR 340-239-0110(1), whichever is later, no location on the landfill surface may exceed either of the following methane concentration limits:

(a) 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with OAR 340-239-0800(3)(b);

(b) An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with OAR 340-239-800(3)(c).

The 500 ppmv limit is already a requirement in the Federal regulations above, but an average methane concentration limit of 25 ppmv will be adhered to as required.

SURFACE EMISSION RECORDKEEPING

> *340-239-0700(2)(a)(C) All instantaneous surface readings of 100 ppmv methane or greater. All exceedances of the limits in OAR 340-239-0100(6)(b) and 340-239-0200, including the location of the leak (or affected grid), leak concentration in ppmv methane, date and time of measurement, the action taken to repair the leak, date of repair, any required remonitoring and the remonitored concentration in ppmv methane, wind speed during surface sampling, and the installation date and location of each well installed as part of a gas collection system expansion;*

The Federal regulations only require monitored surface emissions over 500 ppmv to be documented, so all of the above recordkeeping will be performed on emission points 100 ppmv or over. All repeatable instantaneous records of 100 ppm or higher (taken during SEM) must be kept for 5 years AND recorded in the semi-annual reports.

SUMMARY AND CONCLUSIONS

As stipulated in OAR, if uncorrectable exceedances within the 10-day limitation are detected or emissions are discovered during an inspection by Regulatory Agencies, the landfill must perform monitoring on a 25-foot pathway on a quarterly basis for active disposal sites. Upon completion of four consecutive SEM events without an uncorrectable exceedance of the 25 ppmv or 500 ppmv standards, other than non-repeatable momentary readings, the landfill may perform the monitoring on a 100-foot spacing on an annual basis for closed landfills or quarterly for active disposal sites. In accordance with the provisions of the OAR, the monitoring of the landfill was done on a 25-foot pathway based on a prior inspection, in which exceedances were observed.

On May 21, 23, and 30, 2025, SCS field staff performed initial second quarter 2025 surface emissions monitoring testing as required by the Oregon Landfill Gas emission Rule. Instantaneous surface emissions monitoring results indicated that nine (9) locations exceeded the 500 ppmv maximum concentration on the above-mentioned dates (Table 1 in Attachment 3). The required first 10-day (OAR) and 1-Month (NSPS) follow-up monitoring indicated that all areas returned to below regulatory compliance limits following system adjustments and remediation by site personnel. Based on these monitoring results no additional follow-up testing was required. These results are discussed in a subsequent section of this report.

On June 9, 2025, SCS Drone/Rover Unit performed supplemental second quarter 2025 surface emissions monitoring following testing rules as required by the OAR. Instantaneous surface emissions monitoring results indicated that sixty-six (66) locations exceeded the 500 ppmv maximum concentration on the above-mentioned dates (Table 1 in Attachment 3). The required first and second 10-day (OAR) and 30-day (NSPS) follow-up monitoring indicated that not all locations returned below compliance limits as required, following system adjustments and remediation. Based on these monitoring results, and in accordance with NSPS, the site is required to perform a system expansion within 120 days of the initial detected exceedance or October 10, 2025. Results of the initial and follow-up monitoring are shown in Attachment 3 (Table 1). Calibration logs for the monitoring equipment are provided in Attachment 5.

Also, during SCS's instantaneous monitoring event, SCS performed integrated monitoring of the landfill surface. As required by the OAR, the landfill was divided into 50,000 square foot areas. The Coffin Butte Landfill surface is divided into 121 grids, as shown in Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, per the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place before the monitoring event. During the monitoring event, no grid areas were observed to exceed the 25 ppmv OAR integrated average

threshold (Table 2 in Attachment 4). Based on these monitoring results no additional follow-up testing was required at this time. These results are discussed in a subsequent section of this report.

In addition, quarterly monitoring of the pressurized piping or components of the Gas Collection and Control System (GCCS) under positive pressure must be performed. The results of the testing of the landfill gas (LFG) Blower Flare Station (BFS) pressurized pipe and components indicated that all test locations were in compliance with the 500 ppmv requirements.

Further, as required under the OAR, any location on the landfill that has an observed instantaneous methane concentration above 100 ppmv, must be included within the surface emission monitoring report and if any instantaneous location records above 250 ppmv, it must be monitored in a 5-foot grid around the location to determine extents of the methane leak. During this reporting period, no locations showed elevated concentrations between 100-499 ppmv, of the reporting threshold. When these readings are observed, they are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual OAR report. Finally, to help prevent potential future exceedances, SCS recommends that the landfill surface be routinely inspected and any observed surface erosion be routinely repaired.

BACKGROUND

The Coffin Butte Landfill is an active organic refuse disposal site. By way of background, organic materials buried in a landfill decompose anaerobically (in the absence of oxygen), producing a combustible gas that contains approximately 50 to 60 percent methane, 40 to 50 percent carbon dioxide, and a trace amount of various other gases, some of which are odorous. The Coffin-Butte/Corvallis property contains a system to control the combustible gases generated in the landfill.

SURFACE EMISSIONS MONITORING

On May 21, 23, 25, 30, June 3, 6, 9, 25, 26, 27, and July 11, 2025, the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the OAR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the OAR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

The instruments used to perform the landfill surface emission testing consisted of the following:

- Thermo Scientific TVA 2020 portable Flame Ionization Detector (FID). This instrument measures methane in the air over a range of 1 to 50,000 ppmv. The TVA 2020 meets the State of California Air Resources Board (CARB) requirements for combined instantaneous and integrated monitoring and was calibrated in accordance with the United States Environmental Protection Agency (US EPA) Method 21.

- Weather Anemometer with continuous recorder for meteorological conditions in accordance with the OAR.

Instrument calibration logs and weather information are shown in Attachments 5 and 6.

SURFACE EMISSIONS MONITORING PROCEDURES

Surface emissions monitoring was conducted in accordance with the OAR and SEM requirements. Monitoring was performed with the FID inlet held within 2 inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 or 100 feet apart over the landfill's surface. Cracks, holes, and other cover penetrations in the surface were also tested. Surface emissions readings were monitored continuously and recorded every 5 seconds. Any areas exceeding the 100 or 500 ppmv standards (reporting and compliance levels, respectively) would be GPS-tagged and stake-marked for on-site personnel to perform remediation or repairs.

The integrated average is based on the readings stored on the instrument, which are recorded every 5 seconds. The readings are then downloaded and the averages are calculated for each grid using SCS eTools®. All readings are maintained in this secure SCS Database. The readings are not provided in the report due to the volume of readings but can be furnished upon request.

Recorded wind speed results are shown in Attachment 6. Wind speed averages were observed to remain below the alternative threshold of 10 miles per hour, and no instantaneous speeds exceeded 20 miles per hour. No rainfall occurred within 72 hours of the monitoring events. Therefore, site meteorological conditions were within the alternatives of the OAR requirements on the above-mentioned dates.

TESTING RESULTS

During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rule as required under the OAR. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the OAR or NSPS threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring (OAR).

On May 21, 23, and 30, 2025, SCS field staff performed second quarter 2025 instantaneous emissions monitoring testing as required by the Oregon DEQ/OAR. During this monitoring, surface emissions results indicated that nine (9) locations exceeded the 500 ppmv maximum concentration. The required first 10-day (OAR) and 1-month confirmation (NSPS) follow-up monitoring performed on May 23, 25, June 9, and 19, 2025, indicated that all locations returned below compliance limits as required, following system adjustments and remediation by site personnel. Based on these monitoring results no additional follow-up testing was required. Results of the initial and follow-up monitoring are shown in Attachment 3 (Table 1). Calibration logs for the monitoring equipment are provided in Attachment 5. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

On June 9, 2025, SCS Drone/Rover Unit performed supplemental second quarter 2025 surface emissions monitoring following testing rules as required by the OAR. Instantaneous surface emissions monitoring results indicated that sixty-six (66) locations exceeded the 500 ppmv maximum concentration on the above-mentioned dates (Table 1 in Attachment 3). The required first and second 10-day (OAR) and 30-day (NSPS) follow-up monitoring performed on June19, 27 and July 11, 2025 indicated that not all locations returned below compliance limits as required, following system adjustments and remediation. Based on these monitoring results, and in accordance with NSPS, the site is required to perform a system expansion within 120 days of the initial detected exceedance or October 10, 2025. Results of the initial and follow-up monitoring are shown in Attachment 3 (Table 1). Calibration logs for the monitoring equipment are provided in Attachment 5.

Additionally, calculated integrated monitoring indicated no integrated exceedances of the 25-ppmv requirement on June 3, 6, 15, 18, and 26, 2025. Results of the initial and follow-up monitoring are shown in Attachment 4 (Table 2). Calibration logs for monitoring equipment are provided in Attachment 5.

During this monitoring event, several grids were not monitored, in accordance with the OAR, due to active landfilling activities, unsafe conditions, overgrown vegetation, or no waste in place. SCS will continue to monitor all accessible locations during the third quarter of 2025.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On May 23, 2025, quarterly leak monitoring was performed in accordance with the OAR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS. Monitoring was performed with the detector inlet held one-half of an inch from the pressurized pipe and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 14.30 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized pipes and components located at the LFG BFS were in compliance at the time of our testing.

PROJECT SCHEDULE

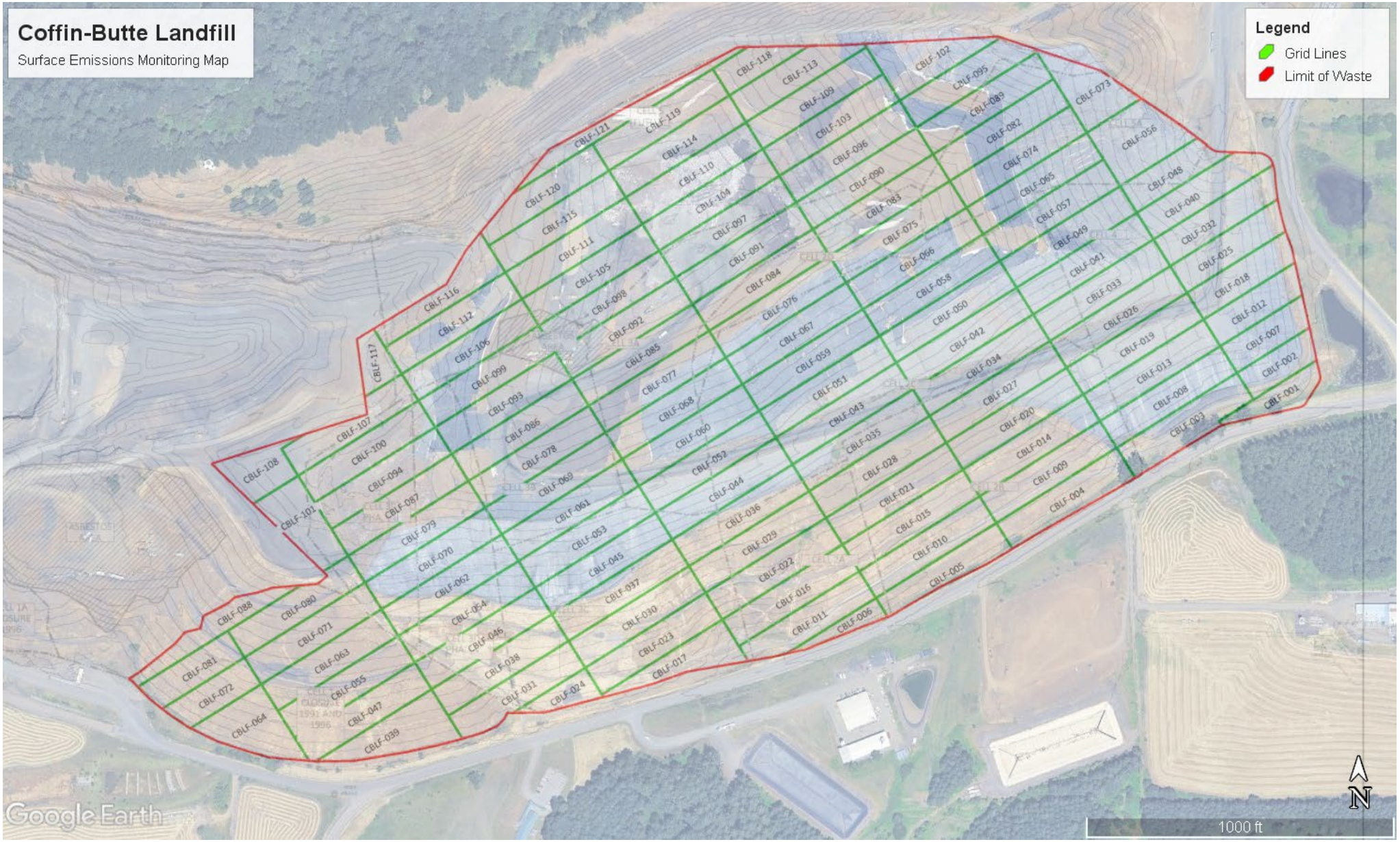
According to the OAR, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the third quarter 2025 (July through September) surface emissions testing event is scheduled to be performed by the end of September 2025.

STANDARD PROVISIONS

This report addresses the conditions of the subject site during the testing dates only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the surface emissions at the subject site or adjacent properties.

Attachment 1

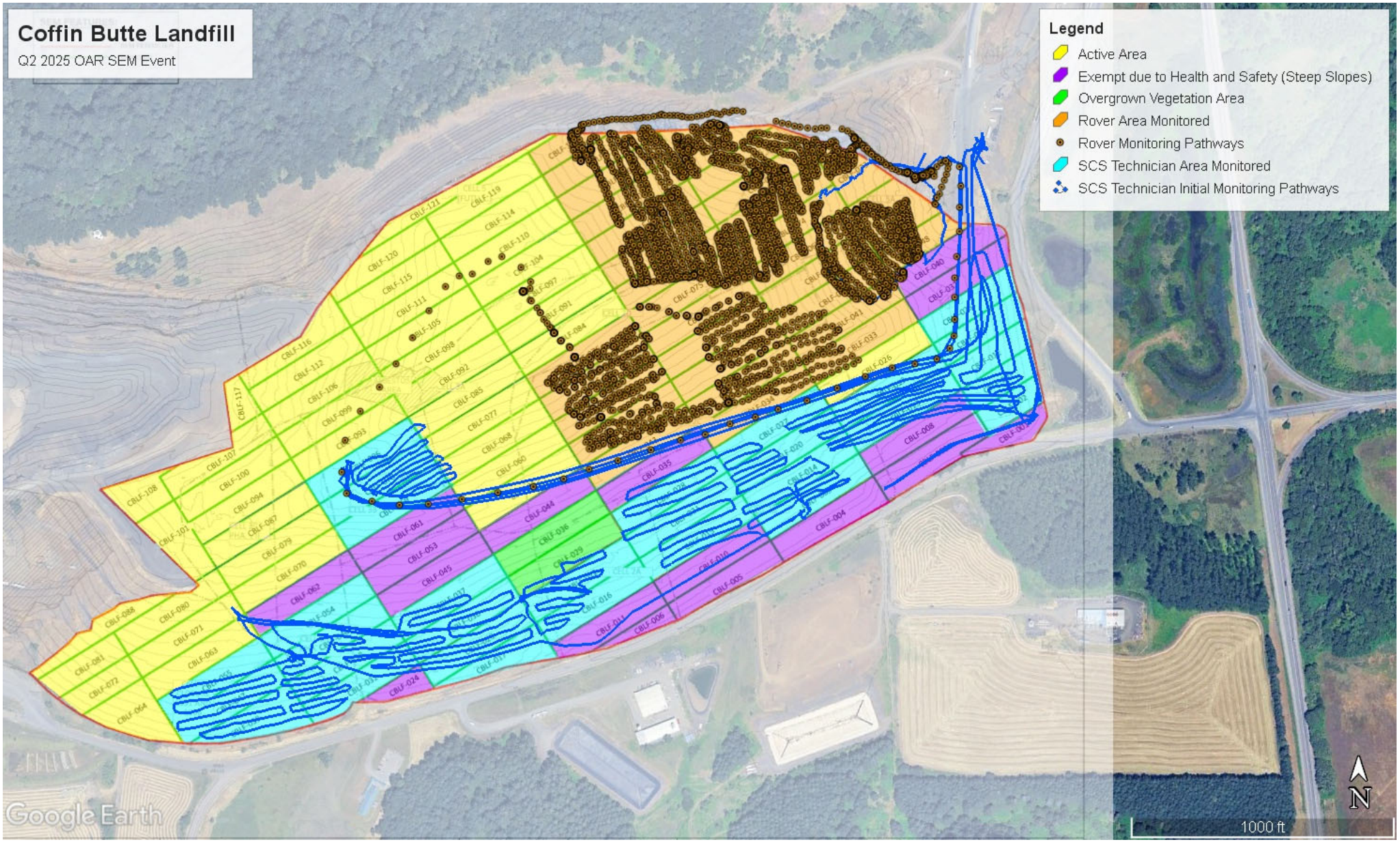
Landfill Grid



Surface Emissions Monitoring Grid Map
Coffin Butte Landfill, Corvallis, Oregon

Attachment 2

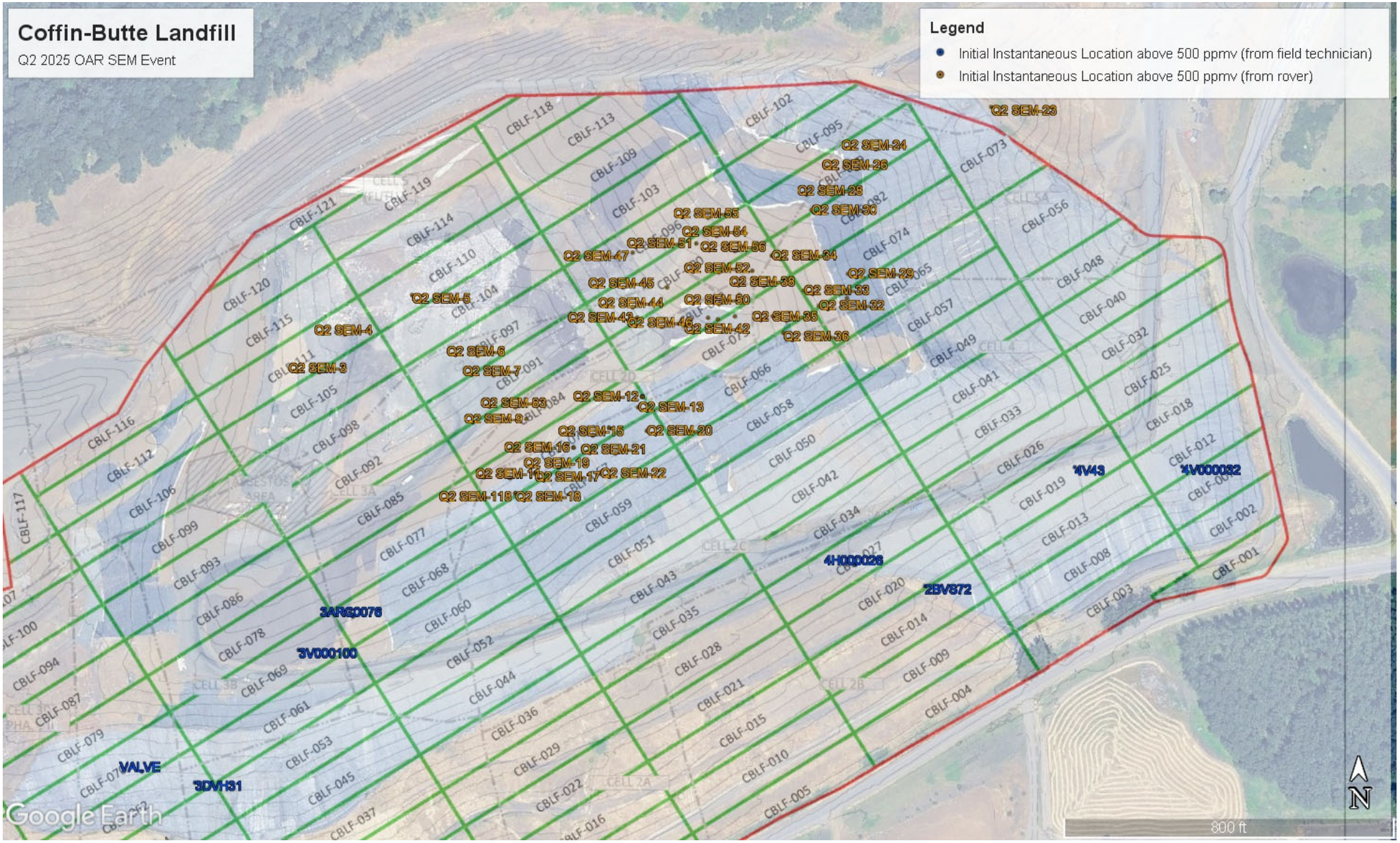
Surface Pathway



Second Quarter 2025
Initial Surface Emissions Monitoring Pathway
Coffin Butte Landfill, Corvallis, Oregon

Attachment 3

Instantaneous and Component Emissions Monitoring Results



Second Quarter 2025
Initial Emissions Monitoring Results Greater than 500 ppmv
Coffin Butte Landfill, Corvallis, Oregon

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

SCS Field Staff Instantaneous Data Report for May 21, 23, 25 30, and June 9 and 19, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 5/21/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 5/23/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
4V000032	9:18 AM	10,600	39	3	44.7000250	-123.2250267
2BVS72	9:30 AM	556	347	129	44.6992390	-123.2274150
4H000026	9:35 AM	3,287	281	429	44.6993783	-123.2280617
4V43	9:41 AM	1,185	146	39	44.7000210	-123.2260240

Location (Surface)	Initial Monitoring Results (ppmv) 5/23/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 5/25/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
VALVE	11:05 AM	1,121	270	8	44.6980180	-123.2346890
3DVH31	11:12 AM	2,786	12	12	44.6979450	-123.2341960

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 5/30/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/9/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
3A0V0076	12:47 PM	10,200	31	29	44.6990667	-123.2327570
3ARC0076	12:49 PM	9,870	14	20	44.6990380	-123.2327290
3V000100	12:54 PM	8,731	179	100	44.6988177	-123.2332322

SCS Rover Instantaneous Data Report for June 9, 19, 27 and July 11, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-4	12:38 PM	35,826	8	N/A	5	N/A	44.7009000	-123.2328000
Q2 SEM-23	1:17 PM	35,783	5,481	1,473	2,724	**10/10/2025**	44.7024000	-123.2268000
Q2 SEM-37	1:38 PM	25,542	382	N/A	190	N/A	44.7010200	-123.2288300
Q2 SEM-14	1:02 PM	21,269	45	N/A	26	N/A	44.7002800	-123.2303500
Q2 SEM-20	1:09 PM	18,568	62,400	10,300	8,130	**10/10/2025**	44.7002600	-123.2300000

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-21	1:11 PM	16,181	324	N/A	143	N/A	44.7001100	-123.2302900
Q2 SEM-55	2:37 PM	15,461	579	391	472	N/A	44.7016700	-123.2294300
Q2 SEM-25	1:14 PM	14,747	32,300	16,294	18,500	**10/10/2025**	44.7020500	-123.2280500
Q2 SEM-53	1:28 PM	11,291	4	N/A	18	N/A	44.7011600	-123.2291400
Q2 SEM-49	1:14 PM	6,140	5	N/A	12	N/A	44.7010100	-123.2294300
Q2 SEM-6	2:30 PM	4,405	652	309	309	N/A	44.7007600	-123.2315700
Q2 SEM-51	1:11 PM	4,285	6,298	464	464	N/A	44.7015000	-123.2295400
Q2 SEM-27	1:09 PM	4,012	87,300	21,600	3,921	**10/10/2025**	44.7013100	-123.2279100
Q2 SEM-45	1:02 PM	3,719	110	N/A	57	N/A	44.7012100	-123.2302200
Q2 SEM-111	1:14 PM	3,366	124	N/A	74	N/A	44.6999500	-123.2312700
Q2 SEM-18	1:08 PM	3,258	971	412	415	N/A	44.6998500	-123.2312200
Q2 SEM-30	1:07 PM	3,242	60	N/A	41	N/A	44.7017200	-123.2284700
Q2 SEM-22	1:07 PM	2,996	212	N/A	105	N/A	44.6999800	-123.2304300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-47	1:14 PM	2,350	1,763	2,186	1,359	**10/10/2025**	44.7014400	-123.2301300
Q2 SEM-48	1:07 PM	2,149	107	N/A	136	N/A	44.7012100	-123.2298100
Q2 SEM-24	1:11 PM	2,117	1,475	387	237	N/A	44.7021200	-123.2278700
Q2 SEM-3	1:08 PM	2,060	338	N/A	288	N/A	44.7006500	-123.2330400
Q2 SEM-26	1:13 PM	1,803	7,511	319	491	N/A	44.7019900	-123.2280500
Q2 SEM-39	1:14 PM	1,772	274	N/A	413	N/A	44.7010000	-123.2288900
Q2 SEM-15	2:21 PM	1,715	154	N/A	292	N/A	44.7002300	-123.2305000
Q2 SEM-9	1:12 PM	1,699	429	N/A	396	N/A	44.7003400	-123.2311200
Q2 SEM-7	1:14 PM	1,696	334	N/A	489	N/A	44.7006300	-123.2314200
Q2 SEM-31	1:12 PM	1,675	490	N/A	419	N/A	44.7011400	-123.2281400
Q2 SEM-41	1:13 PM	1,644	77	N/A	386	N/A	44.7010000	-123.2293400
Q2 SEM-16	1:12 PM	1,611	41,300	8,529	118	**10/10/2025**	44.7001500	-123.2306800
Q2 SEM-50	2:21 PM	1,463	8	N/A	3	N/A	44.7011000	-123.2293300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-57	1:16 PM	1,443	366	N/A	351	N/A	44.7013200	-123.2290200
Q2 SEM-120	1:12 PM	1,358	299	N/A	226	N/A	44.7004900	-123.2300400
Q2 SEM-17	4:26 PM	1,346	88	N/A	138	N/A	44.6999800	-123.2310400
Q2 SEM-34	1:16 PM	1,271	15	N/A	79	N/A	44.7014200	-123.2288400
Q2 SEM-32	12:44 PM	1,210	882	731	853	**10/10/2025**	44.7010900	-123.2284000
Q2 SEM-54	1:10 PM	1,153	47	N/A	41	N/A	44.7015500	-123.2293500
Q2 SEM-118	1:08 PM	1,031	12	N/A	19	N/A	44.6998500	-123.2312200
Q2 SEM-33	2:28 PM	997	598	433	392	N/A	44.7011900	-123.2285400
Q2 SEM-11	1:11 PM	976	26	N/A	21	N/A	44.6999500	-123.2312700
Q2 SEM-42	1:16 PM	959	1,576	93	9	N/A	44.7009600	-123.2296500
Q2 SEM-36	4:29 PM	895	305	N/A	317	N/A	44.7009100	-123.2287300
Q2 SEM-10	1:08 PM	894	86,600	108	39	N/A	44.7001700	-123.2309200
Q2 SEM-44	1:15 PM	884	6	N/A	9	N/A	44.7010800	-123.2301300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-12	1:13 PM	839	43,500	481	485	N/A	44.7004900	-123.2300400
Q2 SEM-13	1:16 PM	785	36,800	31,600	24,500	**10/10/2025**	44.7004200	-123.2300800
Q2 SEM-46	4:26 PM	777	392	N/A	92	N/A	44.7009500	-123.2298600
Q2 SEM-28	2:06 PM	758	335	N/A	94	N/A	44.7018200	-123.2282800
Q2 SEM-115	1:28 PM	747	28	N/A	203	N/A	44.7002300	-123.2305000
Q2 SEM-35	1:09 PM	741	44	N/A	131	N/A	44.7009900	-123.2287000
Q2 SEM-19	4:27 PM	719	41,300	8,529	118	**10/10/2025**	44.7000200	-123.2308200
Q2 SEM-5	4:30 PM	715	147	N/A	136	N/A	44.7011600	-123.2321800
Q2 SEM-112	4:27 PM	700	92	N/A	35	N/A	44.7004900	-123.2300400
Q2 SEM-29	1:04 PM	689	126	N/A	16	N/A	44.7013000	-123.2281300
Q2 SEM-114	1:28 PM	688	8,175	87	52	N/A	44.7002800	-123.2303500
Q2 SEM-117	1:13 PM	680	27	N/A	46	N/A	44.6999800	-123.2310400
Q2 SEM-40	1:11 PM	647	451	N/A	477	N/A	44.7010200	-123.2291800

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-52	1:06 PM	646	169	N/A	111	N/A	44.7013100	-123.2293300
Q2 SEM-83	4:27 PM	631	67	N/A	105	N/A	44.7004200	-123.2312200
Q2 SEM-56	1:10 PM	614	174	N/A	94	N/A	44.7014500	-123.2291800
Q2 SEM-122	1:13 PM	571	12	N/A	16	N/A	44.7004900	-123.2300400
Q2 SEM-116	1:25 PM	535	42	N/A	448	N/A	44.7001500	-123.2306800
Q2 SEM-43	1:17 PM	535	67	N/A	182	N/A	44.7010100	-123.2300900
Q2 SEM-121	1:09 PM	533	48,600	4,456	4,456	**10/10/2025**	44.7004900	-123.2300400
Q2 SEM-38	4:28 PM	520	51,300	38,100	106	**10/10/2025**	44.7012200	-123.2289100
Q2 SEM-119	1:10 PM	508	39	N/A	45	N/A	44.7000200	-123.2308200

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	5/23/2025	14.30

No other exceedances of the 500 ppmv threshold were observed during the second quarter of 2025 monitoring.

Attachment 4

Integrated Monitoring Results

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-001	--	--	Exempt due to Health and Safety
CBLF-002	6/3/2025 12:15	5.38	
CBLF-003	--	--	Exempt due to Health and Safety
CBLF-004	--	--	Exempt due to Health and Safety
CBLF-005	--	--	Exempt due to Health and Safety
CBLF-006	--	--	Exempt due to Health and Safety
CBLF-007	6/3/2025 12:27	3.48	
CBLF-008	--	--	Exempt due to Health and Safety
CBLF-009	6/6/2025 10:32	5.24	
CBLF-010	--	--	Exempt due to Health and Safety
CBLF-011	--	--	Exempt due to Health and Safety
CBLF-012	6/3/2025 12:54	3.09	
CBLF-013	6/3/2025 12:23	3.84	
CBLF-014	6/6/2025 10:39	6.14	
CBLF-015	6/6/2025 11:11	3.57	
CBLF-016	6/26/2025 12:17	3.25	
CBLF-017	6/3/2025 12:57	3.20	
CBLF-018	6/3/2025 12:57	3.68	
CBLF-019	6/3/2025 12:42	7.19	
CBLF-020	6/6/2025 10:47	6.37	
CBLF-021	6/6/2025 11:05	5.62	
CBLF-022	6/26/2025 12:12	3.30	
CBLF-023	6/26/2025 11:44	4.13	
CBLF-024	6/26/2025 11:44	2.11	
CBLF-025	6/3/2025 12:53	2.47	
CBLF-026	--	--	Active Grid Area
CBLF-027	6/15/2025 16:57	9.58	
CBLF-028	6/6/2025 10:59	5.64	
CBLF-029	6/26/2025 12:08	3.31	
CBLF-030	6/26/2025 11:38	4.41	
CBLF-031	6/6/2025 11:53	2.47	
CBLF-032	6/3/2025 12:53	2.43	
CBLF-033	--	--	Exempt due to Health and Safety
CBLF-034	--	--	Exempt due to Health and Safety
CBLF-035	--	--	Exempt due to Health and Safety
CBLF-036	--	--	Overgrown Vegetation
CBLF-037	6/26/2025 11:32	4.84	
CBLF-038	6/18/2025 14:25	3.90	
CBLF-039	6/6/2025 11:49	2.40	
CBLF-040	--	--	Exempt due to Health and Safety
CBLF-041	--	--	Exempt due to Health and Safety
CBLF-042	--	--	Exempt due to Health and Safety
CBLF-043	--	--	Exempt due to Health and Safety

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-044	--	--	Exempt due to Health and Safety
CBLF-045	--	--	Exempt due to Health and Safety
CBLF-046	6/26/2025 11:55	3.66	
CBLF-047	6/6/2025 11:43	3.22	
CBLF-048	--	--	Exempt due to Health and Safety
CBLF-049	--	--	Exempt due to Health and Safety
CBLF-050	--	--	Exempt due to Health and Safety
CBLF-051	--	--	Exempt due to Health and Safety
CBLF-052	--	--	Active Grid Area
CBLF-053	--	--	Exempt due to Health and Safety
CBLF-054	6/26/2025 11:56	3.63	
CBLF-055	6/6/2025 11:36	2.46	
CBLF-056	--	--	Exempt due to Health and Safety
CBLF-057	--	--	Exempt due to Health and Safety
CBLF-058	--	--	Exempt due to Health and Safety
CBLF-059	--	--	Exempt due to Health and Safety
CBLF-060	--	--	Active Grid Area
CBLF-061	--	--	Exempt due to Health and Safety
CBLF-062	--	--	Exempt due to Health and Safety
CBLF-063	--	--	Active Grid Area
CBLF-064	--	--	Active Grid Area
CBLF-065	--	--	Exempt due to Health and Safety
CBLF-066	--	--	Exempt due to Health and Safety
CBLF-067	--	--	Exempt due to Health and Safety
CBLF-068	--	--	Active Grid Area
CBLF-069	6/3/2025 11:46	8.06	
CBLF-070	--	--	Active Grid Area
CBLF-071	--	--	Active Grid Area
CBLF-072	--	--	Active Grid Area
CBLF-073	--	--	Exempt due to Health and Safety
CBLF-074	--	--	Exempt due to Health and Safety
CBLF-075	--	--	Exempt due to Health and Safety
CBLF-076	--	--	Exempt due to Health and Safety
CBLF-077	--	--	Active Grid Area
CBLF-078	6/3/2025 11:38	19.88	
CBLF-079	--	--	Active Grid Area
CBLF-080	--	--	Active Grid Area
CBLF-081	--	--	Active Grid Area
CBLF-082	--	--	Exempt due to Health and Safety
CBLF-083	--	--	Exempt due to Health and Safety
CBLF-084	--	--	Active Grid Area
CBLF-085	--	--	Active Grid Area
CBLF-086	6/3/2025 11:30	20.68	

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-087	--	--	Active Grid Area
CBLF-088	--	--	Active Grid Area
CBLF-089	--	--	Exempt due to Health and Safety
CBLF-090	--	--	Exempt due to Health and Safety
CBLF-091	--	--	Active Grid Area
CBLF-092	--	--	Active Grid Area
CBLF-093	--	--	Active Grid Area
CBLF-094	--	--	Active Grid Area
CBLF-095	--	--	Exempt due to Health and Safety
CBLF-096	--	--	Exempt due to Health and Safety
CBLF-097	--	--	Active Grid Area
CBLF-098	--	--	Active Grid Area
CBLF-099	--	--	Active Grid Area
CBLF-100	--	--	Active Grid Area
CBLF-101	--	--	Active Grid Area
CBLF-102	--	--	Exempt due to Health and Safety
CBLF-103	--	--	Exempt due to Health and Safety
CBLF-104	--	--	Active Grid Area
CBLF-105	--	--	Active Grid Area
CBLF-106	--	--	Active Grid Area
CBLF-107	--	--	Active Grid Area
CBLF-108	--	--	Active Grid Area
CBLF-109	--	--	Exempt due to Health and Safety
CBLF-110	--	--	Active Grid Area
CBLF-111	--	--	Active Grid Area
CBLF-112	--	--	Active Grid Area
CBLF-113	--	--	Exempt due to Health and Safety
CBLF-114	--	--	Active Grid Area
CBLF-115	--	--	Active Grid Area
CBLF-116	--	--	Active Grid Area
CBLF-117	--	--	Exempt due to Health and Safety
CBLF-118	--	--	Exempt due to Health and Safety
CBLF-119	--	--	Active Grid Area
CBLF-120	--	--	Active Grid Area
CBLF-121	--	--	Active Grid Area

Attachment 5

Calibration Logs

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 5/21/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 8 MPH Wind Direction: NE Barometric Pressure: 30.05

Air Temperature: 61 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 1.9 ppm

Downwind SW side of site Reading: 4.2 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 5/23/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 30.1

Air Temperature: 64 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	500	0
2	0	499	1
3	0	501	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 1.2 ppm

Downwind SW side of site Reading: 3.8 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 5/30/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 5 MPH Wind Direction: NE Barometric Pressure: 30

Air Temperature: 59 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 1.1 ppm

Downwind SW side of site Reading: 5.2 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/3/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 9 MPH Wind Direction: SW Barometric Pressure: 30

Air Temperature: 62 deg F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	499	1
2	0	499	1
3	0	501	1

Average Difference: -0.33

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= -0.333333333 / 500 X 100%
= -0.1% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on SW side. Reading: 1.5 ppm

Downwind NE side of site Reading: 3.1 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/6/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 3 MPH Wind Direction: SE Barometric Pressure: 30

Air Temperature: 71 deg F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	500	0
2	0	499	1
3	0	501	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on SE side. Reading: 1.8 ppm

Downwind NW side of site Reading: 4.3 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/9/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 30

Air Temperature: 59 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 1.2 ppm

Downwind SW side of site Reading: 4.4 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/25/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 10 MPH Wind Direction: NE Barometric Pressure: 30

Air Temperature: 68 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	499	1
3	0	500	0

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on NE side. Reading: 0.9 ppm

Downwind SW side of site Reading: 3.4 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/26/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 11 MPH Wind Direction: SW Barometric Pressure: 30

Air Temperature: 66 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	499	1
2	0	500	0
3	0	501	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on SW side. Reading: 1.6 ppm

Downwind NE side of site Reading: 4.3 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 6/27/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 7 MPH Wind Direction: N Barometric Pressure: 30

Air Temperature: 72 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	501	1
2	0	500	0
3	0	499	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

Up Wind of landfill area on N side. Reading: 1.9 ppm

Downwind S side of site Reading: 3.9 ppm

NOTES:

CARBON EMISSION MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7/11/2025 Site Name: Coffin Butte Landfill

WEATHER OBSERVATIONS SCS Employee Riley Baksic

Wind Speed: 4 MPH Wind Direction: SW Barometric Pressure: 30

Air Temperature: 72 deg F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Response Time trial #1 *5 seconds*

Response Time trial #2 *5 seconds*

Response Time Trial #3 6 seconds

Instrument ID: TVA-202016031210 Cal Gas Concentration: 500 ppm

Trial	Zero Air Reading	Cal Gas Reading	|(Cal Gas Conc. - Cal Gas Reading)|
1	0	499	1
2	0	500	0
3	0	501	1

Average Difference: 0.00

Calibration Precision = Average Difference / Cal Gas Concentration X 100%
= 0 / 500 X 100%
= 0.0% %

Post-monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATION CHECKS

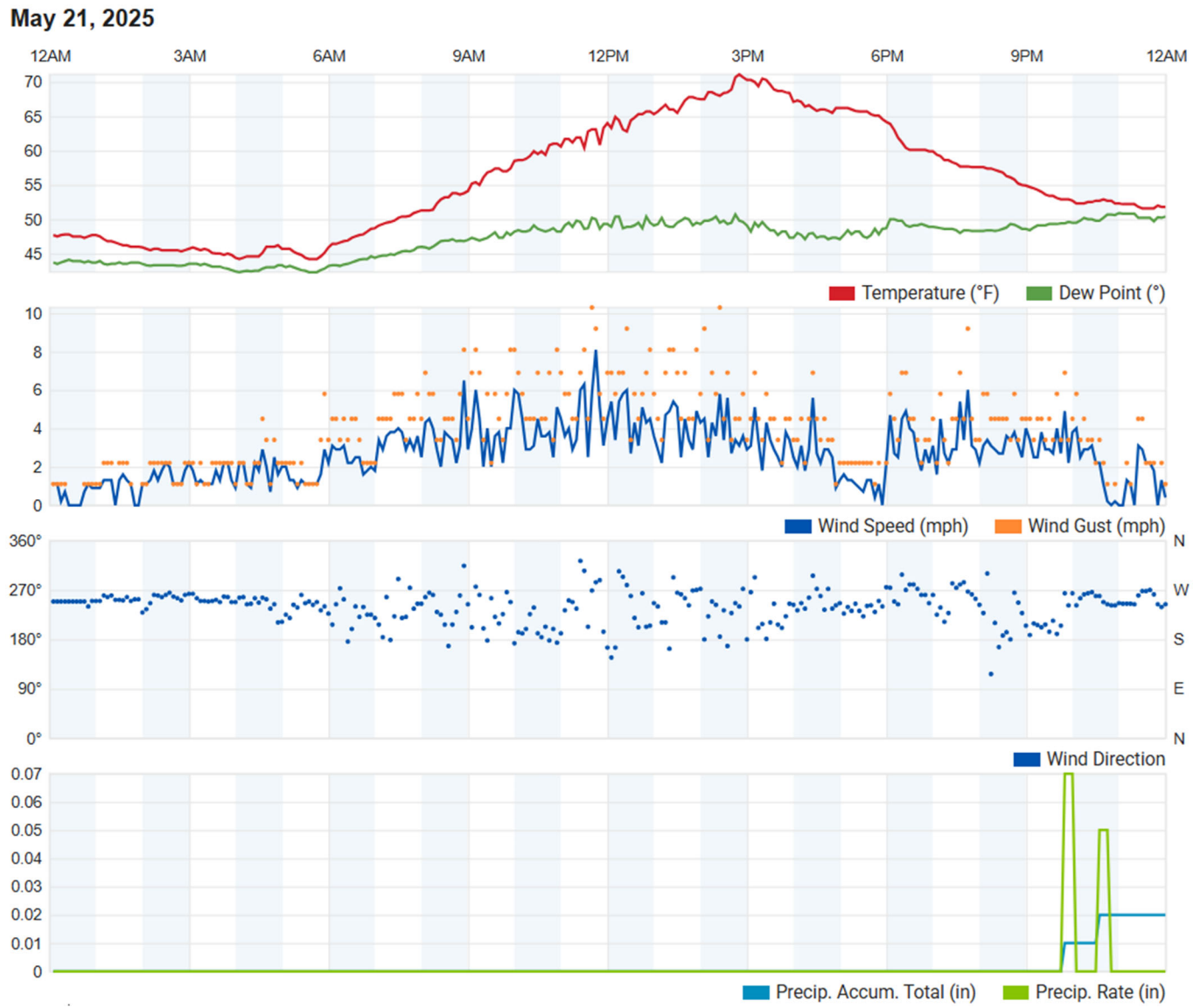
Up Wind of landfill area on SW side. Reading: 1 ppm

Downwind NE side of site Reading: 3.5 ppm

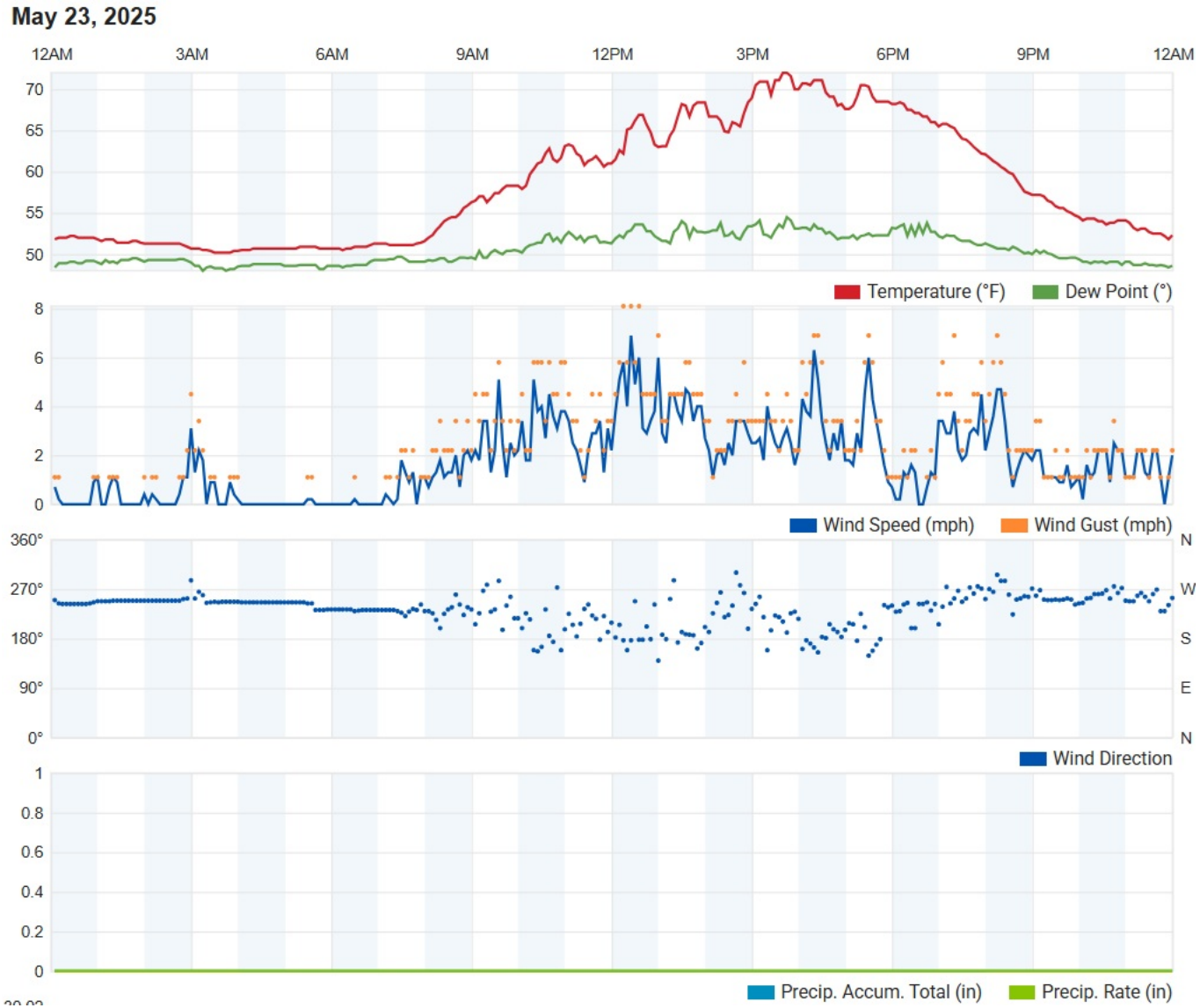
NOTES:

Attachment 6

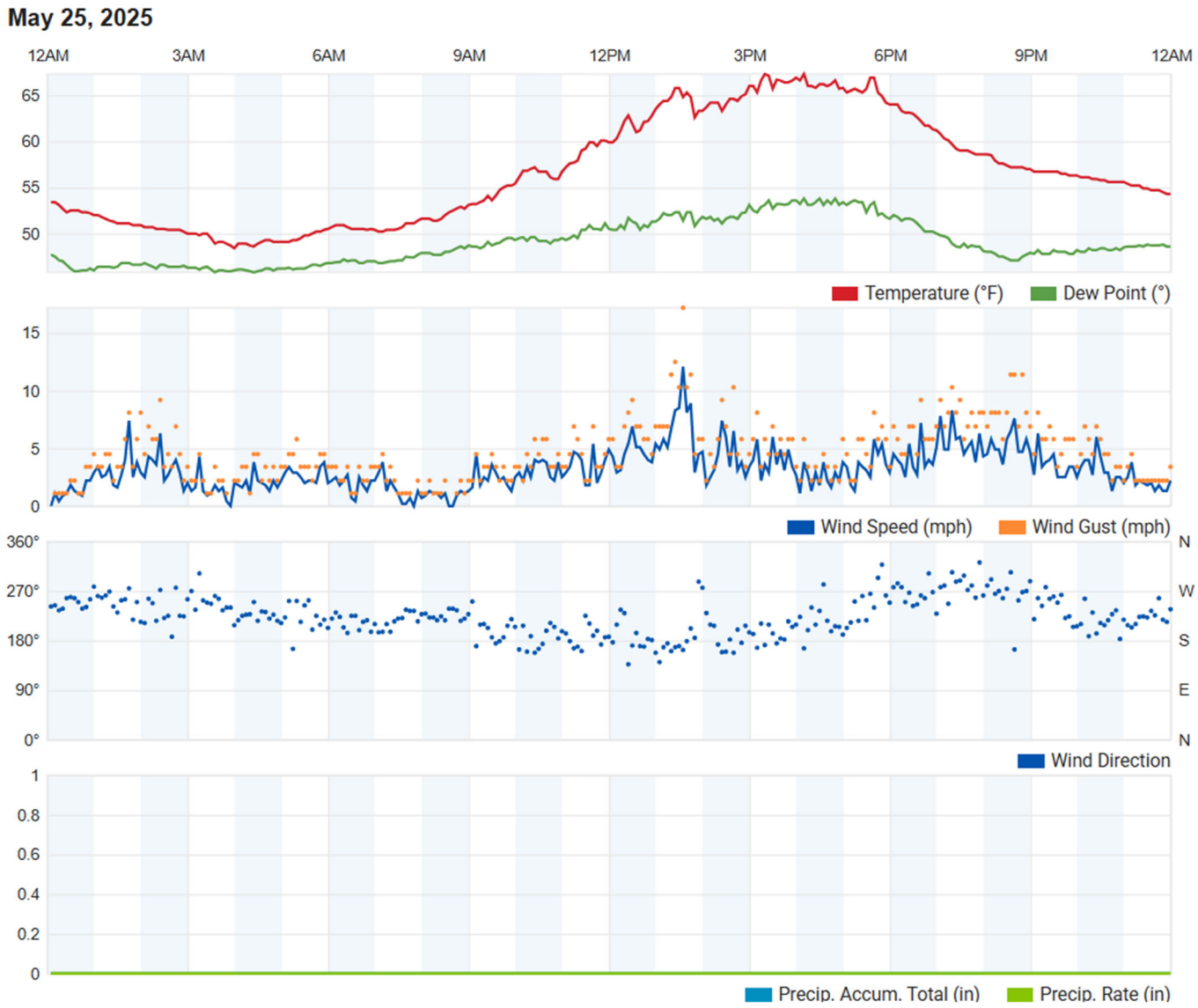
Weather Data



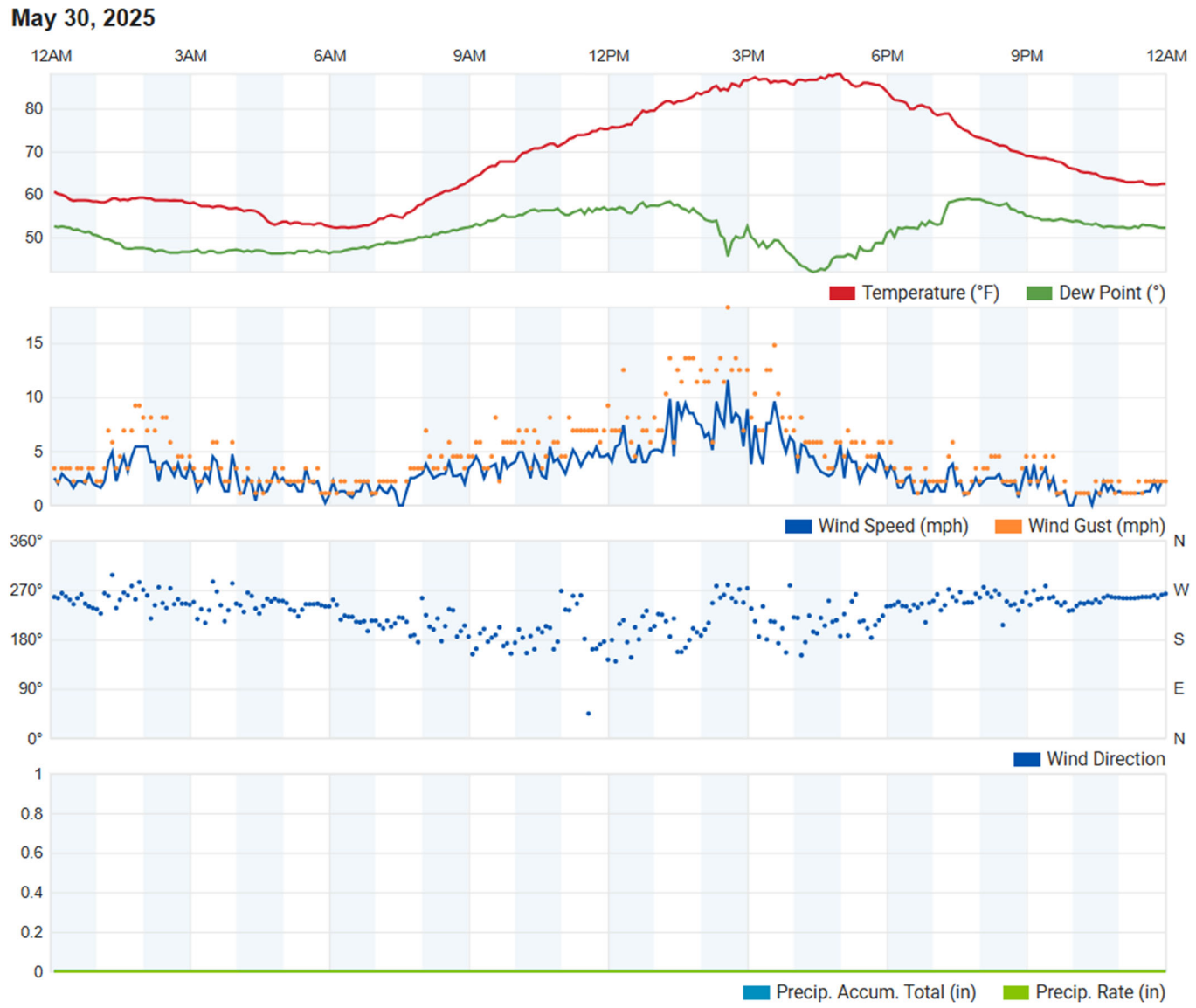
May 21, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



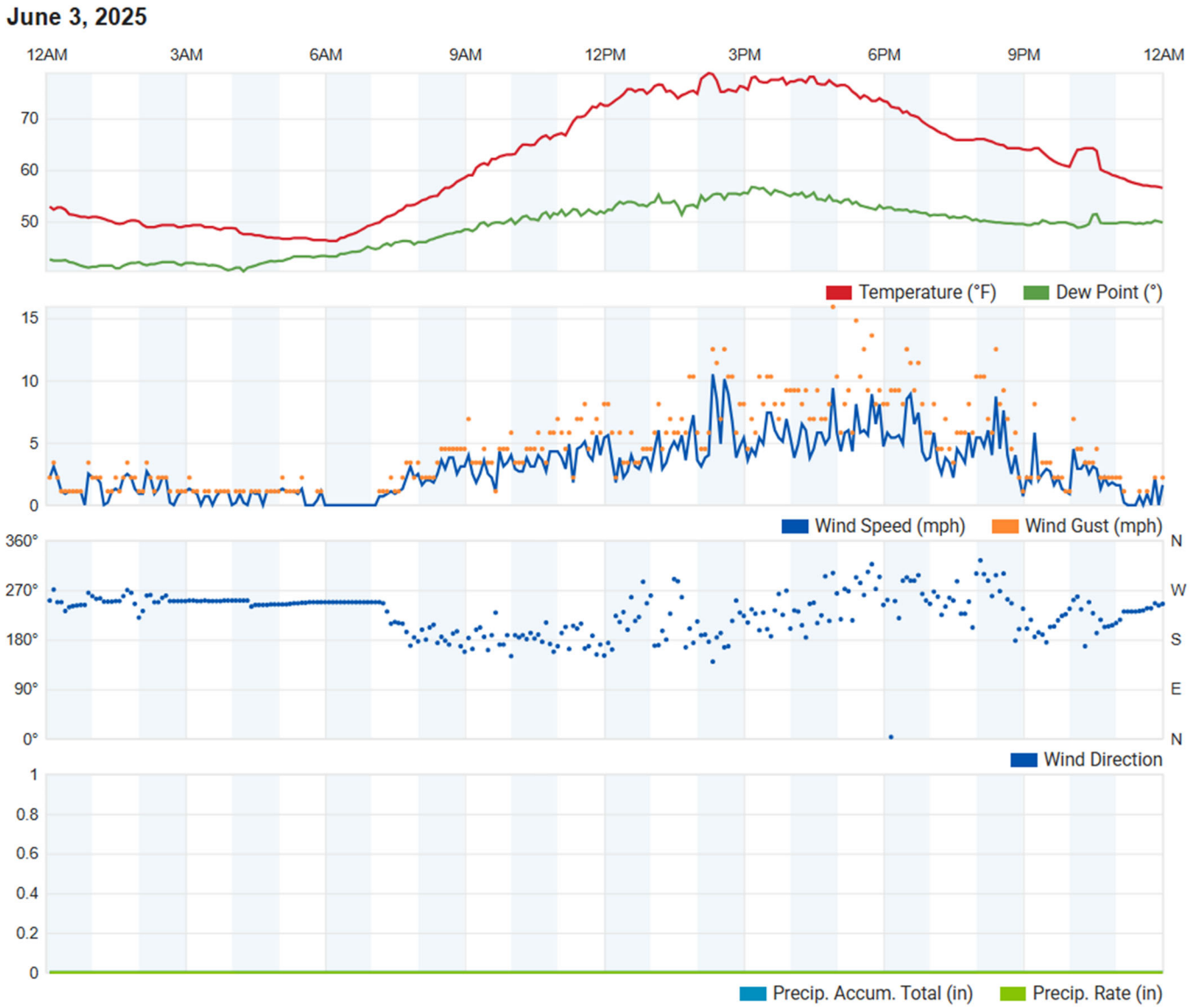
May 23, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



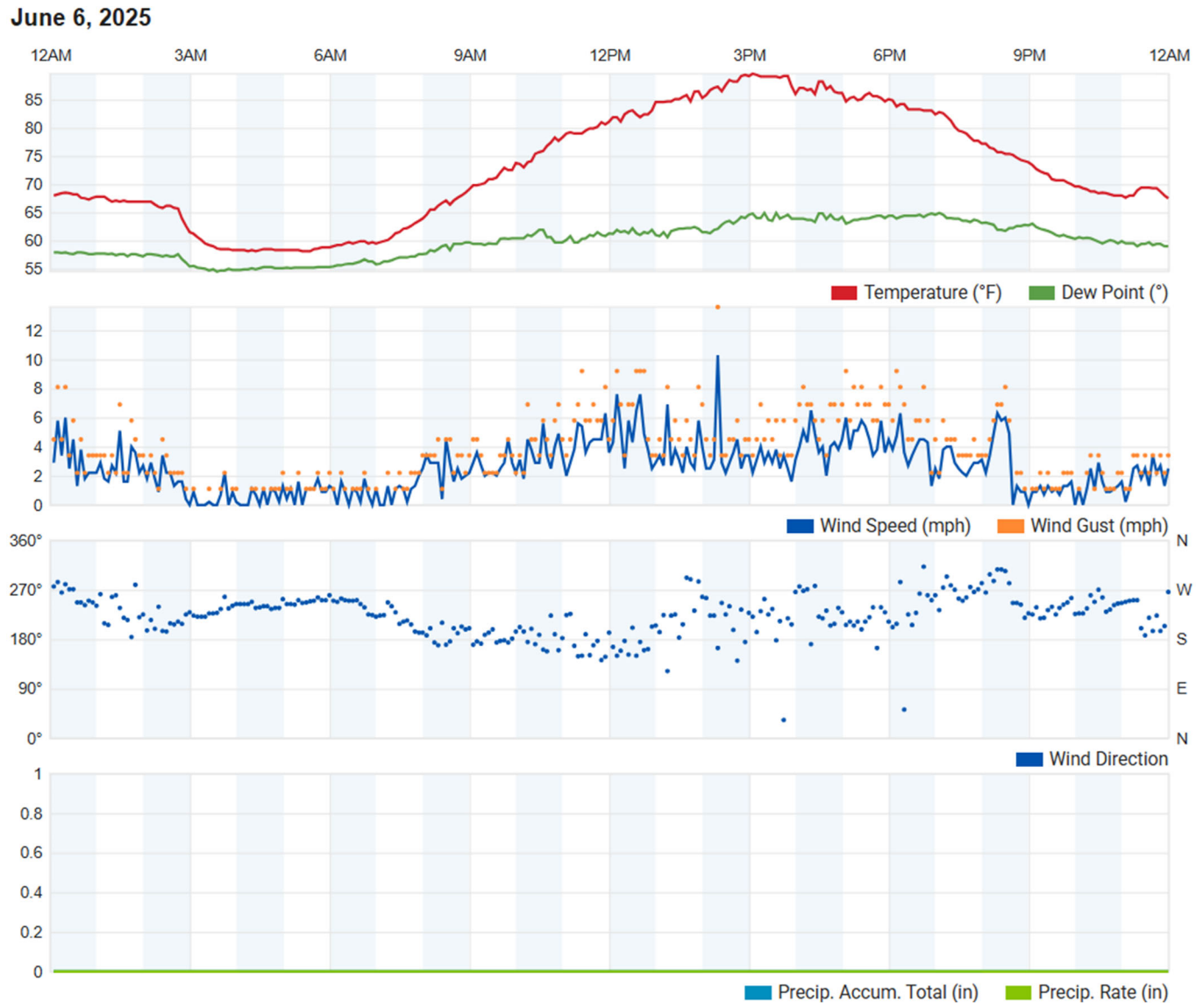
May 25, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



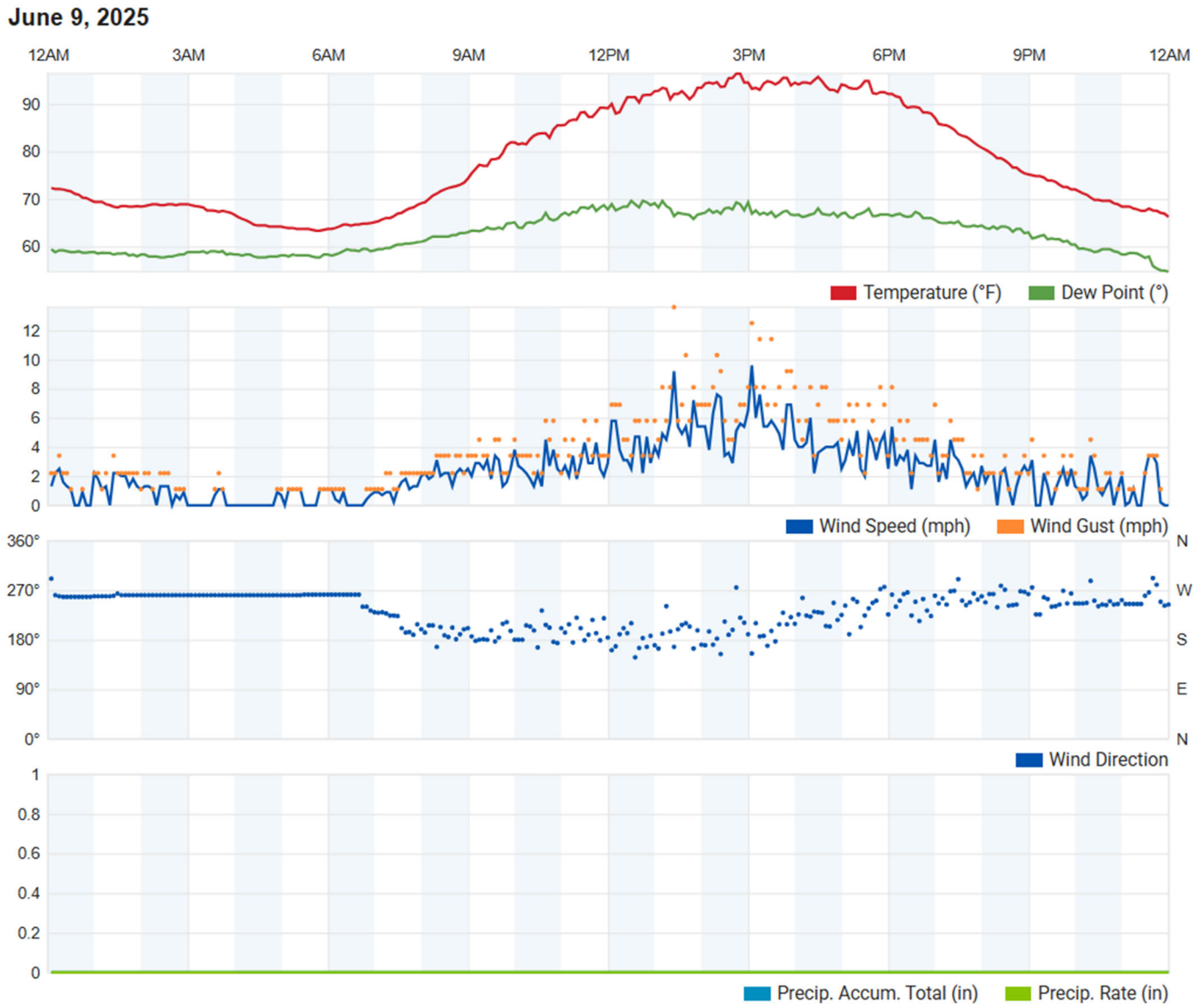
May 30, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



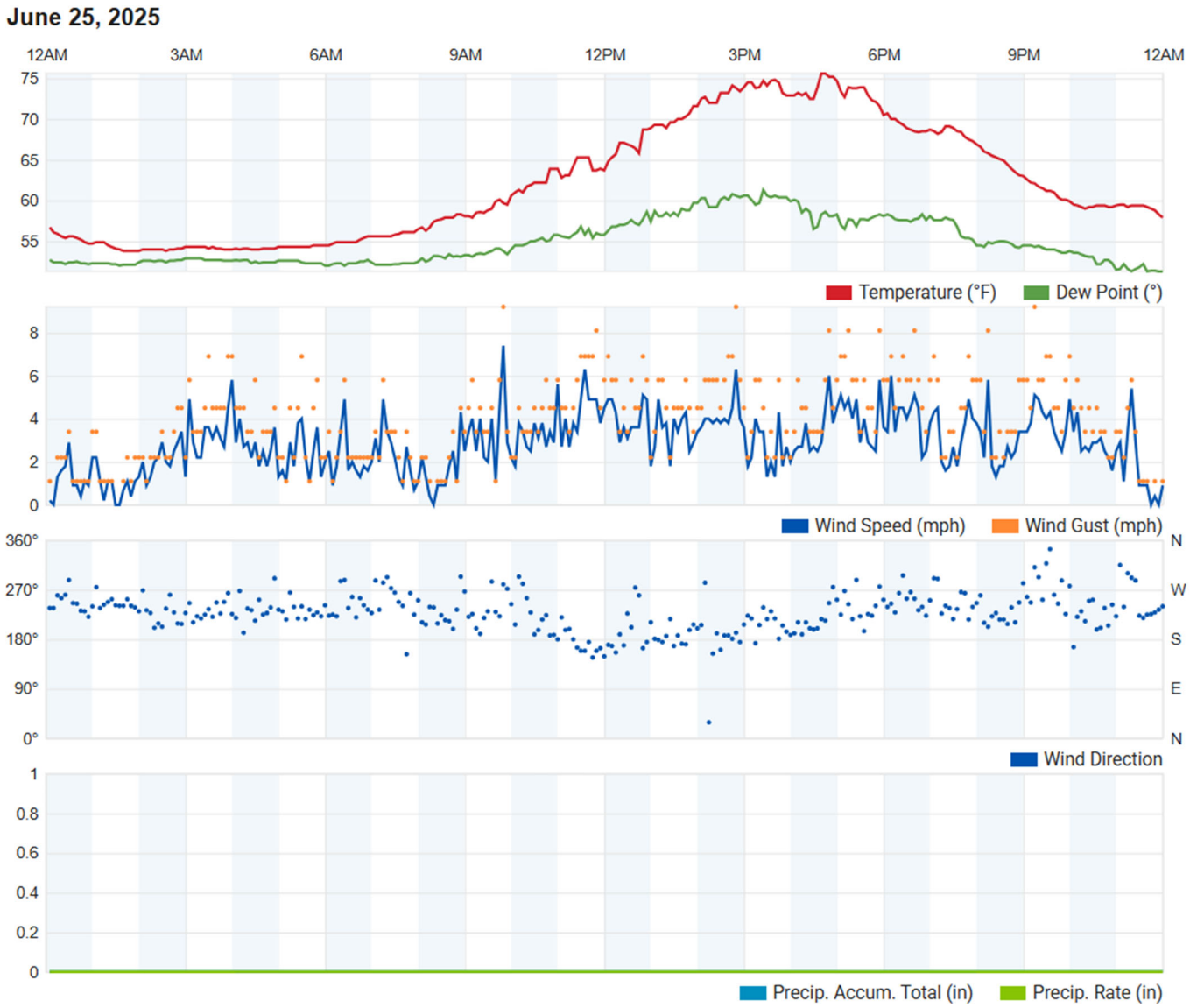
June 3, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



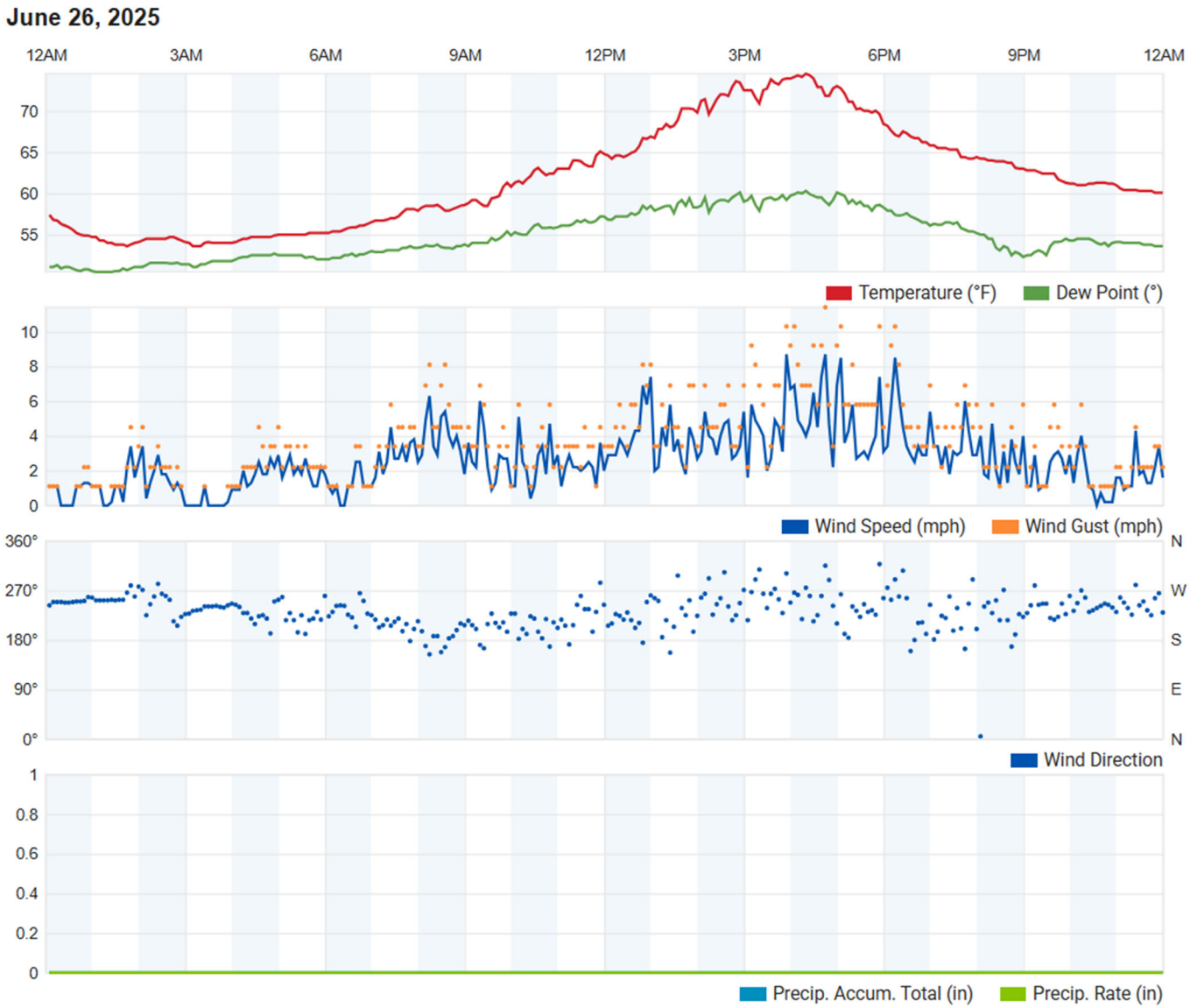
June 6, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



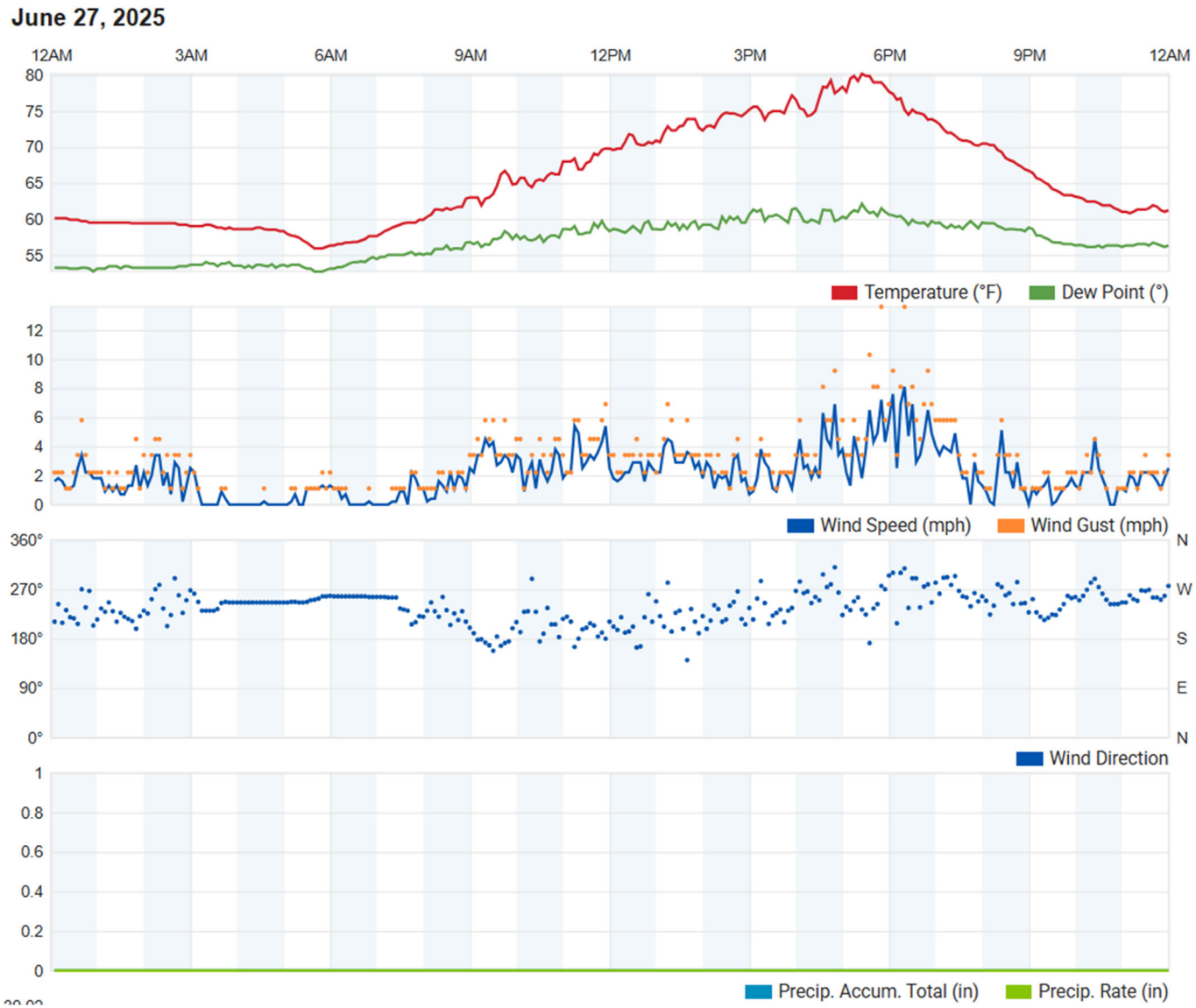
June 9, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



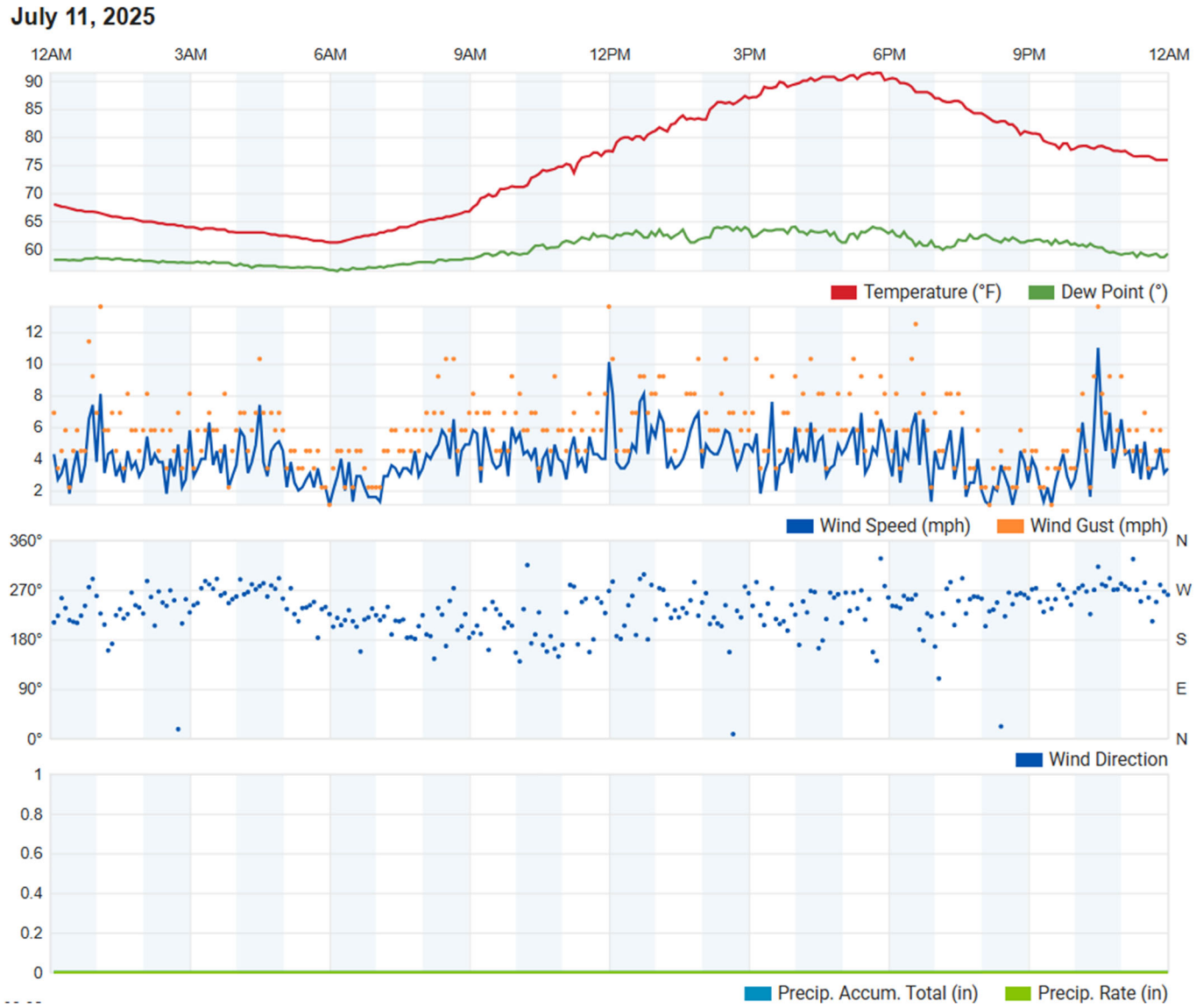
June 25, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



June 26, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



June 27, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon



July 11, 2025
Emissions Monitoring Weather Data
Coffin-Butte Landfill, Corvallis, Oregon

Third quarter surface emissions were conducted in August 2025. Waiting for the report from the third-party contractor.

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	2.0
2	Engine service	1.0
3	Engine service	2.0
4	Engine service	0.0
5	Engine service	0.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Sump cleaning, communications failure, replaced jw regulators, flare testing	29.0
2	Sump cleaning, high jw temp, replaced head #1, replaced jw pump, flare testing	18.0
3	Sump cleaning, high stack temp, gen windings, detonation, flare testing	19.0
4	Sump cleaning, oil leak, exhaust leak, flare testing	31.0
5	Sump cleaning, low cylinder temp, replaced head #13, turbo bypass fault, replaced turbo bypass, cylinder #13 high temp, replaced ITSM, fuel valve fault, flare testing, loss of gas flow	43.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	Replaced PLC Panel	190.2

Coffin Butte Resource Project- August 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours
August-25	254,294	713

Date	Time	Event
8/3/25	1.00	sump cleaning
8/6/25	2.00	service
8/11/25	15.00	communications failure
8/22/25	1.00	sump cleaning
8/22/25	2.00	replaced jw regulators
8/25/25	7.00	flare testing
8/26/25	3.00	sump cleaning

Total Hours Off-line **31.00**

Unit # 2

Date	Total Hours	On-line Hours
August-25	252,364	726

Date	Scheduled Time	Event
8/3/25	1.00	sump cleaning
8/7/25	2.00	high JW temp
8/8/25	2.00	replaced head #1
8/8/25	2.00	replaced jw pump
8/22/25	1.00	service and sump cleaning
8/25/25	7.00	flare testing
8/26/25	3.00	sump cleaning

Total Hours Off-line **18.00**

Unit #3

Date	Total Hours	On-line Hours
August-25	251,542	723

Date	Scheduled Time	Event
8/3/25	1.00	sump cleaning
8/3/25	1.00	high stack temp
8/5/25	2.00	service
8/10/25	1.00	gen windings
8/10/25	1.00	gen windings
8/11/25	1.00	detonation
8/16/25	1.00	detonation
8/18/25	1.00	detonation
8/22/25	1.00	sump cleaning
8/25/25	7.00	flare testing
8/26/25	3.00	sump cleaning
8/27/25	1.00	detonation

Total Hours Off-line **21.00**

Unit # 4

Date	Total Hours	On-line Hours
August-25	150,402	713

Date	Scheduled Time	Event
8/3/25	1.00	sump cleaning
8/15/25	18.00	oil leak
8/20/25	1.00	exhaust leak
8/22/25	1.00	sump cleaning
8/25/25	7.00	flare testing and service
8/26/25	3.00	sump cleaning

Total Hours Off-line **31.00**

Unit # 5

Date	Total Hours	On-line Hours
August-25	150,251	701

Date	Scheduled Time	Event
8/3/25	1.00	sump cleaning
8/5/25	3.00	low cylinder temp
8/6/25	3.00	replaced head #13
8/8/25	1.00	turbo bypass fault
8/8/25	2.00	turbo bypass fault
8/8/25	2.00	replaced turbo bypass
8/11/25	2.00	cylinder #13 high temp
8/13/25	1.00	replaced ITSM
8/15/25	1.00	fuel valve fault
8/22/25	1.00	sump cleaning
8/25/25	7.00	flare testing
8/25/25	16.00	loss of gas flow
8/26/25	3.00	sump cleaning

Total Hours Off-line **43.00**

Note: **Aug-25** 744

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
5B00V413	8/8/2025
5B00V415	8/8/2025
5E00V424	8/8/2025
3A00V428	8/8/2025
3A00V429	8/8/2025

Decommissioned Wells

Well ID	Date Decommissioned
5H000073	8/8/2025

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	80,066,638
ENCLOSEDFL	48,828,710

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	713.0
2	726.0
3	723.0
4	713.0
5	701.0
Total Operating Hours	**3,576.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	549.5

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received the following air quality complaints for August 2025:

Date	Time	Reporting Person	Location	Comment
8/5/2025	4:00 AM	Nancy Yialouris	2717 Quince St NW	odor strong enough to wake us up. 10
8/6/2025	5:00 AM	Nancy Yialouris	2717 Quince St NW	odor strong enough to wake us up., 10
8/14/2025	7:15 AM	Barbara Wythes	7685 Todd Dr	"Rotting materials?", 2
8/15/2025	3:06 AM	Nancy Yialouris	2717 Quince St NW	"rotting vegetation and Chemicals, 10”
8/16/2025	10:05 AM	Forwarded from DEQ	"`~3,75 miles SSE"	"Odors from Coffin Butte Landfill"
8/17/2025	12:00 PM	Forwarded from DEQ	approximately 4mi SSE of Landfill	"smell of garbage and decaying materials"
8/19/2025	9:15 AM	Forwarded from DEQ	Adair Village	"Overwhelming", "So smelly"
8/23/2025	9:23 AM	Forwarded from DEQ	approximately 4mi S of Landfill	"strong terrible odors emanating from the landfill"

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

August 14, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – July 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-07

Dear Ms. Luttrell:

Please find the attached monthly Title V report for July 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*
Paul Koster, Valley Landfills, Inc. *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
7/24/2025	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

Second quarter surface emissions were conducted in June 2025.
Waiting for the report from the third-party contractor.

Third quarter surface emissions were not conducted in July 2025.

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	4.0
2	Engine service	0.0
3	Engine service	4.0
4	Engine service	7.0
5	Engine service	2.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Sump cleaning	13.0
2	Sump cleaning, head cleaning, cylinder #3 intake leak, ECM failure, boost leak, overheated, turbo failure	67.0
3	Sump cleaning, cylinder #4 low temp, gen windings faults, head cleaning, inlet temp sensor failure,	43.0
4	Low AC coolant, sump cleaning	15.0
5	Sump cleaning, cylinder #1 detonation, replaced head, turbo bypass code, regapped plugs, cleaned heads	47.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	No operational problems	N/A

Coffin Butte Resource Project- July 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours	Date	Time	Event
July-25	253,581	727	7/3/25	2.00	sump cleaning
			7/3/25	1.00	sump cleaning
			7/9/25	4.00	service
			7/14/25	3.00	sump cleaning
			7/18/25	3.00	sump cleaning
			7/19/25	1.00	sump cleaning
			7/24/25	3.00	sump cleaning
		Total Hours Off-line		17.00	

Unit # 2

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
July-25	251,638	677	7/3/25	2.00	sump cleaning
			7/3/25	1.00	sump cleaning
			7/14/25	3.00	sump cleaning
			7/18/25	28.00	sump cleaning, plus service and head cleaning
			7/19/25	1.00	sump cleaning
			7/21/25	3.00	cylinder #3 intake leak
			7/22/25	2.00	ecm failure
			7/22/25	1.00	boost leak
			7/24/25	3.00	sump cleaning
			7/24/25	3.00	overheated
			7/26/25	2.00	overheated
			7/28/25	18.00	turbo failure
		Total Hours Off-line		67.00	

Unit #3

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
July-25	250,819	697	7/3/25	4.00	service plus sump cleaning
			7/3/25	1.00	cylinder #4 low temp
			7/11/25	1.00	gen windings fault
			7/14/25	3.00	sump cleaning
			7/16/25	29.00	head cleaning
			7/17/25	1.00	inlet temp sensor failure
			7/18/25	3.00	sump cleaning
			7/19/25	1.00	sump cleaning
			7/24/25	3.00	sump cleaning
			7/29/25	1.00	gen windings fault
		Total Hours Off-line		47.00	

Unit # 4

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
July-25	149,689	722	7/1/25	1.00	low ac coolant
			7/2/25	5.00	Service
			7/2/25	1.00	low ac coolant
			7/3/25	2.00	sump cleaning
			7/3/25	1.00	sump cleaning
			7/14/25	3.00	sump cleaning
			7/18/25	3.00	sump cleaning
			7/19/25	1.00	sump cleaning
			7/24/25	3.00	sump cleaning
			7/30/25	2.00	service
		Total Hours Off-line		22.00	

Unit # 5

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
July-25	149,550	695	7/3/25	2.00	sump cleaning
			7/3/25	1.00	sump cleaning
			7/10/25	2.00	Service
			7/13/25	1.00	cylinder #1 detonation
			7/14/25	3.00	sump cleaning
			7/16/25	1.00	cylinder #1 detonation
			7/18/25	3.00	sump cleaning
			7/19/25	1.00	sump cleaning
			7/22/25	1.00	detonation #1 cylinder
			7/22/25	13.00	detonation #1 cylinder, replaced head
			7/24/25	3.00	sump cleaning
			7/30/25	1.00	turbo bypass code
			7/30/25	1.00	regapped plugs
			7/31/25	16.00	service and cleaned heads
		Total Hours Off-line		49.00	

Note:	Jul-25	744

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
No new wells installed	

Decommissioned Wells

Well ID	Date Decommissioned
No wells decommissioned	

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	81,125,568
ENCLOSEDFL	59,751,308

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	727.0
2	677.0
3	697.0
4	722.0
5	695.0
Total Operating Hours	**3,518.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	720.0

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received the following air quality complaints for July 2025:

Date	Time	Reporting Person	Location	Comment
7/2/2025	10:00 PM	Forwarded from DEQ	less than a mile SSE of the landfill	Landfill stench
7/3/2025	9:00 PM	Forwarded from DEQ	4 miles SSE of Landfill	stench
7/31/2025	12:20 PM	Kate Harris	Moss rock/Writsman creek	"standard dump smell"
7/31/2025	12:00 PM	Forwarded from DEQ	5 miles SW of Coffin Butte, Soap Creek	"odor"
7/31/2025	10:00 AM	Forwarded from DEQ	~1.75 miles W of Landfill	"smell… makes me very nauseous"
7/31/2025	11:30 AM	Forwarded from DEQ	intersection of Tampico and Soap creek	"dump stench"

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

July 15, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – June 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-06

Dear Ms. Luttrell:

Please find the attached monthly Title V report for June 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*
Paul Koster, Valley Landfills, Inc. *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
6/17/2025	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

Second quarter surface emissions was conducted in June 2025. Waiting for the report from the third-party contractor.

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	2.0
2	Engine service	2.0
3	Engine service	0.0
4	Engine service	2.0
5	Engine service	2.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Sump cleaning	9.0
2	Coolant leak, sump cleaning, detonation, gen windings	13.0
3	Sump cleaning	9.0
4	Cylinder #2 low temp, sump blocked, sump cleaning	17.0
5	Sump blocked, sump cleaning, detonation #1	12.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	No operational problems	N/A

Coffin Butte Resource Project- June 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours
June-25	252,854	709

Date	Time	Event
6/8/25	2.00	sump cleaning
6/9/25	5.00	sump cleaning
6/11/25	2.00	service
6/24/25	2.00	sump cleaning

Total Hours Off-line **11.00**

Unit # 2

Date	Total Hours	On-line Hours
June-25	250,961	705

Date	Scheduled Time	Event
6/4/25	1.00	coolant leak
6/8/25	3.00	sump cleaning
6/9/25	5.00	sump cleaning
6/18/25	2.00	service
6/23/25	1.00	detonation
6/24/25	1.00	gen windings
6/24/25	2.00	sump cleaning

Total Hours Off-line **15.00**

Unit #3

Date	Total Hours	On-line Hours
June-25	250,122	711

Date	Scheduled Time	Event
6/8/25	2.00	sump cleaning
6/9/25	5.00	sump cleaning
6/24/25	2.00	sump cleaning

Total Hours Off-line **9.00**

Unit # 4

Date	Total Hours	On-line Hours
June-25	148,967	701

Date	Scheduled Time	Event
6/2/25	2.00	cylinder #2 low temp
6/5/25	2.00	service
6/7/25	6.00	sump blocked
6/8/25	2.00	sump cleaning
6/9/25	5.00	sump cleaning
6/24/25	2.00	sump cleaning

Total Hours Off-line **19.00**

Unit # 5

Date	Total Hours	On-line Hours
June-25	148,855	706

Date	Scheduled Time	Event
6/7/25	1.00	sump blocked
6/8/25	3.00	sump cleaning
6/9/25	5.00	sump cleaning
6/12/25	2.00	service
6/24/25	2.00	sump cleaning
6/24/25	1.00	detonation #1

Total Hours Off-line **14.00**

Note: **Jun-25** 720

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
No new wells installed	

Decommissioned Wells

Well ID	Date Decommissioned
No wells decommissioned	

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	80,089,733
ENCLOSEDFL	59,247,072

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	709.0
2	705.0
3	711.0
4	701.0
5	706.0
Total Operating Hours	**3,532.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	676.25

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received the following air quality complaints for June 2025:

Date	Time	Reporting Person	Location	Comment
6/10/2025	9:00 AM	Nancy Yialouris	2717 Quince St. NW	10
6/17/2025	8:07 AM	Nancy Yialouris	2717 Quince St. NW	10 “pervasive and ongoing”

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

June 18, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – May 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-05

Dear Ms. Luttrell:

Please find the attached monthly Title V report for May 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
5/30/2025	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

Second quarter surface emissions scheduled for June 2025

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	2.0
2	Engine service	2.0
3	Engine service	5.0
4	Engine service	2.0
5	Engine service	4.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Cylinder head cleaning, cylinder #16 low temp, sump cleaning, utility outage	13.0
2	Sump cleaning, utility outage	4.0
3	Sump cleaning, utility outage	4.0
4	Sump cleaning, utility outage	5.0
5	Cylinder #12 low temp, regap spark plugs, utility outage, sump cleaning, detenation	14.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	No operational problems	N/A

Coffin Butte Resource Project- May 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours	Date	Time	Event
May-25	251,416	729	5/1/25	8.00	Cylinder head cleaning
			5/14/25	2.00	Service
			5/16/25	1.00	Cylinder #16 low temp
			5/21/25	1.00	Sump Cleaning
			5/22/25	2.00	Sump Cleaning
			5/24/25	1.00	Utility Outage
		Total Hours Off-line		**15.00**	

Unit # 2

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
May-25	249,518	738	5/21/25	2.00	Service
			5/21/25	1.00	Sump Cleaning
			5/22/25	2.00	Sump Cleaning
			5/24/25	1.00	Utility Outage
		Total Hours Off-line		**6.00**	

Unit #3

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
May-25	248,676	735	5/2/25	3.00	Service
			5/21/25	1.00	Sump Cleaning
			5/22/25	2.00	Sump Cleaning
			5/24/25	1.00	Utility Outage
			5/30/25	2.00	Service
		Total Hours Off-line		**9.00**	

Unit # 4

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
May-25	147,529	737	5/8/25	2.00	Service
			5/10/25	1.00	Utility Outage
			5/21/25	1.00	Sump Cleaning
			5/22/25	2.00	Sump Cleaning
			5/24/25	1.00	Utility Outage
		Total Hours Off-line		**7.00**	

Unit # 5

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
May-25	147,423	726	5/2/25	3.00	Cylinder # 12 low temp
			5/2/25	3.00	Regap spark plugs
			5/10/25	1.00	Utility Outage
			5/15/25	4.00	Service and turbo replacement
			5/21/25	1.00	Sump Cleaning
			5/21/25	1.00	Utility Outage
			5/22/25	2.00	Sump Cleaning
			5/24/25	1.00	Detenation
			5/24/15	1.00	Detenation
			5/24/25	1.00	Utility Outage
		Total Hours Off-line		**18.00**	

Note:	**May-25**	744

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
No new wells installed	

Decommissioned Wells

Well ID	Date Decommissioned
No wells decommissioned	

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	81,732,941
ENCLOSEDFL	64,831,942

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	729.0
2	738.0
3	735.0
4	737.0
5	726.0
Total Operating Hours	**3,665.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	740.1

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received an email from ODEQ detailing the following air quality complaints for May 2025:

Date	Time	Reporting Person	Location	Comment
5/1/2025	2:15 PM	Forwarded from DEQ	Adair Village	"prevalent"
5/8/2025	8:30 PM	Forwarded from DEQ	~1 mi SE of landfill	"stench"
5/11/2025	6:03 PM	Forwarded from DEQ	~1 mi SE of landfill	"very strong landfill odor"
5/15/2025	11:30 AM	Forwarded from DEQ	1 mi S of landfill	"horrible"

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

July 25, 2025

(Via electronic transmission)

Oregon Department of Environmental Quality
Attention: Your DEQ Online
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Semi-Annual Report
Coffin Butte Landfill
Title V Operating Permit No. 02-9502

To Whom It May Concern:

Pursuant to the State of Oregon Department of Environmental Quality (ODEQ) Oregon Administrative Rule (OAR) 340-239-0700(3)(c), Valley Landfills, Inc. submits the attached Semi-Annual Report for Coffin Butte Landfill. This report is being submitted to cover the period of January 1, 2025 through June 30, 2025.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachment

cc: Paul Koster, Valley Landfills, Inc., *(via email)*
Melissa Green, Weaver Consultants Group *(via email)*

COFFIN BUTTE LANDFILL

SEMI-ANNUAL REPORT

PREPARED FOR

VALLEY LANDFILLS, INC.

July 25, 2025

TABLE OF CONTENTS

APPENDICES

INTRODUCTION

The Coffin Butte Landfill is a municipal solid waste (MSW) landfill located in Benton County, Oregon and is owned by Valley Landfills, Inc (VLF). The facility is subject to the Semi-Annual Report requirements of Oregon Department of Environmental Quality (ODEQ) Oregon Administrative Rule (OAR) 340-239-0700(3)(c). This Semi-Annual Report covers the period of January 1, 2025 through June 30, 2025.

Records are prepared and maintained in accordance with OAR 340-239-0700(3)(c). The primary location for records storage is the Coffin Butte Landfill. Coffin Butte Landfill is submitting this Semi-Annual Report in accordance with OAR 340-239-0700(3)(c).

§340-239-0700(3)(c)(A) – Monitoring and Exceedances

> All instantaneous surface readings of 100 ppmv or greater. All exceedances of the limits in OAR 340-239-0100(6)(b), 340-239-0200 and 340-239-0600(2)(c) including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required remonitoring and the remonitored concentration in ppmv, wind speed during surface sampling, the concentration recorded at each location for which an exceedance was recorded in the previous month, and the installation date and location of each well installed as part of a gas collection system expansion.

§340-239-0100(6)(b) – Methane Generation Rate Exceedances

> Demonstrate that after four consecutive quarterly monitoring periods there is no measured concentration of methane of 200 parts per million by volume (ppmv) or greater using the instantaneous surface monitoring procedures specified in OAR 340-239-0800(3). The owner or operator of the landfill must begin quarterly monitoring within 90 days after the Methane Generation Rate Report is required to be submitted under section (1) or (2) of this rule or OAR 340-239-0100(6) and submit Instantaneous Surface Monitoring Reports according to OAR 340-239-0700(3)(l).

Quarterly instantaneous surface emissions monitoring (SEM) was performed at the landfill by SCS Field Services (SCS) personnel.

The first and second quarter instantaneous SEM summary tables are provided in Appendix A and summarize the locations of exceedances of the 100 parts per million (ppm) methane concentration including the monitoring dates, corrective actions, and additional monitoring dates and concentrations.

§340-239-0200 – Compliance Standards

> When required as provided in OAR 340-239-0100 through 340-239-0800, the owner or operator of a landfill must comply with this rule.
>
> (1) Surface Emission Methane Concentration Limits. Except as provided in OAR 340-239-0110(4), 340-239-0110(5), 340-239-0300, and 340-239-0600(1), beginning August 1, 2022, or upon commencing operation of a newly installed gas collection and control system or modification of an existing gas collection and control system pursuant to OAR 340-239-0110(1), whichever is later, no location on the landfill surface may exceed either of the following methane concentration limits:
>
> (a) 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with OAR 340-239-0800(3)(b);

(b) An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with OAR 340-239-800(3)(c).

Quarterly integrated SEM was performed at the landfill by SCS personnel.

The first and second quarter integrated SEM summary tables are provided in Appendix A and summarize the locations of exceedances of the 500 parts per million (ppm) methane concentration including the monitoring dates, corrective actions, and additional monitoring dates and concentrations.

§340-239-0200(2) – Wellhead Gauge Pressure Requirement

Operate the collection system with negative pressure at each wellhead

On a monthly basis, operations and maintenance personnel measure the gauge pressure at each wellhead. The gauge pressure taken at the wellhead is used in determining the presence of vacuum at the collector. The wellfield pressure exceedance report is provided in Appendix B.

§340-239-0200(3) – Wellhead Temperature Requirement

Each landfill gas collection and control system interior wellhead in the collection system must be operated with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).

Each landfill gas collector is equipped with an access port for measuring temperature at each wellhead. On a monthly basis, operations and maintenance personnel measure the temperature at each wellhead. All wells operated below 145 °F during the reporting period. Therefore, a temperature wellfield exceedance report is not applicable during this reporting report.

During this reporting period, the following raised wells were not monitored during the monthly monitoring events to safety concerns:

- 2V000089: March 2025 – May 2025
- 2V000090: March 2025 – May 2025
- 2V000114: March 2025 – May 2025
- 3ARC0D26: January 2025
- 5V000086: March 2025 – May 2025
- 5V000087: May 2025
- 5V000093: March 2025
- 5V000094: March 2025

In accordance with the Oregon Department of Environmental Quality's (DEQ) September 2, 2020, approval of the Alternative Monitoring Plan, VLF may exempt raised gas wells from monthly monitoring when necessary for safety.

However, such exemptions must be requested by VLF in writing and receive prior approval from DEQ. In this instance, VLF did not submit a written exemption request to DEQ, and no prior approval was obtained.

§340-239-0600(2)(c) – Gas Control System Equipment Monitoring

> Components containing landfill gas and under positive pressure must be monitored quarterly for leaks. Any component leak over 500 ppmv methane must be tagged and repaired within 10 days. Any component leak over 250 ppmv must be recorded pursuant to OAR 340-239-0700(2)(a)(S). Quarterly component leak testing at landfills having landfill gas-to-energy facilities may be conducted prior to scheduled maintenance or planned outage periods.

SCS performed the first and second quarter gas control system equipment monitoring on February 27, 2025 and May 23, 2025. No locations exceeding the 500 ppmv threshold were observed during the monitoring event. The gas control system equipment monitoring results are included in the first and second quarter SEM summary tables, included as Appendix A.

§340-239-0700(3)(c)(B) – Corrective Action Analysis

> For any corrective action analysis for which corrective actions are required in OAR 340-239-0600(3)(a) and 340-239-0600(3)(b) 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 elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

During the reporting period, one or more exceedances were not corrected within 60 days. Therefore, the site conducted the root cause and corrective action analyses and recorded this information along with the additional required information in Attachment C to this report.

The site conducted a pressure exceedance root cause analysis for exceedances that were remediated between 15 and 60 days. The Root Cause Analyses are not required to be submitted; however, they are provided in Appendix C for informational purposes.

Several wells operated under the approved alternative monitoring plan and the GCCS Design Plan that allows for wells to be taken off-line during construction events.

§340-239-0700(3)(c)(C) – Subsurface Landfill Fire(s)

> All known, prevented, or suspected subsurface landfill fire(s) along with potential causes and any efforts conducted to avoid or put out the fire(s). Any positive pressure readings that may have contributed to the known, prevented, or suspected fire.

During the reporting period, no subsurface landfill fire(s) occurred.

§340-239-0700(3)(c)(D) – Deviations

> The number of times that applicable parameters monitored under OAR 340-239-0110(2) or 340-239-0200, were exceeded and when the gas collection and control system was not operating in compliance with OAR 340-0110(2)(a) including periods of startup, shutdown, and malfunction. For each instance, report the date, time, and duration of each exceedance. Where an owner or operator subject to the requirements of this division is demonstrating compliance with the operational standard for temperature OAR 340-239-0600(3)(b), the owner or operator must provide a statement of the wellhead operational standard for temperature and oxygen the landfill is complying with for the period covered by the report.

During this reporting period, there were no times that applicable parameters monitored under OAR 340-239-0110(2) or 340-239-0200 were exceeded. There were also no times when the gas collection and control system (GCCS) was not operating in compliance with OAR 340-0110(2).

> (i) The number of times each of those parameters monitored under OAR 340-239-0600(3)(b), were exceeded. For each instance, report the date, time, and duration of each exceedance.

During the reporting period, no temperature exceedances occurred.

> (ii) The number of times the parameters for the site-specific treatment system in OAR 340-239-0110(2)(d)(C) were exceeded.
>
> **§340-239-0110(2)(d)(C) –** Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either subsection (2)(b), (2)(c) or (2)(d) of this rule. All emissions vented to the atmosphere from the gas treatment system are subject to the requirements of subsection (2)(b) or (2)(c) of this rule.

In accordance with §340-239-0110(2)(d)(C), PNGC Power owns and operates a landfill treatment system at the landfill that processes the collected gas for subsequent sale or beneficial use. There are no vents within the treatment system that allow venting of gas to the atmosphere. The treatment system is not designed nor equipped to bypass the control devices. A calibrated flow meter was installed to measure flow to the treatment system. PNGC Power maintains and operates all monitoring systems associated with the treatment system in accordance with the PNGC Power site-specific treatment system monitoring plan required by §340-239-0700(2)(b)(H)(ii). During this reporting period there were no parameter exceedances of the Treatment Monitoring Plan.

§340-239-0700(3)(c)(E) – Bypass line

> Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified OAR 340-239-0110(2)(c).

The gas collection system is not designed nor equipped to bypass the control devices; therefore, §340-239-0700(2)(c)(E) is not applicable.

§340-239-0700(3)(c)(F) – Control Device or Treatment System Downtime

> Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.

The tables provided in Appendix D summarize all the periods when the control device was not operating.

§340-239-0700(3)(c)(G) – Collection System Downtime

> All periods when the collection system was not operating.

The table provided in Appendix E summarizes all the periods when the collection system was not operating.

§340-239-0700(3)(c)(H) – Collection System Expansion

> The date of installation and the location of each well or collection system expansion.

During this reporting period, the gas collection and control system (GCCS) was expanded by adding 22 new extraction wells. The new wells are adding to the performance of the GCCS. Appendix F contains an updated site layout showing the approximate locations of the new wells and a table with their installation dates.

§340-239-0700(3)(c)(I) – Enhanced Monitoring

> Each owner or operator required to conduct enhanced monitoring in accordance with OAR 340-239-0800(8) for temperatures exceeding 62.8 degrees Celsius (145 degrees Fahrenheit) must include the results of all monitoring activities conducted during the period.

During the reporting period, no temperature exceedances above 145 degrees Fahrenheit occurred, therefore no enhanced temperature monitoring activities were required to be conducted.

§340-239-0700(3)(c)(J) – Enclosed Combustors

> For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts per hour (150 million British thermal units per hour) or greater, all three-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test.

Enclosed Flare / Enclosed Combustor - §63.1983(C)(1) refers to 3-hour periods of operation and stipulates that there should not be a 3-hour period of operation where an enclosed combustion device is 28° Celsius (C) below the temperature determined in the most recent performance test. However, the rules do not specify that this is a 3-hour rolling average, 3-hour block average, or 3 hours of average temperature readings continuously and consistently below the minimum temperature from the flare recording device. By nature, temperatures within an enclosed combustion device will fluctuate. These fluctuations are to be expected during normal operations. In compliance with §63.1983(C)(1) each recorded temperature reading, measured at least every 15 minutes within the enclosed combustor, is an average temperature for the time interval between the next reading. As such, the facility counts 3-hour periods of operation of low temperatures using the temperatures which come directly from the data recorder. These average temperatures readings will be taken directly from the data recorder for the control device and any 3-hour period of operation where the recorded average combustion temperatures are continuously and consistently 28°C below the temperature determined in the most recent performance test will be reported to the appropriate regulatory agencies if it is not associated with any SSM.

The 3,390 scfm enclosed flare was installed on August 6, 2024 and the associated performance test occurred on October 22, 2024 and November 7, 2024. During the performance test for the 3,390 scfm enclosed flare, the average compliant stack combustion temperature was 1,597°F, according to the Compliance Emissions Test Report #24412 for Coffin Butte Landfill dated December 17, 2024. For future operations, in response to this performance test, all periods longer than 3 hours must be reported where the operation temperature is more than 28 °C below the average operating temperature recorded during the performance test, which is equivalent to 1,546.6 °F. There were no such periods observed during this reporting period after the performance test.

§340-239-0700(3)(c)(K) – Boilers or Process Heaters

> For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone.

Coffin Butte Landfill does not own and/or operate boilers or process heaters; therefore, §340-239-0700(3)(c)(K) is not applicable.

ADDITIONAL REPORTING/RECORDKEEPING

The information in this section includes additional recording/reporting within the semi-annual report.

§340-239-0600(3)(b)(E)(5) – Monitoring System Malfunctions

> The monitoring requirements of this division apply at all times, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Monitoring system repairs completed in response to monitoring system malfunctions to return the monitoring system to operation must be completed as expeditiously as practicable.

There were no monitoring system malfunctions during this reporting period.

LIMITATIONS

This Semi-Annual Report for the Coffin Butte Landfill GCCS has been prepared by WCG, as authorized by Valley Landfills, Inc. The report was prepared based on WCG's review of information provided by Coffin Butte Landfill. The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. Any reliance on this report by a third party is at such party's sole risk. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

APPENDIX A

SURFACE EMISSION MONITORING SUMMARY TABLES

FIRST QUARTER 2025

First Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

SCS Instantaneous Data Report for February 27, March 7, and 24, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 2/27/2025		First 10-Day Monitoring Results (ppmv) 3/7/2025		1-Month Confirmation Results (ppmv) 3/24/2025		Latitude	Longitude
	Time	PPM	Time	PPM	Time	PPM		
2BVS7	10:38am	2,677	11:11am	287	1:55pm	133	44.6992520	-123.2274420
4H000026	10:43am	3,501	10:50am	101	12:57pm	353	44.6993783	-123.2280617
3DVH27	11:33am	2,396	12:27pm	11	1:35pm	74	44.6979140	-123.2355740
3V000081	12:19pm	974	12:51pm	328	1:25pm	256	44.6979900	-123.2351000
30004EGC	12:27pm	3,993	11:45am	190	1:40pm	118	44.6979930	-123.2326590
3C00V012	12:38pm	6,800	10:35am	15	1:42pm	9	44.6981570	-123.2328560
3V83	12:43pm	6,285	11:22am	5	1:27pm	9	44.6980930	-123.2338300

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	2/27/2025	3.50

No other exceedances of the 500 ppmv threshold were observed during the first quarter of 2025 monitoring.

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-001	--	--	Active Area
CBLF-002	--	--	Active Area
CBLF-003	--	--	Active Area
CBLF-004	--	--	Active Area
CBLF-005	--	--	Active Area
CBLF-006	--	--	Exempt due to High Vegetation
CBLF-007	--	--	Exempt due to High Vegetation
CBLF-008	--	--	Exempt due to High Vegetation
CBLF-009	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-010	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-011	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-012	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-013	--	--	Exempt due to High Vegetation
CBLF-014	--	--	Exempt due to High Vegetation
CBLF-015	2/27/2025	3.29	
CBLF-016	--	--	Active Area
CBLF-017	--	--	Active Area
CBLF-018	--	--	Active Area
CBLF-019	--	--	Active Area
CBLF-020	--	--	Active Area
CBLF-021	--	--	Active Area
CBLF-022	--	--	Active Area
CBLF-023	--	--	Active Area
CBLF-024	--	--	Active Area
CBLF-025	--	--	Active Area
CBLF-026	--	--	Active Area
CBLF-027	--	--	Active Area
CBLF-028	--	--	Active Area
CBLF-029	2/27/2025	4.89	
CBLF-030	2/27/2025	4.10	
CBLF-031	2/27/2025	3.21	
CBLF-032	2/27/2025	3.07	
CBLF-033	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-034	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-035	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-036	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-037	3/24/2025	2.52	
CBLF-038	3/24/2025	2.69	
CBLF-039	3/24/2025	2.87	
CBLF-040	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-041	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-042	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-043	--	--	Exempt due to Steep Slope/Health and Safety

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-044	--	--	Active Area
CBLF-045	--	--	Active Area
CBLF-046	--	--	Active Area
CBLF-047	--	--	Active Area
CBLF-048	--	--	Active Area
CBLF-049	--	--	Active Area
CBLF-050	--	--	Active Area
CBLF-051	--	--	Active Area
CBLF-052	--	--	Active Area
CBLF-053	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-054	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-055	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-056	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-057	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-058	3/24/2025	3.09	
CBLF-059	3/24/2025	3.43	
CBLF-060	3/24/2025	4.07	
CBLF-061	3/24/2025	4.96	
CBLF-062	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-063	--	--	Exempt due to High Vegetation
CBLF-064	3/23/2025	2.99	
CBLF-065	3/23/2025	3.26	
CBLF-066	3/23/2025	3.41	
CBLF-067	3/23/2025	3.62	
CBLF-068	3/23/2025	3.61	
CBLF-069	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-070	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-071	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-072	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-073	--	--	Active Area
CBLF-074	--	--	Active Area
CBLF-075	--	--	Active Area
CBLF-076	--	--	Active Area
CBLF-077	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-078	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-079	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-080	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-081	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-082	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-083	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-084	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-085	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-086	--	--	Exempt due to Steep Slope/Health and Safety

First Quarter 2025

Table 2. Integrated Surface Emissions Monitoring Results

Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-087	3/23/2025	11.47	
CBLF-088	3/23/2025	7.48	
CBLF-089	3/23/2025	4.74	
CBLF-090	3/23/2025	4.77	
CBLF-091	3/23/2025	5.58	
CBLF-092	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-093	2/27/2025	3.95	
CBLF-094	2/27/2025	8.32	
CBLF-095	2/27/2025	8.16	
CBLF-096	2/27/2025	10.10	
CBLF-097	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-098	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-099	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-100	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-101	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-102	--	--	Exempt due to Steep Slope/Health and Safety
CBLF-103	2/27/2025	6.24	
CBLF-104	2/27/2025	8.07	
CBLF-105	2/27/2025	4.13	

SECOND QUARTER 2025

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

SCS Field Staff Instantaneous Data Report for May 21, 23, 25 30, and June 9 and 19, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 5/21/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 5/23/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
4V000032	9:18 AM	10,600	39	3	44.7000250	-123.2250267
2BVS72	9:30 AM	556	347	129	44.6992390	-123.2274150
4H000026	9:35 AM	3,287	281	429	44.6993783	-123.2280617
4V43	9:41 AM	1,185	146	39	44.7000210	-123.2260240

Location (Surface)	Initial Monitoring Results (ppmv) 5/23/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 5/25/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
VALVE	11:05 AM	1,121	270	8	44.6980180	-123.2346890
3DVH31	11:12 AM	2,786	12	12	44.6979450	-123.2341960

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 5/30/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/9/2025	1-Month Confirmation Results (ppmv) 6/19/2025	Latitude	Longitude
3A0V0076	12:47 PM	10,200	31	29	44.6990667	-123.2327570
3ARC0076	12:49 PM	9,870	14	20	44.6990380	-123.2327290
3V000100	12:54 PM	8,731	179	100	44.6988177	-123.2332322

SCS Rover Instantaneous Data Report for June 9, 19, 27 and July 11, 2025

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-4	12:38 PM	35,826	8	N/A	5	N/A	44.7009000	-123.2328000
Q2 SEM-23	1:17 PM	35,783	5,481	1,473	2,724	**10/10/2025**	44.7024000	-123.2268000
Q2 SEM-37	1:38 PM	25,542	382	N/A	190	N/A	44.7010200	-123.2288300
Q2 SEM-14	1:02 PM	21,269	45	N/A	26	N/A	44.7002800	-123.2303500
Q2 SEM-20	1:09 PM	18,568	62,400	10,300	8,130	**10/10/2025**	44.7002600	-123.2300000

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-21	1:11 PM	16,181	324	N/A	143	N/A	44.7001100	-123.2302900
Q2 SEM-55	2:37 PM	15,461	579	391	472	N/A	44.7016700	-123.2294300
Q2 SEM-25	1:14 PM	14,747	32,300	16,294	18,500	**10/10/2025**	44.7020500	-123.2280500
Q2 SEM-53	1:28 PM	11,291	4	N/A	18	N/A	44.7011600	-123.2291400
Q2 SEM-49	1:14 PM	6,140	5	N/A	12	N/A	44.7010100	-123.2294300
Q2 SEM-6	2:30 PM	4,405	652	309	309	N/A	44.7007600	-123.2315700
Q2 SEM-51	1:11 PM	4,285	6,298	464	464	N/A	44.7015000	-123.2295400
Q2 SEM-27	1:09 PM	4,012	87,300	21,600	3,921	**10/10/2025**	44.7013100	-123.2279100
Q2 SEM-45	1:02 PM	3,719	110	N/A	57	N/A	44.7012100	-123.2302200
Q2 SEM-111	1:14 PM	3,366	124	N/A	74	N/A	44.6999500	-123.2312700
Q2 SEM-18	1:08 PM	3,258	971	412	415	N/A	44.6998500	-123.2312200
Q2 SEM-30	1:07 PM	3,242	60	N/A	41	N/A	44.7017200	-123.2284700
Q2 SEM-22	1:07 PM	2,996	212	N/A	105	N/A	44.6999800	-123.2304300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-47	1:14 PM	2,350	1,763	2,186	1,359	**10/10/2025**	44.7014400	-123.2301300
Q2 SEM-48	1:07 PM	2,149	107	N/A	136	N/A	44.7012100	-123.2298100
Q2 SEM-24	1:11 PM	2,117	1,475	387	237	N/A	44.7021200	-123.2278700
Q2 SEM-3	1:08 PM	2,060	338	N/A	288	N/A	44.7006500	-123.2330400
Q2 SEM-26	1:13 PM	1,803	7,511	319	491	N/A	44.7019900	-123.2280500
Q2 SEM-39	1:14 PM	1,772	274	N/A	413	N/A	44.7010000	-123.2288900
Q2 SEM-15	2:21 PM	1,715	154	N/A	292	N/A	44.7002300	-123.2305000
Q2 SEM-9	1:12 PM	1,699	429	N/A	396	N/A	44.7003400	-123.2311200
Q2 SEM-7	1:14 PM	1,696	334	N/A	489	N/A	44.7006300	-123.2314200
Q2 SEM-31	1:12 PM	1,675	490	N/A	419	N/A	44.7011400	-123.2281400
Q2 SEM-41	1:13 PM	1,644	77	N/A	386	N/A	44.7010000	-123.2293400
Q2 SEM-16	1:12 PM	1,611	41,300	8,529	118	**10/10/2025**	44.7001500	-123.2306800
Q2 SEM-50	2:21 PM	1,463	8	N/A	3	N/A	44.7011000	-123.2293300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-57	1:16 PM	1,443	366	N/A	351	N/A	44.7013200	-123.2290200
Q2 SEM-120	1:12 PM	1,358	299	N/A	226	N/A	44.7004900	-123.2300400
Q2 SEM-17	4:26 PM	1,346	88	N/A	138	N/A	44.6999800	-123.2310400
Q2 SEM-34	1:16 PM	1,271	15	N/A	79	N/A	44.7014200	-123.2288400
Q2 SEM-32	12:44 PM	1,210	882	731	853	**10/10/2025**	44.7010900	-123.2284000
Q2 SEM-54	1:10 PM	1,153	47	N/A	41	N/A	44.7015500	-123.2293500
Q2 SEM-118	1:08 PM	1,031	12	N/A	19	N/A	44.6998500	-123.2312200
Q2 SEM-33	2:28 PM	997	598	433	392	N/A	44.7011900	-123.2285400
Q2 SEM-11	1:11 PM	976	26	N/A	21	N/A	44.6999500	-123.2312700
Q2 SEM-42	1:16 PM	959	1,576	93	9	N/A	44.7009600	-123.2296500
Q2 SEM-36	4:29 PM	895	305	N/A	317	N/A	44.7009100	-123.2287300
Q2 SEM-10	1:08 PM	894	86,600	108	39	N/A	44.7001700	-123.2309200
Q2 SEM-44	1:15 PM	884	6	N/A	9	N/A	44.7010800	-123.2301300

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-12	1:13 PM	839	43,500	481	485	N/A	44.7004900	-123.2300400
Q2 SEM-13	1:16 PM	785	36,800	31,600	24,500	**10/10/2025**	44.7004200	-123.2300800
Q2 SEM-46	4:26 PM	777	392	N/A	92	N/A	44.7009500	-123.2298600
Q2 SEM-28	2:06 PM	758	335	N/A	94	N/A	44.7018200	-123.2282800
Q2 SEM-115	1:28 PM	747	28	N/A	203	N/A	44.7002300	-123.2305000
Q2 SEM-35	1:09 PM	741	44	N/A	131	N/A	44.7009900	-123.2287000
Q2 SEM-19	4:27 PM	719	41,300	8,529	118	**10/10/2025**	44.7000200	-123.2308200
Q2 SEM-5	4:30 PM	715	147	N/A	136	N/A	44.7011600	-123.2321800
Q2 SEM-112	4:27 PM	700	92	N/A	35	N/A	44.7004900	-123.2300400
Q2 SEM-29	1:04 PM	689	126	N/A	16	N/A	44.7013000	-123.2281300
Q2 SEM-114	1:28 PM	688	8,175	87	52	N/A	44.7002800	-123.2303500
Q2 SEM-117	1:13 PM	680	27	N/A	46	N/A	44.6999800	-123.2310400
Q2 SEM-40	1:11 PM	647	451	N/A	477	N/A	44.7010200	-123.2291800

Second Quarter 2025

Table 1. Instantaneous Surface and Component Emissions Monitoring Results
Coffin-Butte Landfill, Corvallis, Oregon

Location (Surface)	Initial Monitoring Results (ppmv) 6/9/2025 (Time/PPM)		First 10-Day Monitoring Results (ppmv) 6/19/2025	Second 10-Day Monitoring Results (ppmv) 6/27/2025	1-Month Confirmation Results (ppmv) 7/11/2025	120-Day Expansion Due:	Latitude	Longitude
Q2 SEM-52	1:06 PM	646	169	N/A	111	N/A	44.7013100	-123.2293300
Q2 SEM-83	4:27 PM	631	67	N/A	105	N/A	44.7004200	-123.2312200
Q2 SEM-56	1:10 PM	614	174	N/A	94	N/A	44.7014500	-123.2291800
Q2 SEM-122	1:13 PM	571	12	N/A	16	N/A	44.7004900	-123.2300400
Q2 SEM-116	1:25 PM	535	42	N/A	448	N/A	44.7001500	-123.2306800
Q2 SEM-43	1:17 PM	535	67	N/A	182	N/A	44.7010100	-123.2300900
Q2 SEM-121	1:09 PM	533	48,600	4,456	4,456	**10/10/2025**	44.7004900	-123.2300400
Q2 SEM-38	4:28 PM	520	51,300	38,100	106	**10/10/2025**	44.7012200	-123.2289100
Q2 SEM-119	1:10 PM	508	39	N/A	45	N/A	44.7000200	-123.2308200

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	5/23/2025	14.30

No other exceedances of the 500 ppmv threshold were observed during the second quarter of 2025 monitoring.

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-001	--	--	Exempt due to Health and Safety
CBLF-002	6/3/2025 12:15	5.38	
CBLF-003	--	--	Exempt due to Health and Safety
CBLF-004	--	--	Exempt due to Health and Safety
CBLF-005	--	--	Exempt due to Health and Safety
CBLF-006	--	--	Exempt due to Health and Safety
CBLF-007	6/3/2025 12:27	3.48	
CBLF-008	--	--	Exempt due to Health and Safety
CBLF-009	6/6/2025 10:32	5.24	
CBLF-010	--	--	Exempt due to Health and Safety
CBLF-011	--	--	Exempt due to Health and Safety
CBLF-012	6/3/2025 12:54	3.09	
CBLF-013	6/3/2025 12:23	3.84	
CBLF-014	6/6/2025 10:39	6.14	
CBLF-015	6/6/2025 11:11	3.57	
CBLF-016	6/26/2025 12:17	3.25	
CBLF-017	6/3/2025 12:57	3.20	
CBLF-018	6/3/2025 12:57	3.68	
CBLF-019	6/3/2025 12:42	7.19	
CBLF-020	6/6/2025 10:47	6.37	
CBLF-021	6/6/2025 11:05	5.62	
CBLF-022	6/26/2025 12:12	3.30	
CBLF-023	6/26/2025 11:44	4.13	
CBLF-024	6/26/2025 11:44	2.11	
CBLF-025	6/3/2025 12:53	2.47	
CBLF-026	--	--	Active Grid Area
CBLF-027	6/15/2025 16:57	9.58	
CBLF-028	6/6/2025 10:59	5.64	
CBLF-029	6/26/2025 12:08	3.31	
CBLF-030	6/26/2025 11:38	4.41	
CBLF-031	6/6/2025 11:53	2.47	
CBLF-032	6/3/2025 12:53	2.43	
CBLF-033	--	--	Exempt due to Health and Safety
CBLF-034	--	--	Exempt due to Health and Safety
CBLF-035	--	--	Exempt due to Health and Safety
CBLF-036	--	--	Overgrown Vegetation
CBLF-037	6/26/2025 11:32	4.84	
CBLF-038	6/18/2025 14:25	3.90	
CBLF-039	6/6/2025 11:49	2.40	
CBLF-040	--	--	Exempt due to Health and Safety
CBLF-041	--	--	Exempt due to Health and Safety
CBLF-042	--	--	Exempt due to Health and Safety
CBLF-043	--	--	Exempt due to Health and Safety

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-044	--	--	Exempt due to Health and Safety
CBLF-045	--	--	Exempt due to Health and Safety
CBLF-046	6/26/2025 11:55	3.66	
CBLF-047	6/6/2025 11:43	3.22	
CBLF-048	--	--	Exempt due to Health and Safety
CBLF-049	--	--	Exempt due to Health and Safety
CBLF-050	--	--	Exempt due to Health and Safety
CBLF-051	--	--	Exempt due to Health and Safety
CBLF-052	--	--	Active Grid Area
CBLF-053	--	--	Exempt due to Health and Safety
CBLF-054	6/26/2025 11:56	3.63	
CBLF-055	6/6/2025 11:36	2.46	
CBLF-056	--	--	Exempt due to Health and Safety
CBLF-057	--	--	Exempt due to Health and Safety
CBLF-058	--	--	Exempt due to Health and Safety
CBLF-059	--	--	Exempt due to Health and Safety
CBLF-060	--	--	Active Grid Area
CBLF-061	--	--	Exempt due to Health and Safety
CBLF-062	--	--	Exempt due to Health and Safety
CBLF-063	--	--	Active Grid Area
CBLF-064	--	--	Active Grid Area
CBLF-065	--	--	Exempt due to Health and Safety
CBLF-066	--	--	Exempt due to Health and Safety
CBLF-067	--	--	Exempt due to Health and Safety
CBLF-068	--	--	Active Grid Area
CBLF-069	6/3/2025 11:46	8.06	
CBLF-070	--	--	Active Grid Area
CBLF-071	--	--	Active Grid Area
CBLF-072	--	--	Active Grid Area
CBLF-073	--	--	Exempt due to Health and Safety
CBLF-074	--	--	Exempt due to Health and Safety
CBLF-075	--	--	Exempt due to Health and Safety
CBLF-076	--	--	Exempt due to Health and Safety
CBLF-077	--	--	Active Grid Area
CBLF-078	6/3/2025 11:38	19.88	
CBLF-079	--	--	Active Grid Area
CBLF-080	--	--	Active Grid Area
CBLF-081	--	--	Active Grid Area
CBLF-082	--	--	Exempt due to Health and Safety
CBLF-083	--	--	Exempt due to Health and Safety
CBLF-084	--	--	Active Grid Area
CBLF-085	--	--	Active Grid Area
CBLF-086	6/3/2025 11:30	20.68	

Second Quarter 2025
Table 2. Integrated Surface Emissions Monitoring Results
Coffin-Butte Landfill Corvallis, Oregon

Point Name	Record Date	FID Concentration (ppm)	Comments
CBLF-087	--	--	Active Grid Area
CBLF-088	--	--	Active Grid Area
CBLF-089	--	--	Exempt due to Health and Safety
CBLF-090	--	--	Exempt due to Health and Safety
CBLF-091	--	--	Active Grid Area
CBLF-092	--	--	Active Grid Area
CBLF-093	--	--	Active Grid Area
CBLF-094	--	--	Active Grid Area
CBLF-095	--	--	Exempt due to Health and Safety
CBLF-096	--	--	Exempt due to Health and Safety
CBLF-097	--	--	Active Grid Area
CBLF-098	--	--	Active Grid Area
CBLF-099	--	--	Active Grid Area
CBLF-100	--	--	Active Grid Area
CBLF-101	--	--	Active Grid Area
CBLF-102	--	--	Exempt due to Health and Safety
CBLF-103	--	--	Exempt due to Health and Safety
CBLF-104	--	--	Active Grid Area
CBLF-105	--	--	Active Grid Area
CBLF-106	--	--	Active Grid Area
CBLF-107	--	--	Active Grid Area
CBLF-108	--	--	Active Grid Area
CBLF-109	--	--	Exempt due to Health and Safety
CBLF-110	--	--	Active Grid Area
CBLF-111	--	--	Active Grid Area
CBLF-112	--	--	Active Grid Area
CBLF-113	--	--	Exempt due to Health and Safety
CBLF-114	--	--	Active Grid Area
CBLF-115	--	--	Active Grid Area
CBLF-116	--	--	Active Grid Area
CBLF-117	--	--	Exempt due to Health and Safety
CBLF-118	--	--	Exempt due to Health and Safety
CBLF-119	--	--	Active Grid Area
CBLF-120	--	--	Active Grid Area
CBLF-121	--	--	Active Grid Area

APPENDIX B

WELLFIELD PRESSURE EXCEEDANCE REPORT

Coffin Butte Landfill
Wellfield Pressure Exceedance Report
Reporting Period: January 1, 2025 to June 30, 2025

WellName	Date/Time Monitored	Pressure (in. H20)	Temperature (^{o}F)	Date/Time Remediated	Duration Days
2DV402	4/17/2025 10:05	5.14	68.0	5/13/2025 15:05	26
2V000111	2/20/2025 10:14	24.88	50.0	4/24/2025 11:01	63
2V000125	6/13/2025 13:51	12.20	105.0	6/24/2025 14:09	11
3ARC0D26	2/28/2025 13:23	7.28	63.0	3/18/2025 9:59	18
3ARC0D26	5/30/2025 10:36	2.09	85.0	6/12/2025 15:37	13
3AV403	4/17/2025 10:16	13.73	67.0	4/22/2025 14:28	5
3AV404	4/17/2025 10:29	14.70	67.0	4/22/2025 14:32	5
3AV405	4/17/2025 10:39	11.30	70.0	5/9/2025 14:18	22
3AV406	4/17/2025 8:44	16.73	62.0	5/13/2025 14:19	26
3AV409	4/17/2025 8:19	13.00	67.0	5/9/2025 13:41	22
3AV410	4/17/2025 8:59	27.63	64.0	4/22/2025 13:58	5
3H000090	2/25/2025 15:23	0.72	58.0	3/27/2025 11:33	30
3H000090	5/30/2025 10:42	2.53	69.0	6/12/2025 15:45	13
3V000087	2/25/2025 15:25	1.16	60.0	3/27/2025 11:35	30
3V000087	5/30/2025 10:46	2.80	70.0	6/12/2025 15:48	13
3V000091	2/25/2025 15:20	0.04	60.0	3/18/2025 10:05	21
3V000091	5/30/2025 10:40	3.41	74.0	6/12/2025 15:41	13
3V000092	1/13/2025 15:08	4.81	76.0	2/19/2025 14:45	37
3V000092	3/12/2025 11:30	4.17	74.0	3/26/2025 11:50	14
3V000092	5/29/2025 9:00	5.85	82.0	6/11/2025 15:24	13
3V000093	1/13/2025 15:12	4.87	63.0	2/19/2025 14:48	37
3V000093	3/12/2025 11:33	6.46	60.0	3/26/2025 11:53	14
3V000093	5/29/2025 9:04	4.88	83.0	6/11/2025 15:28	13
3V000103	2/21/2025 13:37	30.58	48.0	3/27/2025 7:54	34
3V000103	5/29/2025 10:10	5.48	75.0	6/12/2025 15:35	14
3V000104	4/25/2025 14:11	2.59	95.0	6/24/2025 16:00	60
4V000056	3/13/2025 9:54	1.20	59.0	4/24/2025 10:17	42
5BV407	4/17/25 9:40	37.46	69.0	4/17/25 13:41	0
5BV408	4/17/2025 9:29	3.03	63.0	5/9/2025 13:49	22
5BV412	4/17/2025 9:52	4.60	69.0	5/23/2025 15:24	36
5BV414	4/17/2025 8:04	9.87	61.0	5/9/2025 13:36	22
5BV416	4/17/2025 10:50	12.66	73.0	4/22/2025 14:49	5
5CV418	4/17/2025 11:15	4.04	72.0	5/9/2025 15:13	22
5CV420	4/17/2025 11:07	8.26	71.0	4/22/2025 14:57	5
5DV426	4/17/25 10:58	6.49	70.0	4/17/25 10:58	0
5EV422	4/17/2025 11:21	1.01	70.0	4/22/2025 15:04	5
5H000050	12/19/2024 8:53	0.10	40.0	4/25/2025 16:22	127
5H000051	12/19/2024 8:55	0.15	39.0	4/25/2025 16:24	127
5H000071	1/29/25 9:50	0.18	33.0	1/29/25 10:02	0
5H000071	3/4/25 10:09	1.92	56.0	3/18/25 9:18	14
5H000091	12/19/2024 8:56	0.00	48.0	4/25/2025 16:26	127
5V000082	1/29/25 9:27	8.16	35.0	1/29/25 10:07	0
5V000082	2/28/2025 13:29	22.57	64.0	3/27/2025 11:40	27

Coffin Butte Landfill
Wellfield Pressure Exceedance Report
Reporting Period: January 1, 2025 to June 30, 2025

WellName	Date/Time Monitored	Pressure (in. H20)	Temperature (^{o}F)	Date/Time Remediated	Duration Days
5V000082	5/30/2025 10:49	1.23	68.0	6/12/2025 15:53	13
5V000084	4/11/2025 12:00	2.11	56.0	4/25/2025 16:10	14

Note - 5H00050 and 5H00051 are operating under the approved alternative monitoring plan. Therefore, the root cause analysis and corrective action analysis are not applicable

APPENDIX C

ROOT CAUSE ANALYSES/CORRECTIVE ACTION ANALYSES

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	2V000111

Date of Initial Exceedance:	2/20/2025	Initial Pressure Reading:	24.88
Date Exceedance was corrected	4/24/2025	Corrected Pressure Reading:	-14.24

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Clogged kanaflex tubing and bad regulator.		
Corrective Action: Describe actions taken to correct the exceedance.		
Ordered new tubing and regulator.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☐ Yes	☒ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Corrective Action Analysis and Implementation Schedule

Complete this form for **each** well if pressure exceedance is **more than 60 days**.

Collection Device ID:	2V000111

Date of Initial Exceedance:	2/20/2025	Initial Pressure Reading:	24.88
Date of Completion/exceedance corrected:	4/24/2025	Corrected Pressure Reading:	-14.24

Corrective Action Analysis:
Describe Corrective Actions already taken:
Clogged kanaflex tubing and bad regulator.
Describe Additional actions needed and Implementation Schedule:
Replaced kanaflex tubing and regulator.

Implementation Schedule	
Expected Start Date:	2/25/2025
Expected Completion Date:	8/25/2025

Final Steps	
Determine the required next steps.	
Is the remediation expected to take **less than 120 days** since initial exceedance per implementation schedule?	☒ Yes ☐ No

- If YES, send notification to state agency and/or EPA within 75 days of initial exceedance. Include Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule in the next Report.
- If NO, send Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule to state agency within 75 days for approval and include in next Report.

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	2DV402

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	5.14
Date Exceedance was corrected	5/13/2025	Corrected Pressure Reading:	-3.97

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
New well activation process not followed.		
Corrective Action: Describe actions taken to correct the exceedance.		
Reviewed process for bringing new wells online.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3ARC0D26

Date of Initial Exceedance:	2/28/2025	Initial Pressure Reading:	7.28
Date Exceedance was corrected	3/18/2025	Corrected Pressure Reading:	-20.70

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3AV405

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	11.30
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-2.11

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3AV406

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	16.73
Date Exceedance was corrected	5/13/2025	Corrected Pressure Reading:	-6.59

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3AV409

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	13.0
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-7.46

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3H000090

Date of Initial Exceedance:	2/25/2025	Initial Pressure Reading:	0.72
Date Exceedance was corrected	3/27/2025	Corrected Pressure Reading:	-22.76

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000087

Date of Initial Exceedance:	2/25/2025	Initial Pressure Reading:	1.16
Date Exceedance was corrected	3/27/2025	Corrected Pressure Reading:	-22.35

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000091

Date of Initial Exceedance:	2/25/2025	Initial Pressure Reading:	0.04
Date Exceedance was corrected	3/18/2025	Corrected Pressure Reading:	-24.12

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000092

Date of Initial Exceedance:	1/13/2025	Initial Pressure Reading:	4.81
Date Exceedance was corrected	2/19/2025	Corrected Pressure Reading:	-24.01

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000093

Date of Initial Exceedance:	1/13/2025	Initial Pressure Reading:	4.87
Date Exceedance was corrected	2/19/2025	Corrected Pressure Reading:	-23.66

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000103

Date of Initial Exceedance:	2/21/2025	Initial Pressure Reading:	30.58
Date Exceedance was corrected	3/27/2025	Corrected Pressure Reading:	-23.07

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	3V000104

Date of Initial Exceedance:	4/25/2025	Initial Pressure Reading:	2.59
Date Exceedance was corrected	6/24/2025	Corrected Pressure Reading:	-6.35

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Buried vacuum line was pinched.		
Corrective Action: Describe actions taken to correct the exceedance.		
Remoted a new vacuum line to bring well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	4V000056

Date of Initial Exceedance:	3/13/2025	Initial Pressure Reading:	1.2
Date Exceedance was corrected	4/24/2025	Corrected Pressure Reading:	-2.73

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Clogged kanaflex tubing and well head.		
Corrective Action: Describe actions taken to correct the exceedance.		
Ordered new kanaflex tubing and replaced well head.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5BV408

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	3.03
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-1.46

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Newly installed well, bringing on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5BV412

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	4.60
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-1.35

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5BV414

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	9.87
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-1.78

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

February 28, 2025

Uploaded to Your DEQ Online

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule

Coffin Butte Landfill
Operating Permit No. 02-9502-TV-01

Dear Ms. Luttrell:

Valley Landfills, Inc. (VLI) is submitting this letter to request an alternative timeline for addressing the landfill gas extraction well exceedance at Coffin Butte Landfill. Specifically, this request pertains to extraction well 5H000091

During the monitoring event conducted on December 19, 2024, extraction well 5H000091 was identified as having a positive pressure. In accordance with regulatory requirements, corrective actions were initiated within the required 5-day period. However, the measures taken thus far have not successfully remediated the issue.

It has been determined that the header line leading to well 5H000091 is clogged. Despite multiple attempts to clear the obstruction, VLI has been unable to resolve the issue.

Therefore, VLI is requesting an alternative timeline to remediate extraction well 5H000091 and proposes to have the well connected to a different header by June 3, 2025.

A Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule for well 5H000091 are included as Attachment 1. VLI is requesting ODEQ approval under the compliance provisions of Title 40 of the Code of Federal Regulations (CFR) 62.16720(a)(3)(iii) and 63.1960(a)(3)(i)(C) regarding the pressure exceedance.

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret J Davis

Bret Davis
General Manager

Attachment 1 Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule

cc: Paul Koster, Valley Landfills, Inc. *(via email)*
Melissa Green, Weaver Consultants Group *(via email)*

ATTACHMENT 1

ROOT CAUSE ANALYSIS, CORRECTIVE ACTION ANALYSIS, & IMPLEMENTATION SCHEDULE FOR EXTRACTION WELL 5H000091

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5H000091

Date of Initial Exceedance:	12/19/2024	Initial Pressure Reading:	0.00
Date Exceedance was corrected		Corrected Pressure Reading:	

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Clogged header. Worked several times to remove obstruction and unable to repair.		
Corrective Action: Describe actions taken to correct the exceedance.		
Will try and tie into another header line to allow to function properly.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☐ Yes	☒ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Corrective Action Analysis and Implementation Schedule

Complete this form for **each** well if pressure exceedance is **more than 60 days**.

Collection Device ID:	5H000091

Date of Initial Exceedance:	12/19/2024	Initial Pressure Reading:	0.00
Date of Completion/exceedance corrected:		Corrected Pressure Reading:	

Corrective Action Analysis:
Describe Corrective Actions already taken:
Clogged header. Worked several times to remove obstruction and unable to repair.
Describe Additional actions needed and Implementation Schedule:
Will remote well to another header to ensure proper function of the well.

Implementation Schedule	
Expected Start Date:	3/3/2025
Expected Completion Date:	6/3/2025

Final Steps	
Determine the required next steps.	
Is the remediation expected to take **less than 120 days** since initial exceedance per implementation schedule?	☐ Yes ☒ No

- If YES, send notification to state agency and/or EPA within 75 days of initial exceedance. Include Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule in the next Report.
- If NO, send Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule to state agency within 75 days for approval and include in next Report.

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5V000082

Date of Initial Exceedance:	2/28/2025	Initial Pressure Reading:	22.57
Date Exceedance was corrected	3/27/2025	Corrected Pressure Reading:	-22.35

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Watered in Header.		
Corrective Action: Describe actions taken to correct the exceedance.		
Dug out header to expose and drain line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

Complete this form for **each** well if pressure exceedance is **more than 15 days**.

Collection Device ID:	5CV418

Date of Initial Exceedance:	4/17/2025	Initial Pressure Reading:	4.04
Date Exceedance was corrected	5/9/2025	Corrected Pressure Reading:	-1.39

Root Cause Analysis		
Was the reason for the positive pressure due to one of the following:		
A fire or increased well temperature.	☐ Yes	☒ No
Use of a geomembrane or synthetic cover.	☐ Yes	☒ No
A decommissioned well.	☐ Yes	☒ No
• If YES to **ANY** of the above, **STOP**, exempt as per 40 CFR §63.1958(b) & 40 CFR 62.16716(b) OR 40 CFR §60.763(b). • If NO to **ALL** of the above, continue the form.		
Root Cause: Describe what was inspected/what is the cause of the exceedance		
Newly installed well, bringing on-line.		
Corrective Action: Describe actions taken to correct the exceedance.		
Brought the new well on-line.		
Was the positive pressure remediated within 60 days since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

APPENDIX D

CONTROL DEVICE DOWNTIME LOG/TREATMENT SYSTEM DOWNTIME LOG

CONTROL DEVICE DOWNTIME LOG – ENCLOSED FLARE

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
2/6/2025 14:34	2/6/2025 14:46	0:12:00	PCL shutdown flare
2/6/2025 15:04	2/6/2025 15:12	0:08:00	PCL shutdown flare
2/6/2025 15:20	2/6/2025 16:00	0:40:00	PCL shutdown flare
2/6/2025 16:48	2/6/2025 17:18	0:30:00	PCL shutdown flare
2/6/2025 17:28	2/6/2025 17:40	0:12:00	PCL shutdown flare
2/6/2025 17:48	2/6/2025 18:14	0:26:00	PCL shutdown flare
2/6/2025 18:22	2/6/2025 18:38	0:16:00	PCL shutdown flare
2/6/2025 19:02	2/6/2025 19:10	0:08:00	PCL shutdown flare
2/6/2025 21:50	2/6/2025 22:04	0:14:00	PCL shutdown flare
2/6/2025 22:06	2/6/2025 22:48	0:42:00	PCL shutdown flare
2/6/2025 23:18	2/6/2025 23:28	0:10:00	PCL shutdown flare
2/6/2025 23:38	2/6/2025 23:54	0:16:00	PCL shutdown flare
2/7/2025 0:16	2/7/2025 0:28	0:12:00	PCL shutdown flare
2/7/2025 8:14	2/7/2025 8:42	0:28:00	PCL shutdown flare
2/7/2025 12:14	2/7/2025 12:22	0:08:00	PCL shutdown flare
2/7/2025 13:10	2/7/2025 13:16	0:06:00	PCL shutdown flare
2/7/2025 15:04	2/7/2025 15:08	0:04:00	PCL shutdown flare
2/7/2025 15:22	2/7/2025 15:26	0:04:00	PCL shutdown flare
2/7/2025 15:40	2/7/2025 15:46	0:06:00	PCL shutdown flare
2/7/2025 16:30	2/8/2025 8:14	15:44:00	PCL shutdown flare
2/8/2025 8:18	2/11/2025 10:56	74:38:00	PCL shutdown flare
2/11/2025 12:16	2/12/2025 15:36	27:20:00	PCL shutdown flare
2/12/2025 17:20	2/14/2025 14:04	44:44:00	PCL shutdown flare
2/14/2025 14:12	2/14/2025 14:20	0:08:00	PCL shutdown flare
2/14/2025 14:30	2/14/2025 14:40	0:10:00	PCL shutdown flare
2/14/2025 14:44	2/15/2025 8:56	18:12:00	PCL shutdown flare
2/15/2025 9:02	2/15/2025 9:12	0:10:00	PCL shutdown flare
2/15/2025 9:18	2/15/2025 9:22	0:04:00	PCL shutdown flare
2/15/2025 9:28	2/15/2025 9:36	0:08:00	PCL shutdown flare
2/15/2025 9:40	2/15/2025 9:44	0:04:00	PCL shutdown flare
2/15/2025 9:48	2/15/2025 9:56	0:08:00	PCL shutdown flare
2/15/2025 11:46	2/15/2025 12:16	0:30:05	PCL shutdown flare
2/15/2025 12:46	2/15/2025 13:15	0:28:48	PCL shutdown flare
2/15/2025 15:53	2/15/2025 16:34	0:40:51	PCL shutdown flare
2/20/2025 12:45	2/20/2025 14:15	1:30:14	PCL shutdown flare
2/20/2025 16:35	2/20/2025 16:45	0:10:02	PCL shutdown flare
2/20/2025 16:55	2/20/2025 17:05	0:10:02	PCL shutdown flare
2/20/2025 17:15	2/20/2025 17:25	0:10:02	PCL shutdown flare
2/21/2025 11:48	2/21/2025 12:23	0:34:48	PCL shutdown flare
2/22/2025 15:22	2/22/2025 18:27	3:04:39	PCL shutdown flare
3/5/2025 4:41	3/5/2025 5:41	1:00:00	Flare shutdown due to louver tuning error
3/5/2025 13:00	3/5/2025 15:15	2:15:00	Flare shutdown due to louver tuning error
3/5/2025 15:16	3/5/2025 15:37	0:21:00	Flare shutdown due to louver tuning error

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
3/5/2025 15:44	3/5/2025 15:45	0:01:00	Flare shutdown due to louver tuning error
3/5/2025 15:46	3/5/2025 15:47	0:01:00	Flare shutdown due to louver tuning error
3/5/2025 15:48	3/5/2025 16:00	0:12:00	Flare shutdown due to louver tuning error
3/5/2025 16:03	3/5/2025 16:04	0:01:00	Flare shutdown due to louver tuning error
3/5/2025 16:05	3/5/2025 16:08	0:03:00	Flare shutdown due to louver tuning error
3/5/2025 16:10	3/5/2025 16:13	0:03:00	Flare shutdown due to louver tuning error
3/5/2025 16:15	3/5/2025 16:26	0:11:00	Flare shutdown due to louver tuning error
3/5/2025 16:30	3/5/2025 16:33	0:03:00	Flare shutdown due to louver tuning error
3/5/2025 16:35	3/6/2025 10:24	17:49:00	Flare shutdown due to louver tuning error
3/6/2025 10:28	3/6/2025 10:34	0:06:00	Flare shutdown due to louver tuning error
3/6/2025 11:47	3/6/2025 11:51	0:04:00	Flare shutdown due to louver tuning error
3/6/2025 11:53	3/6/2025 11:57	0:04:00	Flare shutdown due to louver tuning error
3/6/2025 11:59	3/6/2025 12:02	0:03:00	Flare shutdown due to louver tuning error
3/6/2025 12:04	3/6/2025 12:08	0:04:00	Flare shutdown due to louver tuning error
3/6/2025 12:10	3/6/2025 12:13	0:03:00	Flare shutdown due to louver tuning error
3/6/2025 14:02	3/6/2025 14:43	0:41:00	Flare shutdown due to louver tuning error
3/6/2025 19:01	3/6/2025 19:13	0:12:00	Flare shutdown due to liquid in gas header
3/6/2025 19:15	3/6/2025 19:19	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 19:21	3/6/2025 19:25	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 19:27	3/6/2025 19:31	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 19:33	3/6/2025 19:37	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 20:53	3/6/2025 21:15	0:22:00	Flare shutdown due to liquid in gas header
3/6/2025 21:16	3/6/2025 21:17	0:01:00	Flare shutdown due to liquid in gas header
3/6/2025 21:19	3/6/2025 21:23	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 21:25	3/6/2025 21:29	0:04:00	Flare shutdown due to liquid in gas header
3/6/2025 21:32	3/6/2025 21:36	0:04:00	Flare shutdown due to liquid in gas header
3/7/2025 7:59	3/7/2025 8:00	0:01:00	Flare shutdown due to liquid in gas header
3/7/2025 8:06	3/7/2025 8:20	0:14:00	Flare shutdown due to liquid in gas header
3/7/2025 8:22	3/7/2025 8:27	0:05:00	Flare shutdown due to liquid in gas header
3/7/2025 8:29	3/7/2025 8:33	0:04:00	Flare shutdown due to liquid in gas header
3/7/2025 8:35	3/7/2025 8:39	0:04:00	Flare shutdown due to liquid in gas header
3/7/2025 8:42	3/7/2025 8:46	0:04:00	Flare shutdown due to liquid in gas header
3/10/2025 11:24	3/10/2025 11:35	0:11:00	Flare shutdown due to louver tuning error
3/10/2025 11:39	3/10/2025 11:55	0:16:00	Flare shutdown due to louver tuning error
3/12/2025 18:08	3/12/2025 18:22	0:14:00	Flare shutdown due to louver tuning error
3/12/2025 18:23	3/12/2025 19:00	0:37:00	Flare shutdown due to louver tuning error
3/12/2025 19:24	3/12/2025 19:54	0:30:00	Flare shutdown due to louver tuning error
3/12/2025 19:56	3/12/2025 20:00	0:04:00	Flare shutdown due to louver tuning error
3/12/2025 20:03	3/12/2025 20:06	0:03:00	Flare shutdown due to louver tuning error
3/15/2025 16:44	3/15/2025 18:03	1:19:00	Flare shutdown due to louver tuning error
3/15/2025 18:12	3/15/2025 18:20	0:08:00	Flare shutdown due to louver tuning error
3/15/2025 18:23	3/15/2025 19:04	0:41:00	Flare shutdown due to louver tuning error
3/15/2025 22:50	3/15/2025 23:24	0:34:00	Flare shutdown due to louver tuning error

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
3/15/2025 23:29	3/15/2025 23:33	0:04:00	Flare shutdown due to louver tuning error
3/15/2025 23:35	3/15/2025 23:40	0:05:00	Flare shutdown due to louver tuning error
3/15/2025 23:43	3/15/2025 23:47	0:04:00	Flare shutdown due to louver tuning error
3/15/2025 23:48	3/17/2025 11:12	35:24:00	Flare shutdown due to liquid in gas header
3/17/2025 11:17	3/17/2025 11:18	0:01:00	Flare shutdown due to low flow
3/26/2025 11:42	3/26/2025 16:56	5:14:00	PLC shutdown flare
3/26/2025 16:58	3/26/2025 17:04	0:06:00	Flare shutdown due to liquid in gas header
4/2/2025 8:09	4/2/2025 8:46	0:37:00	Flare shutdown due to louver tuning error
4/2/2025 8:50	4/2/2025 8:55	0:05:00	Flare shutdown due to louver tuning error
4/6/2025 2:53	4/6/2025 2:58	0:05:00	Flare shutdown due to louver tuning error
4/6/2025 2:59	4/6/2025 3:03	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:05	4/6/2025 3:09	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:11	4/6/2025 3:15	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:17	4/6/2025 3:21	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:23	4/6/2025 3:26	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 3:29	4/6/2025 3:32	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 3:35	4/6/2025 3:38	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 3:40	4/6/2025 3:44	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:46	4/6/2025 3:50	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 3:53	4/6/2025 3:56	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 3:59	4/6/2025 4:02	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:05	4/6/2025 4:09	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 4:11	4/6/2025 4:14	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:17	4/6/2025 4:20	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:23	4/6/2025 4:26	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:29	4/6/2025 4:32	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:36	4/6/2025 4:40	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 4:43	4/6/2025 4:46	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 4:49	4/6/2025 4:53	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 4:55	4/6/2025 4:59	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 5:01	4/6/2025 5:05	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 5:08	4/6/2025 5:11	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 5:14	4/6/2025 5:17	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 5:22	4/6/2025 5:25	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 5:29	4/6/2025 5:33	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 5:36	4/6/2025 5:39	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 5:42	4/6/2025 5:46	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 5:49	4/6/2025 5:53	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 5:56	4/6/2025 5:59	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 6:03	4/6/2025 6:07	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 6:09	4/6/2025 6:14	0:05:00	Flare shutdown due to louver tuning error
4/6/2025 6:15	4/6/2025 6:16	0:01:00	Flare shutdown due to louver tuning error
4/6/2025 6:18	4/6/2025 6:21	0:03:00	Flare shutdown due to louver tuning error

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
4/6/2025 6:25	4/6/2025 6:32	0:07:00	Flare shutdown due to louver tuning error
4/6/2025 6:36	4/6/2025 6:40	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 6:43	4/6/2025 6:47	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 6:50	4/6/2025 6:53	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 6:56	4/6/2025 7:00	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 7:03	4/6/2025 7:06	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 7:10	4/6/2025 7:13	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 7:16	4/6/2025 7:21	0:05:00	Flare shutdown due to louver tuning error
4/6/2025 7:23	4/6/2025 7:27	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 7:30	4/6/2025 7:33	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 7:36	4/6/2025 7:40	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 7:43	4/6/2025 7:47	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 7:50	4/6/2025 7:53	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 7:56	4/6/2025 8:00	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:03	4/6/2025 8:07	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:10	4/6/2025 8:13	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 8:17	4/6/2025 8:21	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:24	4/6/2025 8:28	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:31	4/6/2025 8:35	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:38	4/6/2025 8:42	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 8:45	4/6/2025 8:48	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 8:52	4/6/2025 8:55	0:03:00	Flare shutdown due to louver tuning error
4/6/2025 8:58	4/6/2025 9:02	0:04:00	Flare shutdown due to louver tuning error
4/6/2025 9:06	4/6/2025 9:11	0:05:00	Flare shutdown due to louver tuning error
4/6/2025 9:12	4/7/2025 10:55	25:43:00	Flare shutdown due to louver tuning error
4/7/2025 10:57	4/7/2025 11:17	0:20:00	Flare shutdown due to louver tuning error
4/7/2025 11:19	4/7/2025 11:22	0:03:00	Flare shutdown due to louver tuning error
4/7/2025 11:23	4/7/2025 11:40	0:17:00	Flare shutdown due to louver tuning error
4/7/2025 11:41	4/7/2025 11:43	0:02:00	Flare shutdown due to louver tuning error
4/7/2025 11:44	4/7/2025 12:21	0:37:00	Flare shutdown due to louver tuning error
4/7/2025 12:28	4/7/2025 12:36	0:08:00	Flare shutdown due to louver tuning error
4/7/2025 12:44	4/7/2025 12:58	0:14:00	Flare shutdown due to louver tuning error
4/7/2025 12:59	4/7/2025 13:01	0:02:00	Flare shutdown due to louver tuning error
4/7/2025 13:09	4/7/2025 13:20	0:11:00	Flare shutdown due to louver tuning error
4/7/2025 13:23	4/7/2025 13:27	0:04:00	Flare shutdown due to louver tuning error
4/7/2025 13:31	4/7/2025 13:40	0:09:00	Flare shutdown due to louver tuning error
4/7/2025 13:42	4/7/2025 13:43	0:01:00	Flare shutdown due to louver tuning error
4/7/2025 13:50	4/7/2025 14:29	0:39:00	Flare shutdown due to louver tuning error
4/7/2025 14:42	4/7/2025 14:46	0:04:00	Flare shutdown due to louver tuning error
4/7/2025 14:47	4/7/2025 14:53	0:06:00	Flare shutdown due to louver tuning error
4/7/2025 14:58	4/7/2025 15:01	0:03:00	Flare shutdown due to louver tuning error
4/7/2025 15:05	4/7/2025 15:08	0:03:00	Flare shutdown due to louver tuning error
4/7/2025 15:14	4/7/2025 15:18	0:04:00	Flare shutdown due to louver tuning error

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
4/7/2025 15:21	4/7/2025 15:25	0:04:00	Flare shutdown due to louver tuning error
4/7/2025 15:28	4/7/2025 15:32	0:04:00	Flare shutdown due to louver tuning error
4/7/2025 15:35	4/7/2025 15:39	0:04:00	Flare shutdown due to louver tuning error
4/9/2025 8:25	4/9/2025 8:31	0:06:00	Flare shutdown due to louver tuning error
4/9/2025 8:41	4/9/2025 14:12	5:31:00	Flare shutdown due to louver tuning error
4/10/2025 12:15	4/10/2025 14:03	1:48:04	Flare shutdown due to louver tuning error
4/14/2025 8:56	4/14/2025 9:33	0:37:00	Flare shutdown to re-program louvers
4/14/2025 9:35	4/14/2025 10:06	0:31:00	Flare shutdown to re-program louvers
4/14/2025 10:07	4/14/2025 10:15	0:08:00	Flare shutdown to re-program louvers
4/14/2025 10:17	4/14/2025 10:20	0:03:00	Flare shutdown to re-program louvers
4/14/2025 10:22	4/14/2025 10:25	0:03:00	Flare shutdown to re-program louvers
4/14/2025 10:43	4/14/2025 10:48	0:05:00	Flare shutdown to re-program louvers
4/14/2025 11:16	4/14/2025 11:36	0:20:00	Flare shutdown to re-program louvers
4/14/2025 13:25	4/14/2025 13:33	0:08:00	Flare shutdown to re-program louvers
4/14/2025 14:16	4/14/2025 14:23	0:07:00	Flare shutdown to re-program louvers
4/15/2025 7:43	4/15/2025 8:04	0:21:00	Flare shutdown to re-program louvers
4/15/2025 8:56	4/15/2025 9:39	0:43:00	Flare shutdown to re-program louvers
4/15/2025 9:40	4/15/2025 9:44	0:04:00	Flare shutdown to re-program louvers
4/15/2025 10:14	4/15/2025 10:25	0:11:00	Flare shutdown to re-program louvers
4/15/2025 10:39	4/15/2025 10:41	0:02:00	Flare shutdown to re-program louvers
4/15/2025 10:42	4/15/2025 10:46	0:04:00	Flare shutdown to re-program louvers
4/15/2025 10:48	4/15/2025 10:50	0:02:00	Flare shutdown to re-program louvers
4/15/2025 11:09	4/15/2025 11:26	0:17:00	Flare shutdown to re-program louvers
4/15/2025 11:28	4/15/2025 11:36	0:08:00	Flare shutdown to re-program louvers
4/15/2025 11:37	4/15/2025 11:48	0:11:00	Flare shutdown to re-program louvers
4/15/2025 11:51	4/15/2025 11:53	0:02:00	Flare shutdown to re-program louvers
4/15/2025 12:02	4/15/2025 12:08	0:06:00	Flare shutdown to re-program louvers
4/15/2025 12:52	4/15/2025 13:01	0:09:00	Flare shutdown to re-program louvers
4/15/2025 13:17	4/15/2025 13:21	0:04:00	Flare shutdown to re-program louvers
4/24/2025 8:03	4/24/2025 8:10	0:07:00	Flare shutdown due to high flow
4/24/2025 12:23	4/24/2025 12:26	0:03:00	Flare shutdown due to high flow
4/24/2025 13:39	4/24/2025 14:05	0:26:00	Flare shutdown due to liquid in gas header
4/29/2025 7:12	4/29/2025 7:35	0:23:00	Flare shutdown to do low flow
5/6/2025 8:00	5/6/2025 8:16	0:16:00	Flare shutdown to do low flow
5/7/2025 9:31	5/7/2025 9:45	0:14:00	Flare shutdown for routine maintenance
5/7/2025 9:46	5/7/2025 9:50	0:04:00	Flare shutdown for routine maintenance
5/12/2025 15:49	5/12/2025 15:58	0:09:00	Flare shutdown due to surging
5/20/2025 8:49	5/20/2025 8:57	0:08:00	Flare shutdown due to surging
5/21/2025 8:23	5/21/2025 8:30	0:07:00	Flare shutdown due to surging
5/21/2025 17:17	5/21/2025 17:25	0:08:00	Flare shutdown due to surging
5/21/2025 17:32	5/21/2025 18:10	0:38:00	Flare shutdown due to surging
5/21/2025 18:14	5/21/2025 18:36	0:22:00	Flare shutdown due to surging
5/21/2025 18:39	5/21/2025 18:43	0:04:00	Flare shutdown due to surging

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
5/21/2025 18:50	5/21/2025 18:53	0:03:00	Flare shutdown due to surging
5/22/2025 8:32	5/22/2025 9:41	1:09:00	Flare shutdown due to low flow
5/22/2025 9:44	5/22/2025 9:47	0:03:00	Flare shutdown due to low flow
5/22/2025 10:03	5/22/2025 10:06	0:03:00	Flare shutdown due to low flow
5/24/2025 9:32	5/24/2025 10:21	0:49:00	Flare shutdown due to low flow
5/24/2025 10:35	5/24/2025 10:56	0:21:00	Flare shutdown due to low flow
6/7/2025 22:04	6/7/2025 22:47	0:43:00	Flare shutdown due to low flow
6/7/2025 23:20	6/7/2025 23:49	0:29:00	Flare shutdown due to low flow
6/8/2025 3:19	6/8/2025 3:23	0:04:00	Flare shutdown due to low flow
6/8/2025 3:24	6/8/2025 3:36	0:12:00	Flare shutdown due to low flow
6/8/2025 3:37	6/8/2025 3:49	0:12:00	Flare shutdown due to low flow
6/8/2025 3:50	6/8/2025 3:53	0:03:00	Flare shutdown due to low flow
6/8/2025 3:55	6/8/2025 3:58	0:03:00	Flare shutdown due to low flow
6/8/2025 3:59	6/8/2025 4:09	0:10:00	Flare shutdown due to low flow
6/8/2025 4:11	6/8/2025 4:14	0:03:00	Flare shutdown due to low flow
6/8/2025 4:15	6/8/2025 10:50	6:35:00	Flare shutdown due to low flow
6/8/2025 11:20	6/8/2025 11:48	0:28:00	Flare shutdown due to low flow
6/8/2025 11:54	6/8/2025 11:58	0:04:00	Flare shutdown due to low flow
6/8/2025 11:59	6/8/2025 12:13	0:14:00	Flare shutdown due to low flow
6/8/2025 12:14	6/8/2025 12:18	0:04:00	Flare shutdown due to low flow
6/8/2025 12:19	6/9/2025 12:47	24:28:00	Flare shutdown for re-programming
6/9/2025 12:54	6/9/2025 12:57	0:03:00	Flare shutdown to re-program
6/9/2025 14:05	6/9/2025 14:17	0:12:00	Flare shutdown to re-program
6/9/2025 14:22	6/9/2025 14:37	0:15:00	Flare shutdown to re-program
6/9/2025 16:44	6/9/2025 16:52	0:08:00	Flare shutdown to re-program
6/9/2025 17:10	6/9/2025 17:13	0:03:00	Flare shutdown to re-program
6/9/2025 17:22	6/9/2025 17:26	0:04:00	Flare shutdown to re-program
6/9/2025 17:27	6/9/2025 17:30	0:03:00	Flare shutdown to re-program
6/9/2025 17:31	6/9/2025 17:34	0:03:00	Flare shutdown to re-program
6/11/2025 7:15	6/11/2025 7:17	0:02:00	Flare shutdown for saftey shutdown test
6/11/2025 7:30	6/11/2025 7:33	0:03:00	Flare shutdown for saftey shutdown test
6/11/2025 7:43	6/11/2025 7:46	0:03:00	Flare shutdown for saftey shutdown test
6/12/2025 11:16	6/12/2025 11:20	0:04:00	Flare shutdown for saftey shutdown test
6/12/2025 11:22	6/12/2025 11:51	0:29:00	Flare shutdown for saftey shutdown test
6/12/2025 21:28	6/12/2025 22:09	0:41:00	Flare shutdown due to blower failure
6/12/2025 22:57	6/12/2025 23:36	0:39:00	Flare shutdown due to blower failure
6/13/2025 2:54	6/13/2025 2:58	0:04:00	Flare shutdown due to blower failure
6/13/2025 4:02	6/13/2025 4:06	0:04:00	Flare shutdown due to blower failure
6/13/2025 4:08	6/13/2025 4:11	0:03:00	Flare shutdown due to blower failure
6/13/2025 4:13	6/13/2025 4:17	0:04:00	Flare shutdown due to blower failure
6/13/2025 4:19	6/13/2025 4:21	0:02:00	Flare shutdown due to blower failure
6/13/2025 4:23	6/13/2025 4:27	0:04:00	Flare shutdown due to blower failure
6/13/2025 4:29	6/13/2025 4:31	0:02:00	Flare shutdown due to blower failure

Coffin Butte Landfill
Control Device Downtime - Enclosed Flare
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Description
6/13/2025 11:15	6/13/2025 11:26	0:11:00	Flare shutdown due to blower failure
6/13/2025 11:30	6/13/2025 11:32	0:02:00	Flare shutdown due to blower failure
6/13/2025 11:34	6/13/2025 11:37	0:03:00	Flare shutdown due to blower failure
6/15/2025 8:50	6/15/2025 9:29	0:39:00	Flare due shutdown due to low flow
6/15/2025 14:01	6/15/2025 14:41	0:40:00	Flare due shutdown due to low flow
6/15/2025 15:19	6/15/2025 15:25	0:06:00	Flare due shutdown due to low flow
6/16/2025 6:01	6/16/2025 6:41	0:40:00	Flare due shutdown due to low flow
6/17/2025 8:48	6/17/2025 8:52	0:04:00	Flare shutdown due to surging
6/18/2025 7:14	6/18/2025 7:19	0:05:00	Flare shutdown due to surging
6/18/2025 7:21	6/18/2025 7:24	0:03:00	Flare shutdown due to surging
6/18/2025 7:26	6/18/2025 7:29	0:03:00	Flare shutdown due to surging
6/18/2025 18:41	6/18/2025 19:10	0:29:00	Flare shutdown due to surging
6/18/2025 21:38	6/18/2025 21:43	0:05:00	Flare shutdown due to surging
6/18/2025 21:45	6/18/2025 21:48	0:03:00	Flare shutdown due to surging
6/18/2025 21:50	6/18/2025 21:54	0:04:00	Flare shutdown due to surging
6/18/2025 21:56	6/18/2025 21:59	0:03:00	Flare shutdown due to surging
6/21/2025 15:24	6/21/2025 15:28	0:04:00	Flare shutdown due to surging
6/21/2025 15:31	6/21/2025 15:38	0:07:00	Flare shutdown due to surging
6/21/2025 15:53	6/21/2025 15:59	0:06:00	Flare shutdown due to surging
6/24/2025 6:27	6/24/2025 6:38	0:11:00	Flare shutdown due to surging
6/24/2025 6:41	6/24/2025 6:46	0:05:00	Flare shutdown due to surging
6/24/2025 9:10	6/24/2025 12:12	3:02:00	Flare shutdown due to surging
6/26/2025 4:59	6/26/2025 6:43	1:44:00	Flare shutdown due to surging
6/26/2025 7:29	6/26/2025 7:41	0:12:00	Flare shutdown due to surging

TREATMENT SYSTEM DOWNTIME LOG – PNGC

Coffin Butte Landfill
Treatment System Downtime Log
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm:ss)	Comments
1/15/2025 8:00	1/15/2025 9:15	1:15:00	Replaced knockout filter
2/8/2025 6:00	2/8/2025 7:45	1:45:00	Sump cleaning/wellfield problem
2/11/2025 8:45	2/11/2025 11:30	2:45:00	Sump cleaning/bad transformer
2/12/2025 8:45	2/12/2025 10:30	1:45:00	Sump cleaning
2/15/2025 8:00	2/15/2025 9:15	1:15:00	Sump cleaning
2/20/2025 13:30	2/20/2025 14:15	0:45:00	Sump cleaning
2/22/2025 17:00	2/22/2025 18:30	1:30:00	Sump cleaning
3/6/2025 9:30	3/6/2025 11:15	1:45:00	Sump cleaning
3/26/2025 14:45	3/26/2025 17:00	2:15:00	Sump cleaning
4/2/2025 8:00	4/2/2025 8:45	0:45:00	Sump cleaning
5/21/2025 18:00	5/21/2025 18:30	0:30:00	Sump cleaning
5/22/2025 8:45	5/22/2025 9:30	0:45:00	Sump cleaning
5/24/2025 15:15	5/24/2025 15:30	0:15:00	Utility outage
6/8/2025 9:30	6/8/2025 10:45	1:15:00	Sump cleaning
6/9/2025 9:00	6/9/2025 14:00	5:00:00	Sump cleaning
6/24/2025 11:15	6/24/2025 12:30	1:15:00	Sump cleaning

APPENDIX E

COLLECTION SYSTEM DOWNTIME LOG

Coffin Butte Landfill
Collection System Downtime
Reporting Period: January 1, 2025 to June 30, 2025

Shutdown Date/Time	Startup Date/Time	Duration (h:mm)	Description
2/8/2025 6:00	2/8/2025 7:45	1:45:00	Sump cleaning
2/11/2025 8:45	2/11/2025 10:56	2:11:00	Sump cleaning
2/15/2025 9:02	2/15/2025 9:12	0:10:00	Sump cleaning
2/20/2025 13:30	2/20/2025 14:15	0:45:00	Sump cleaning
2/22/2025 17:00	2/22/2025 18:27	1:27:00	Sump cleaning
3/6/2025 9:30	3/6/2025 10:24	0:54:00	Sump cleaning
3/6/2025 10:28	3/6/2025 10:34	0:06:00	Sump cleaning
3/26/2025 14:45	3/26/2025 16:56	2:11:00	Sump cleaning
3/26/2025 16:58	3/26/2025 17:00	0:02:00	Sump cleaning
4/2/2025 8:09	4/2/2025 8:45	0:36:00	Sump cleaning
5/21/2025 18:00	5/21/2025 18:10	0:10:00	Sump cleaning
5/21/2025 18:14	5/21/2025 18:30	0:16:00	Sump cleaning
5/22/2025 8:45	5/22/2025 9:30	0:45:00	Sump cleaning
6/8/2025 9:30	6/8/2025 10:45	1:15:00	Sump cleaning
6/9/2025 9:00	6/9/2025 12:47	3:47:00	Sump cleaning
6/9/2025 12:54	6/9/2025 12:57	0:03:00	Sump cleaning
6/24/2025 11:15	6/24/2025 12:12	0:57:00	Sump cleaning

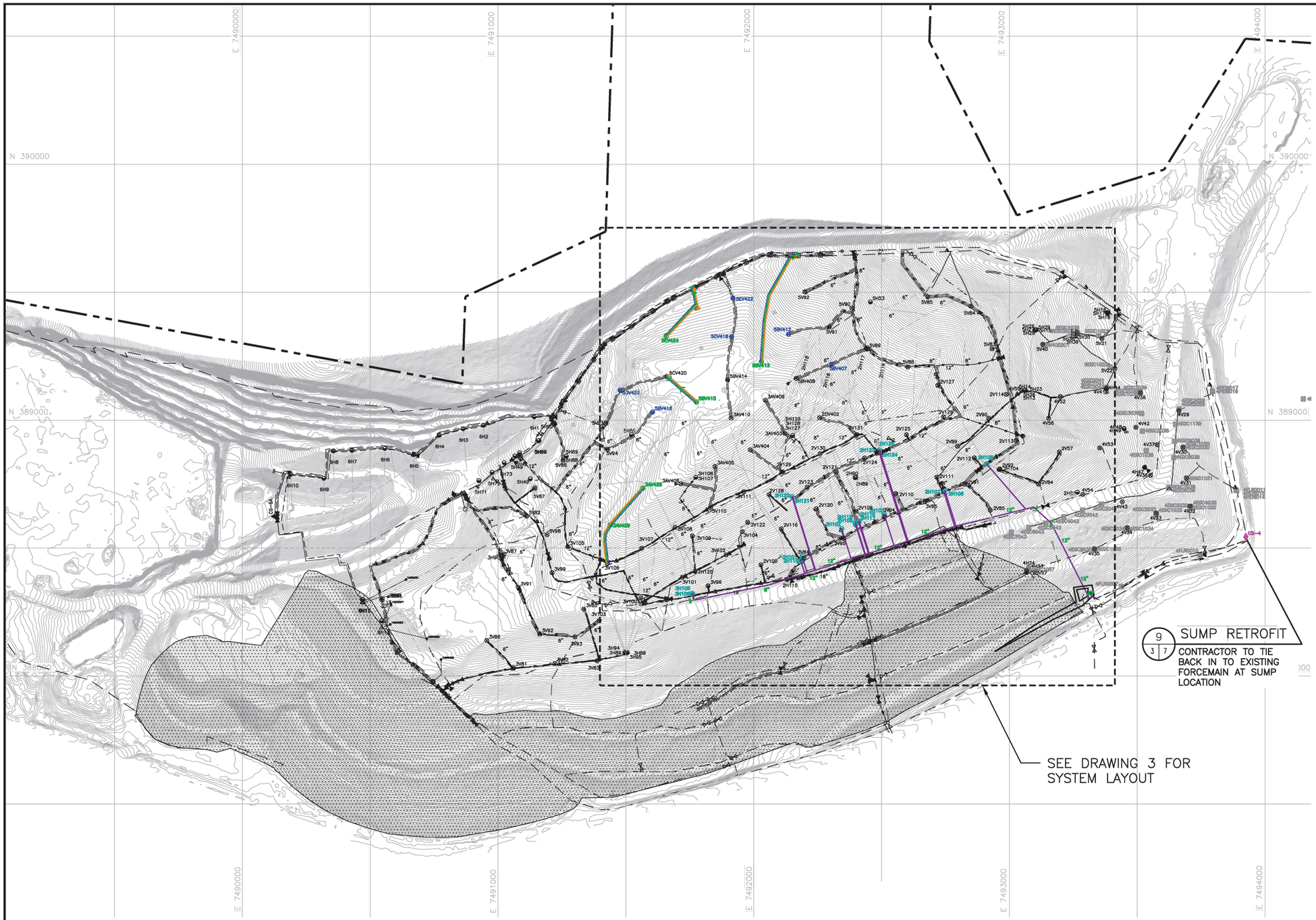
APPENDIX F

GCCS EXPANSION/CURRENT SITE GCCS LAYOUT

Coffin Butte Landfill
GCCS Expansion
Reporting Period: January 1, 2025 to June 30, 2025

New Extraction Wells

New Well ID	Date Installed
2D0V0402 (Alternatively documented as 2DV402)	4/2/2025
2H000127 (Alternatively documented as 3H127)	3/27/2025
2H000128 Alternatively dcoumented as 3H128)	3/27/2025
3A0V0403 (Alternatively documented as 3AV403)	3/26/2025
3A0V0404 (Alternatively documented as 3AV404)	3/26/2025
3A0V0405 (Alternatively documented as 3AV405)	3/25/2025
3A0V0406 (Alternatively documented as 3AV406)	3/25/2025
3A0V0409 (Alternatively documented as 3AV409)	3/24/2025
3A0V0410 (Alternatively documented as 3AV410)	3/25/2025
3H000110 (Alternatively documented as 3H110)	3/27/2025
5B0V0407 (Alternatively documented as 5BV407)	4/4/2025
5B0V0412 (Alternatively documented as 5BV412)	4/3/2025
5B0V0414 (Alternatively documented as 5BV414)	3/24/2025
5B0V0416 (Alternatively documented as 5BV416)	3/27/2025
5BV408 (Alternatively documented as 3A0V0408)	3/26/2025
5C0V0418 (Alternatively documented as 5CV418)	4/2/2025
5C0V0420 (Alternatively documented as 5CV420)	3/27/2025
5D0V0426 (Alternatively documented as 5DV426)	4/1/2025
5E0V0422 (Alternatively documented as 5EV422)	4/4/2025
6H000011 (Alternatively documented as 6H11)	4/16/2025
6H000012 (Alternatively dcoumented as 6H12)	4/16/2025
6H000013 (Alternatively documented as 6H13)	4/16/2025



N

0 200 400

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- LIMITS OF WASTE
- N 389500 — LOCAL COORDINATE SYSTEM
- 500 — EXISTING CONTOUR
- EXISTING CLOSURE AREA
- 5V85 — EXISTING LFG EXTRACTION WELL
- 5V92 — EXISTING LFG EXTRACTION WELL (WITH PUMP INSTALLED)
- EXISTING LFG COLLECTION PIPING
- 3H128 — EXISTING HORIZONTAL LFG COLLECTOR
- EXISTING CONDENSATE SUMP
- EXISTING LFG ISOLATION VALVE
- EXISTING ROAD CROSSING
- EXISTING FORCEMAIN CLEANOUT RISER
- EXISTING LCR CONNECTION
- EXISTING HEADER ACCESS RISER
- EXISTING BLIND FLANGE
- EXISTING AIR SUPPLY LINE
- EXISTING CONDENSATE FORCEMAIN
- EXISTING AIR/FORCEMAIN VALVE
- PROPOSED DRAIN LINE PIPING
- 3H128 — PROPOSED HORIZONTAL LFG COLLECTOR
- PROPOSED CONDENSATE SUMP
- PROPOSED ISOLATION VALVE
- PROPOSED ROAD CROSSING
- PROPOSED BLIND FLANGE
- 5BV407 — EXISTING LFG EXTRACTION WELL (TO RECEIVE PUMP)
- EXISTING CONDENSATE SUMP (RETROFIT/TO RECEIVE PUMP)
- 5CV417 — PROPSOED LFG EXTRACTION WELL
- PROPOSED LFG COLLECTION PIPING
- PROPOSED AIR SUPPLY LINE
- PROPOSED CONDENSATE FORCEMAIN
- PROPOSED AIR/FORCEMAIN VALVE
- PROPOSED HDPE CAP

NOTE:

1. GCCS COMPONENTS SHOWN IN GRAY REPRESENT APPROXIMATE LOCATIONS AND WERE EXTRACTED FROM EXISTING SITE PLAN PROVIDED BY OTHERS.

- [ ] DRAFT
- [ ] FOR BIDDING PURPOSES ONLY
- [x] ISSUED FOR CONSTRUCTION

DATE: 06/2025
FILE: 0120-174-53-05-00
CAD: 2-SITE PLAN.DWG

DRAWN BY: VRS
DESIGN BY: CGM
REVIEWED BY: CGM

Weaver Consultants Group

PREPARED FOR
VALLEY LANDFILLS, INC.

REVISIONS		
NO.	DATE	DESCRIPTION

2025 LFG SYSTEM UPGRADES SITE PLAN

COFFIN BUTTE LANDFILL
CORVALLIS, OREGON

WWW.WCGRP.COM

DRAWING 2

P:\LFG\Projects\Allied-BFI\Coffin Butte\2025 GCCS Design\Phase 2\CONST DWGS 08-2025\2-SITE PLAN.dwg, isolis, 1:2

REPUBLIC SERVICES

28972 Coffin Butte Rd Corvallis, OR 97330
o 541.745.5792 f 541.230.5534 republicservices.com

October 21, 2025

Ms. Suzy Luttrell
Oregon Department of Environmental Quality
Air Quality Division
4026 Fairview Industrial Drive
Salem, OR 97302

Re: Monthly Title V Report – September 2025
Coffin Butte Landfill
Title V Operating Permit No. 02-9502
Project No. 0120-174-76-18-09

Dear Ms. Luttrell:

Please find the attached monthly Title V report for September 2025 for Coffin Butte Landfill, in accordance with Title V Operating Permit No. 02-9502, Condition 37.

Statement of certification:

"I have reviewed this report and all supporting documentation in their entirety and to the best of my knowledge, information, and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate, and complete."

If you have any questions, please do not hesitate to contact Paul Koster or myself at 541.745.5792.

Sincerely,
Valley Landfills, Inc.

Bret Davis
General Manager

Attachments

cc: Melissa Green, Weaver Consultants Group *(via email)*
Paul Koster, Valley Landfills, Inc. *(via email)*

PERMIT CONDITION 37a:

COVER INTEGRITY MONITORING REPORT, RESULTS, AND REPAIR

PC37a
MONTHLY COVER INTEGRITY INSPECTION
COFFIN BUTTE LANDFILL

Inspection Date	Cover Integrity Problems Found During Inspection/ Corrective Action Completed	Initials
9/30/2025	No issues found during inspection	BK

PERMIT CONDITION 37b:

RESULTS OF THE QUARTERLY SURFACE EMISSIONS MONITORING

Third quarter surface emissions were conducted in August 2025. Waiting for the report from the third-party contractor.

PERMIT CONDITION 37c:

OTHER INFORMATION REGARDING UPSETS, MAINTENANCE, AND OPERATIONAL PROBLEMS

Maintenance
PNGC IC Engines

Engine #	Normal Maintenance	Down Time (hrs)
1	Engine service	26.0
2	Engine service	2.0
3	Engine service	2.0
4	Engine service	11.0
5	Engine service	3.0

Repairs/Operational Problems
PNGC IC Engines

Engine #	Repairs/Operational Problems	Down Time (hrs)
1	Blower fault, utility outage, flare testing	11.0
2	Gas skid VFD fault, utility outage, flare testing detonation	41.0
3	High exhaust temp, utility bumped offline, utility outage, flare testing, replaced #13 thermocouple	16.0
4	Cylinder #17 low temp, gas skid VFD work, utility outage, bad thermocouple, flare testing	9.0
5	Utility outage, flare testing, #15 cylinder low temp, breaker tripped	15.0

Operational Problems
VLI Flare

Flare	Operational Problems	Down Time (hrs)
ENCLOSEDFL	No operational problems	N/A

Coffin Butte Resource Project- September 25

Engine Hours of Operation

Engine Downtimes

Unit # 1

Date	Total Hours	On-line Hours	Date	Time	Event
September-25	254,977	683	9/2/25	26.00	#1 Service and Blower Fault
			9/20/25	1.00	Utility Outage
			9/25/25	10.00	Flare Testing
		Total Hours Off-line		**37.00**	

Unit # 2

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
September-25	253,041	677	9/1/25	29.00	Gas Skid VFD Fault
			9/19/25	2.00	Service
			9/20/25	1.00	Utility Outage
			9/25/25	10.00	Flare Testing
			9/30/25	1.00	Detonation
		Total Hours Off-line		**43.00**	

Unit #3

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
September-25	252,244	702	9/3/25	2.00	Service
			9/3/25	1.00	High Exhaust Temp
			9/6/25	1.00	Utility Bumped Offline
			9/20/25	2.00	Utility Outage
			9/25/25	10.00	Flare Testing
			9/27/25	1.00	Replaced #13 Thermocouple
			9/29/25	1.00	High Exhaust Temp
		Total Hours Off-line		**18.00**	

Unit # 4

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
September-25	151,102	700	9/4/25	1.00	Cylinder #17 Low Temp
			9/4/25	3.00	Gas Skid VFD Work
			9/5/25	1.00	Cylinder #17 Low Temp
			9/12/25	1.00	Cylinder #17 Low Temp
			9/13/25	1.00	Cylinder #17 Low Temp
			9/20/25	1.00	Utility Outage
			9/23/25	1.00	Bad Thermocouple
			9/25/25	11.00	Flare Testing plus service
		Total Hours Off-line		**20.00**	

Unit # 5

Date	Total Hours	On-line Hours	Date	Scheduled Time	Event
September-25	150,953	702	9/4/25	3.00	Service
			9/20/25	2.00	Utility Outage
			9/25/25	10.00	Flare Testing
			9/25/25	1.00	#15 Cylinder Low Temp
			9/25/25	1.00	#15 Cylinder Low Temp
			9/17/25	1.00	Breaker tripped
		Total Hours Off-line		**18.00**	

Note:	**Sep-25**	720

PERMIT CONDITION 37d:

INSTALLATION OF NEW WELLS OR EXPANSION OF THE GAS SYSTEM

New Wells

Well ID	Date Installed
No new wells installed	

Decommissioned Wells

Well ID	Date Decommissioned
No wells decommissioned	

PERMIT CONDITION 37e:

AMOUNT OF LANDFILL GAS COLLECTED AND TREATED

Amount of Landfill Gas Collected and Treated

Combustion Device	Total Gas Collected (cf)
PNGC IC Engines	79,228,308
ENCLOSEDFL	64,340,715

PERMIT CONDITION 37f:

TOTAL OPERATING HOURS OF THE IC ENGINES AND FLARES

Total Operating Hours
PNGC IC Engines

Engine #	Operating Hours
1	683.0
2	677.0
3	702.0
4	700.0
5	702.2
Total Operating Hours	**3,464.0**

Total Operating Hours
VLI Flares

Flares	Operating Hours
ENCLOSEDFL	715.9

PERMIT CONDITION 37g:

LOG OF AIR QUALITY COMPLAINTS RECEIVED

The site received the following air quality complaints for September 2025:

Date	Time	Reporting Person	Location	Comment
9/4/2025	9:00 AM	Forwarded from DEQ	Ryals Road	had to shut the car windows due to odors
9/24/2025	2:05 PM	David Livesay	7580 NW Mountain View Drive	6, Putrid odor
9/28/2025	5:00 AM	Nancy Yialouris	2717 Quince St NW	10, intense, like chemicals (specifically sulfur and something else) along with rotting waste

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 6TH AVENUE
SEATTLE, WASHINGTON 98101

DATE:	See date of Section Chief signature
SUBJECT:	CLEAN AIR ACT INSPECTION REPORT Republic Services Coffin Butte Landfill, Corvallis, OR
FROM:	Daniel Heins, Environmental Scientist Air Toxics Enforcement Section, EPA Region 10
THRU:	Derrick Terada, Acting Section Chief Air Toxics Enforcement Section, EPA Region 10
TO:	File

BASIC INFORMATION

Facility Name: Republic Services Coffin Butte Landfill

Facility Location: 28972 Coffin Butte Road, Corvallis, OR 97330

Date of Inspection: On Site Inspection: June 23, 2022
Virtual Conference: July 11, 2022

EPA Inspector(s):

1. Daniel Heins, Environmental Scientist [a,b]

Other Attendees:

1. Ian MacNab, Environmental Manager – Republic Services [a,c]
2. Phil Caruso, Environmental Specialist – Republic Services [a,b]
3. Brock Kienholz, Operations Manager – Republic Services [c]
4. Nikki Wuestenberg, Operations Support (Nationwide) – Republic Services [a]
5. Melissa Green, Environmental Consultant – Weaver Consultants [a]
6. Yuki Puram, Air Inspector & Permit Engineer – Oregon Department of Environmental Quality [a,b]

[a] Attended virtual conference
[b] Present for all of on-site, including SEM
[c] Present during on site conferences but not during SEM

Contact Email Address: imacnab@republicservices.com

Facility Type: Muncipal solid waste (MSW) landfill

Purpose of Inspection: Surface emissions monitoring (SEM) and evaluating compliance with landfill air rules.

Regulations Central to Inspection: 40 C.F.R. Part 60, Subpart WWW; Oregon State Plan for 40 C.F.R. Part 60, Subpart Cf; 40 C.F.R. Part 63, Subpart AAAA

On Site (6/23) Arrival Time: 09:00
On Site (6/23) Departure Time: 17:50
Virtual Conference (7/11) Start Time: 13:00
Virtual Conference (7/11) End Time: 15:00

Inspection Type:
☐ Unannounced Inspection
☒ Announced Inspection

SITE OVERVIEW

The following information was obtained verbally from Republic Services representatives, including their consultants, during the virtual conference, unless otherwise stated.

Operations Overview:
The Coffin Butte Landfill (the "Landfill") is owned and operated by Republic Services ("Republic"). Republic acquired the Landfill in 2008. Republic representatives were uncertain of exactly how old the Landfill is, stating that they believed it began as a military dump site in the 1940s. Daniel Heins confirmed this via information online from DEQ, which stated that landfilling began in the 1940s in association with Camp Adair. The areas that predate the Resource Conservation and Recovery Act of 1976 (RCRA) have a clay foundation. Some historic waste that predates the 1970s has been re-located from these unlined sections to the post-RCRA lined areas to facilitate construction of future lined cells in those areas.

The Landfill is permitted for 178 acres and has a permitted capacity of 35,514,471 according to the Landfill's 2020 Part 98 Greenhouse Gas Report. The Facility receives approximately 3,500 to 4,500 tons per day of waste. Wastes received include MSW, petroleum contaminated soils, construction and demolition (C&D) waste, C&D material recovery facility (MRF) residuals, and other industrial wastes. Based on current waste acceptance rate, the Landfill has approximately 20 years left under its current permit. Republic has room to expand the site on its property beyond the current permitted footprint.

Final cover on the Landfill is compacted soils with a synthetic membrane, with penetrations booted and plastic welded. Interim cover is at least 24 inches of soils. Much of the interim cover area is covered in tarps or, in areas without work planned for a few years, a thicker layer of EPDM. In both cases, this is with the primarily goal of reducing water infiltration into the

Landfill. Daily cover is 6 inches of soil or approved alternative daily cover (ADC). Republic uses C&D MRF shaker fines, MSW incinerator ash, and tarps as ADC at the Landfill.

Leachate flows by gravity to sumps and is pumped to covered storage ponds. Leachate collected varies by year based on the weather but typically is around 25 to 30 million gallons. Condensate is routed to the leachate system. Leachate is trucked to local publicly owned treatment works (POTWs). No leachate is recirculated, and no liquid wastes are added to the Landfill.

The gas collection and control system (GCCS) contains over 300 landfill gas (LFG) collection points, including horizontal wells, vertical wells, and parts of the leachate system with gas collection. Collected landfill gas partially routed to a separately owned/operated gas to energy plant run by PNGC Power. The energy plant has five Caterpillar gas engines – three 3516s and two 3520s. Excess gas not routed to the energy plant is controlled via flares at the Landfill. The landfill has two open flares, with capacities of 1000 standard cubic feet per minute (scfm) and 2000 scfm. Recently the Landfill has been collecting 2600 scfm for the full site, with 1600 scfm going to the energy plant and 1000 scfm to the flares.

SITE TOUR — JUNE 23, 2022

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☐ Provided Small Business Resource Information Sheet
☒ Small Business Resource Information Sheet not provided. Reason: Not a small business
☒ Provided CBI warning to facility

Data Collected and Observations:
Daniel Heins arrived on site and met with the site staff for introductions and a brief site orientation/safety briefing at the Landfill's office. During this meeting, Ian MacNab stated that while there was a Method 21 instrument available and that Phil Caruso is their monitoring technician, that he would not take the opportunity to check EPA readings / provide confirmation readings, as a matter of Republic Services corporate policy. Daniel Heins explained that facilities typically prefer to check and confirm EPA readings and he gave advance notice to provide Republic the opportunity to confirm his TVA readings. Ian MacNab re-iterated that as a corporate policy that they would not provide confirmation readings.

After that brief meeting, Daniel Heins began the SEM. Phil Caruso accompanied EPA for the Surface Emission Monitoring (SEM). EPA showed all readings to Phil Caruso for visual confirmation of the readings and instructed him to state if he had any concerns with EPA's monitoring methods at any point. EPA used a ThermoFisher Toxic Vapor Analyzer 2020 (TVA) to perform EPA Reference Method 21 for the SEM.

In the morning (9:50 - 12:45), Daniel Heins conducted the monitoring with the TVA, covering a loop on the western portion of the Landfill. In the afternoon (13:30 - 17:15), he continued monitoring with the TVA, covering a loop on the eastern portion of the Landfill. Over the course of the day, Daniel Heins identified 61 points in exceedance of 500 parts per million (ppm), exhausting his supply of marking flags. Of these, 21 flagged exceedances were above 10,000

ppm. Many flagged exceedances represented clusters of exceedances at multiple points or broad areas of exceedances. Of the flagged exceedances, 26 were at or partially at gas collection wells (including both active and abandoned or decommissioned). Eight exceedances were at leachate cleanouts. Daniel Heins focused monitoring on areas under intermediate cover, though the first six exceedances were in final cover areas. During the afternoon monitoring, Daniel Heins measured multiple exceedances that continued to be above 500 ppm multiple feet in the air, with multiple feet lateral distance from the emission source, indicating substantial landfill gas plumes (flag #26, 46, and 51).

Flag #51 was by a broad area where the tarp was visibly inflated with gas. The tarp was not moving in the wind, it looked to be being pushed out steadily over a wide area towards the top of the south slope on the central area of the landfill, being held down by straps, cover anchors, and sandbags. Neither Daniel Heins nor Phil Caruso could identify any place where the wind could be lifting under the tarps, as the tarp edges were sandbagged and staked down. Daniel Heins measured a concentration of 2% at flag #51 before pulling away to avoid maxing out his instrument. He measured the methane concentration to be 2000 ppm at 3' in the air at this location, indicating a plume of gas coming out from the inflated tarp area. Along the top of this section of tarp, from flag #52 to #54, every post or tarp hole Daniel Heins monitored exceeded the surface methane standard, with readings of up to 7% shown before the instrument maxed out.

Phil Caruso did not dispute any of the readings, though noted that he would not have checked many of the exceedance locations, that he would have spent less time monitoring, or that he would have considered a higher location to be "the ground" when placing his probe 5 to 10 centimeters (cm) above the ground per the SEM regulations.

At an exceedance (flag #1) with a hole in the ground from an animal burrow, Phil Caruso stated that he would have considered the "ground" to be where the ground would have been if an animal didn't dig a hole into it at that location, rather than the ground at the base of the hole, and thus measured from a significantly higher location than Daniel Heins. At an exceedance (flag #2) between overlapped tarp material, with one piece of tarp raised above the other with a gap of air in between, Phil Caruso stated that he would have monitored with his probe above the upper tarp, rather than measuring the 5 to 10 cm from the tarp against the ground.

When Daniel Heins was monitoring a cluster of decommissioned wells with a patch of distressed soil (flag #3), Phil Caruso stated that he would have moved on after not directly getting above 500 ppm within twice his instrument response time even if there was an increase in reading, rather than moving around the penetration points slowly to find maximum reading point and then waiting twice the response time at this maximum reading location.

When Daniel Heins was monitoring at leachate cleanouts, Phil Caruso stated that he does not monitor at these and that they are not fully penetrating the cover. Daniel Heins responded that it was likely that many of these ultimately did penetrate the cover, especially in areas of thinner intermediate cover, and that regardless he recommended checking these as they were proving to be repeated sources of extremely elevated emissions, many over an order of magnitude above the surface methane standard. Phil Caruso stated that he was not required to monitor these. Daniel Heins and Phil Caruso had a similar discussion at the valve box dug into the cover with a reading

of 4% methane (flag #37), with Phil Caruso stating that this was not a penetration and thus he did not have to monitor this.

When Daniel Heins was monitoring at a horizontal penetration of the cover associated with a well (flag #16), Phil Caruso stated that he would not have monitored this as a penetration.

Phil Caruso stated that he would not have monitored the Cell 5 leachate riser that Daniel Heins measured multiple exceedances at, as it was outside of the waste mass.

Photos and/or Videos: were taken during the inspection. See Appendix A.
Field Measurements: were taken during this inspection. See Appendix B.

INSPECTION CONFERENCE — JULY 11, 2022

☒ Provided U.S. EPA point of contact to the facility
☒ Provided CBI warning to facility

Staff Interview:
The Landfill is subject to the Oregon State Plan implementing the Part 60 Subpart Cf Emission Guidelines, having previously been subject to Part 60 Subpart WWW. The Landfill is also subject to Part 63, Subpart AAAA, and has opted-in to demonstrating compliance with the Oregon State Plan through the Subpart AAAA requirements where allowed.

Republic stated that they were unsure if they were excluding non-degradable waste from their maximum gas generation rate calculations in their Design Plan or any other gas modeling runs they have done to size their GCCS. Republic stated that as the operations personnel were not present, they were unable to speak to what types of industrial wastes are received in any further detail. The Landfill does not accept refrigerants. The Landfill receives asbestos. It packages asbestos waste and deposits it in a dedicated asbestos mono-fill that is the only area excluded from the GCCS.

Leachate system components are connected for LFG collection on a case-by-case basis per recommendations of the engineer(s) involved in designing the GCCS.

Republic is aware of a one-off test of the sulfur content of the LFG requested by DEQ and stated that it read at non-detectable levels.

The Landfill has an alternative monitoring plan (AMP) approved by DEQ dating to when the Landfill operated under Subpart WWW. The AMP has allowances for positive pressure, temperatures above 145 degrees Fahrenheit, and elevated oxygen readings. No wells currently are above 145 degrees Fahrenheit. Republic does make use of the positive pressure allowances for wells with high oxygen levels.

Republic stated that they do not consistently check water levels in wells but has done so in the past. All new (at least since 10 years ago) wells are constructed with dewatering pumps, as a best

practice for a landfill in a wet climate. Republic does not typically add pumps to old wells. As wells are typically constructed with steel casings at the Landfill, redrills are rarely needed.

The Landfill has gas migration probes placed outside the area without synthetic liner but has typically seen readings at gas non-detect levels.

For cover integrity monitoring, Republic stated that they look for holes and cracks in the soils and wind damage on the tarps, but that there was no set answer for what degree of tarp damage would necessitate repair.

For surface emissions monitoring, Republic only excludes active filling areas and other areas with active heavy equipment as "dangerous." When Daniel Heins noted that the drawn paths in the submitted SEM reports went straight through the drawn "dangerous areas," Republic stated that the paths on the maps are general and do not reflect the actual walked paths. Republic monitors penetration points during its serpentine path. Phil Caruso stated that in addition to penetrations, he would go off the serpentine path if he saw distressed vegetation or cracks in the cover, and that those were the only examples of places where visual observations indicate elevated concentrations of landfill gas that he considered. Republic was unable to speak to the what the historic SEM exceedance rate had been in past surveys.

Daniel Heins asked if the GCCS was operational on the day of the SEM inspection or if there was anything different from standard operations that could have impacted the results of the monitoring. Republic stated that nothing was operating differently than normal, with all wells in operation and collection running. Republic did note that construction above exceedance flags #48 through 58 would have impacted the cover in the construction area.

Daniel Heins asked if Republic viewed the inflated tarps as a concern or something to acted on. Republic disputed that the tarps were inflated with landfill gas, claiming that the wind has blown them up. Daniel Heins noted the extremely elevated methane concentrations detected by the inflated tarps and that the tarps appeared to be in a static inflated state without any steady wind or apparent way for the wind to lift the tarps.

Republic noted that construction of additional gas collection on the top of the Landfill is in progress and will be completed this summer.

Requested documents:
The following documents were requested and supplied ahead of the inspection:

- Two most recent semi-annual NSPS reports
- Results of any cover integrity reports and quarterly SEM monitoring events that have been occurred since the most recent semi-annual
- GCCS map
- Map of cover by type in place (final vs intermediate vs daily cover)

The following documents were requested during the conference and confirmed via subsequent email:

- Constructed acres and acreages by cover type
- Past 5 years of flare monitoring data
- Flare/blower design specs and any performance tests on file for it
- Past year of migration probe data and a map of the probe locations
- Current GCCS Design Plan, along with any versions that have been active in the past 5 years and them most recent LandGEM run used for GCCS sizing (if not in the Design Plan)
- A map of the GCCS showing extent of any horizontal collectors if these are utilized to demonstrate a sufficient density of gas collection
- Landfill cell map and year of first waste placement for each cell
- 2021 Part 98 Greenhouse Gas Report
- Annual waste deposited tonnages by type from 2016 to present
    - Include a list of the primary sources of industrial wastes and a description for any special wastes listed
    - Outline of what wastes (if any) are classified as non-degradable for LandGEM maximum expected gas generation (Design Plan) along with the basis for this classification
    - Outline of what wastes are classified as "inert" for Part 98 reporting along with the basis for this classification
- Rest of the past 5 years of Annual/Semi-Annual Reports
    - Include all NSPS/NESHAP/EG reports, SSM reports, and air permit reports as applicable
    - If the full SEM reports are not included in the above, please include those for the past 5 years
    - Include the most recent SEM reports, or at least as much of it as has been completed by the end of July, even if they are not a part of any final semi-annual
- Any versions of the SSM plan that have been in place in the past 5 years
- Past 5 years of wellhead parameter monitoring
- Past 5 years of gas flow to the energy plant
- Any H2S or sulfur gas testing results from the past 5 years, or most recent if not within the past 5 years
- Map of wells being added this summer since the inspection
- The Alternative Monitoring Plan and approval letter
- Identification of which wells have dewatering pumps
- General description of final cover construction

Concerns:
Daniel Heins expressed potential concerns with Republic's SEM/Method 21 procedures. Despite Republic having seen no more than 6 exceedances in the recent SEM reports supplied ahead of the inspection that included penetration monitoring, including reports with 0 exceedances, he identified 61 points in exceedance of 500 ppm, including 21 points above 10,000 ppm, with 26 exceedances at gas collection wells that Republic should have specifically been monitoring on a quarterly basis since the Oregon State Plan became effective in November 2020.

Daniel Heins expressed concerns with the areas of tarp that were inflated with and leaking out landfill gas, as detected during the SEM, noting that in additions to compliance concerns with the surface methane standard that such an accumulation of flammable gas creates a potential safety concern.

DIGITAL SIGNATURES

_____
Daniel Heins, Report Author

_____
Derrick Terada, Acting Section Chief

APPENDICES AND ATTACHMENTS

Appendix A: Digital Image Log
Appendix B: Field Measurement

APPENDIX A: DIGITAL IMAGE LOG

Inspector Name: Daniel Heins
Archival Record Location: US EPA SharePoint

2022-06-23 Images

Image #	File Name	Time (PDT)	Flag #	Description
1	20220623_100838.jpg	10:08:38	1	Animal burrow by cleanout
2	20220623_101327.jpg	10:13:27	2	Overlapping tarps
3	20220623_101816.jpg	10:18:16	3	Discolored soil/distressed vegetation by INE9, multiple decommissioned wells
4	20220623_102219.jpg	10:22:19	3	Discolored soil/distressed vegetation by INE9, multiple decommissioned wells
5	20220623_102231.jpg	10:22:31	3	Discolored soil/distressed vegetation by INE9, multiple decommissioned wells
6	20220623_102717.jpg	10:27:17	4	Cleanout
7	20220623_103235.jpg	10:32:35	5	Decommissioned well and surrounding wells by RE8 manifold
8	20220623_103515.jpg	10:35:15	5	Decommissioned well and surrounding wells by RE8 manifold
9	20220623_104050.jpg	10:40:50	6	Decommissioned PVC well (W9?)
10	20220623_105243.jpg	10:52:43	7	Hole in liner
11	20220623_110338.jpg	11:03:38	8	cleanout with gap in liner
12	20220623_111123.jpg	11:11:23	9	Unmarked well with gap in liner and gap between well and dirt, plus nearby holes
13	20220623_111129.jpg	11:11:29	9	Close up on gap on liner and in dirt
14	20220623_111216.jpg	11:12:16	9	Hole in liner near unmarked well
15	20220623_111452.jpg	11:14:52	10	Liner tear and adjacent hole
16	20220623_112408.jpg	11:24:08	11	3V91 Manifold, both at tarp edge and at multiple penetrations
17	20220623_113216.jpg	11:32:16	12	Hole in liner
18	20220623_113733.jpg	11:37:33	13	3V92 wells with tarp gap
19	20220623_114521.jpg	11:45:21	14	3B0V0351 bad liner seal at base
20	20220623_115250.jpg	11:52:50	15	Decommissioned well with tarp tear/gap
21	20220623_115912.jpg	11:59:12	16	3H94 where horizontal intersects tarp
22	20220623_120314.jpg	12:03:14	16	3H94 penetration cluster
23	20220623_120746.jpg	12:07:46	17	Cleanout by unknown well out of liner
24	20220623_121307.jpg	12:13:07	18	Liner that had been pulled back from unknown well by chopped off pipe segment on ground
25	20220623_122009.jpg	12:20:09	19	Unknown well at liner seam

2022-06-23 Images, continued

Image #	File Name	Time (PDT)	Flag #	Description
26	20220623_122332.jpg	12:23:32	20	Riser with bad liner seal
27	20220623_123220.jpg	12:32:20	21	Well 3COV3 with liner gap
28	20220623_140422.jpg	14:04:22	22	Cell 5 leachate riser complex
29	20220623_140538.jpg	14:05:38	22	Cell 5 leachate riser complex
30	20220623_140921.jpg	14:09:21	22	Cell 5 leachate riser complex - pipe connector
31	20220623_140924.jpg	14:09:24	22	Cell 5 leachate riser complex - pipe connector
32	20220623_140927.jpg	14:09:27	22	Cell 5 leachate riser complex
33	20220623_141045.jpg	14:10:45	22	Cell 5 leachate riser complex
34	20220623_142020.jpg	14:20:20	23	Well 5V40 in liner
35	20220623_143317.jpg	14:33:17	24	Tarp anchor
36	20220623_143735.jpg	14:37:35	25	Tarp anchor
37	20220623_144405.jpg	14:44:05	26	4B55 well cluster
38	20220623_144407.jpg	14:44:07	26	Mystery pipe with improvised cap with folded plastic wrap
39	20220623_144923.jpg	14:49:23	27	2V114 at base in dirt
40	20220623_145332.jpg	14:53:32	28	Hole near edge of liner, and in neighboring hole
41	20220623_145705.jpg	14:57:05	29	Tarp edge
42	20220623_150256.jpg	15:02:56	30	Tarp hole and neighboring holes
43	20220623_150616.jpg	15:06:16	31	Hole at tarp anchor
44	20220623_150954.jpg	15:09:54	32	Abandoned well
45	20220623_150957.jpg	15:09:57	32	Liner hole near abandoned well
46	20220623_151520.jpg	15:15:20	33	4V53 - well surrounded by sandbags in lined area
47	20220623_151822.jpg	15:18:22	34	Anchor and nearby liner hole
48	20220623_154015.jpg	15:40:15	35	Cleanout coming out of dirt
49	20220623_154916.jpg	15:49:16	36	Vertical cleanout in dirt
50	20220623_155053.jpg	15:50:53	37	Circular valve box
51	20220623_155522.jpg	15:55:22	38	Hole in liner
52	20220623_160008.jpg	16:00:08	39	Cleanout / hole in liner
53	20220623_160336.jpg	16:03:36	40	Tarp hole and neighboring holes
54	20220623_160711.jpg	16:07:11	41	PH2101, 2H101 - whole cluster of wells (some tarp gaps)
55	20220623_160900.jpg	16:09:00	41	PH2101, 2H101 - whole cluster of wells (some tarp gaps)
56	20220623_161111.jpg	16:11:11	42	3AV68 and nearby hole in liner
57	20220623_161551.jpg	16:15:51	43	2V100 well in tarp area
58	20220623_161847.jpg	16:18:47	44	3V73 well in tarp gap
59	20220623_162101.jpg	16:21:01	45	Tarp stake
60	20220623_162525.jpg	16:25:25	46	Hole in tarp
61	20220623_162743.jpg	16:27:43	47	Tarp edge
62	20220623_163203.jpg	16:32:03	49	tarp edge
63	20220623_163313.jpg	16:33:13	50	2H86 cluster in tarp
64	20220623_163646.jpg	16:36:45	51	Series of tarp tears near inflated tarp area
65	20220623_163710.jpg	16:37:10	-	Tarped slope showing buildup of gas inflating tarps over slope
66	20220623_163718.jpg	16:37:18	-	Tarped slope showing buildup of gas inflating tarps over slope

2022-06-23 Images, continued

Image #	File Name	Time (PDT)	Flag #	Description
67	20220623_163934.jpg	16:39:34	52	Tarp stake
68	20220623_164213.jpg	16:42:13	53	Tarp stake in area of continuously elevated readings
69	20220623_164217.jpg	16:42:17	-	Tarped slope showing buildup of gas inflating tarps over slope
70	20220623_164219.jpg	16:42:19	-	Tarped slope showing buildup of gas inflating tarps over slope
71	20220623_164221.jpg	16:42:21	-	Tarped slope showing buildup of gas inflating tarps over slope
72	20220623_164521.jpg	16:45:21	54	Tarp stake in area of continuously elevated readings
73	20220623_164718.jpg	16:47:18	55	Tarp edge, inflated tarps visible
74	20220623_164914.jpg	16:49:14	56	Broad area of dirt/waste uphill of tarp area
75	20220623_164917.jpg	16:49:17	56	Broad area of dirt/waste uphill of tarp area
76	20220623_165102.jpg	16:51:02	57	2H94 well cluster - all
77	20220623_165319.jpg	16:53:19	58	Tarp edge
78	20220623_165637.jpg	16:56:37	59	3V89 well cluster in dirt
81	20220623_170040.jpg	17:00:40	60	2V113 - well with some tarp wrapped in dirt area
82	20220623_170947.jpg	17:09:47	61	Valve with well at haul road above cell 5

APPENDIX B: FIELD MEASUREMENT DATA

Measured Exceedances

Flag #	Reading	Description	Latitude	Longitude
1	1%	Animal burrow by cleanout	44.69737457	-123.2356198
2	1000 F/O	Overlapping tarps	44.69745665	-123.2357082
3	1000	Discolored soil/distressed vegetation by INE9, multiple exceedances including multiple decommissioned wells	44.69766687	-123.2360485
4	2000	Cleanout	44.69775127	-123.2362152
5	1%	Decommissioned well and surrounding wells by RE8 manifold	44.69786105	-123.236267
6	700	Decommissioned PVC well (W9?)	44.69782839	-123.2365858
7	1500	Hole in liner	44.69865701	-123.2365257
8	1.20%	cleanout with gap in liner	44.69790548	-123.2358232
9	1.20%	Unmarked well with gap in liner weld and gap between well and dirt, plus nearby holes	44.69829911	-123.2354937
10	2.70%	Liner tear and adjacent hole	44.69842096	-123.23558
11	3700	3V91 Manifold, both at tarp edge and at multiple penetrations	44.69885999	-123.2350488
12	2.20%	Hole in liner	44.69830399	-123.2350079
13	5000	3V92 wells with tarp gap	44.69837287	-123.2347328
14	1200	3B0V0351 bad liner seal at base	44.69822886	-123.2340741
15	1200	Decommissioned well with tarp tear/gap	44.69836899	-123.2337448
16	9000	3H94 where horizontal intersects tarp, and multiple penetrations in cluster	44.698248	-123.2334448
17	4700	Cleanout by unknown well out of liner	44.69812972	-123.2337702
18	5500	Liner that had been pulled back from unknown well by chopped off pipe segment on ground	44.69811411	-123.2338379
19	2000	Unknown well at liner seam	44.69804442	-123.2344811
20	8000	Riser with bad liner seal	44.69804447	-123.2345951
21	1220	Well 3COV3 with liner gap	44.69784857	-123.2333245
22	2400	Cell 5 leachate riser complex - multiple risers and at pipe connection	44.70181118	-123.2257475
23	800	Well 5V40 in liner	44.70167582	-123.2273125
24	3000	Tarp anchor	44.70101596	-123.2273626
25	600	Tarp anchor	44.70114084	-123.2274474
26	1%	4B55 at base of cluster as well as top of mystery pipe with improvised cap with folded plastic wrap	44.70115072	-123.2275846
27	4000	2V114 at base in dirt	44.70111214	-123.2278246
28	1% F/O, 3%	Hole near edge of liner, and in neighboring hole	44.70103128	-123.2276965
29	4500	Tarp edge	44.70082423	-123.2275253
30	1%	Tarp hole and neighboring holes	44.70072043	-123.2273274
31	1500	Hole at tarp anchor	44.70068672	-123.227044

Measured Exceedances

Flag #	Reading	Description	Latitude	Longitude
32	3200	At abandoned well and nearby hole in liner	44.70068362	-123.2267606
33	1200	4V53 - well surrounded by sandbags in lined area	44.70057706	-123.2263945
34	1100	Anchor and nearby liner hole	44.7005098	-123.2261782
35	1%	Cleanout coming out of dirt	44.69962827	-123.2287076
36	1200	Vertical cleanout in dirt	44.69926032	-123.2301237
37	4%	Circular valve box	44.69922726	-123.2302603
38	1500	Hole in liner	44.69923732	-123.2303614
39	1200	Cleanout / hole in liner	44.69906809	-123.2308424
40	1600	Tarp hole and neighboring holes	44.69912191	-123.2309496
41	1%	PH2101, 2H101 - whole cluster of wells (some tarp gaps)	44.69926451	-123.230824
42	2%	3AV68 and nearby hole in liner	44.69929347	-123.2310994
43	3% F/O	2V100 well in tarp area	44.69920828	-123.2314229
44	1200	3V73 well in tarp gap	44.69913826	-123.2316593
45	2%	Tarp stake	44.6990841	-123.2318812
46	2%	Hole in tarp	44.69927783	-123.2319267
47	2500	Tarp edge	44.69937083	-123.2319
48	6000	3V74 - whole well cluster	44.69942123	-123.2320147
49	5000	tarp edge	44.69944725	-123.2316747
50	7000	2H86 cluster in tarp	44.69950461	-123.2315035
51	2%	Series of tarp tears near inflated tarp area	44.69964525	-123.2311715
52	2000	Tarp stake	44.69970317	-123.2309795
53	2%	Tarp stake (and every tarp stake between 52 and 53)	44.69985738	-123.2307325
54	7%	Tarp stake (and every tarp stake between 53 and 54)	44.69994174	-123.2304609
55	3%	Tarp edge	44.70001207	-123.2302193
56	800	Broad area of dirt/waste uphill of tarp area	44.70011566	-123.2300539
57	8000	2H94 well cluster - all	44.7001631	-123.2301332
58	2000	Tarp edge	44.70021131	-123.2296507
59	4000	3V89 well cluster in dirt	44.7005688	-123.2284677
60	4000	2V113 - well with some tarp wrapped in dirt area	44.70062987	-123.2276513
61	800	Valve with well at haul road above cell 5	44.70159276	-123.2253808

All readings are given as methane parts per million, except for readings above 10,000 ppm which are given as percent methane. “F/O” refers to instrument flame out, indicating readings above 5% that have exceeded the TVA measurement range.

Calibration and Instrument Information

Daniel Heins used a ThermoFisher Toxic Vapor Analyzer 2020 (TVA2020), designated as TVA A95732. The EPA TVA2020 response time is approximately 4.5 seconds.

	Calibration gas ppm	A95732 ppm
9:15 calibration check	500	500
13:30 drift check	500	464
17:50 drift check	500	462

EPA calibration gases

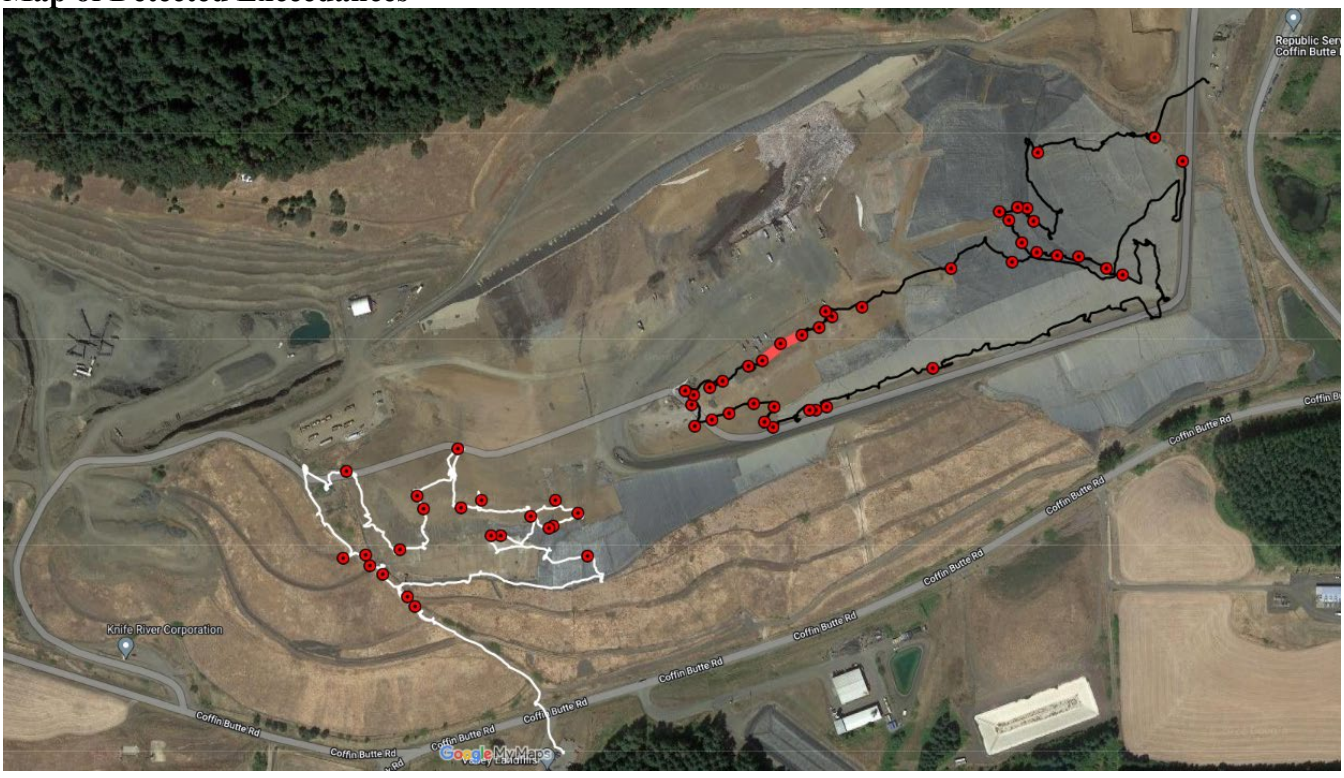
Composition	Lot #	Expiration
Air zero grade THC <1 ppm	DBJ-1-24	March 2023
Methane in air 500 ppm	1-167-64	June 2024

Background readings:

Upwind: 0 ppm

Downwind: 3 ppm

Map of Detected Exceedances



SEM exceedance locations plotted over Google Maps satellite imagery. Approximate monitoring paths included, derived from GPS data. Morning path shown in white, afternoon in black. Line of continuous exceedance at every tarp hole between flags 52 and 54 is highlighted in red.

REGION 10
SEATTLE, WA 98101

Clean Air Act Partial Compliance Evaluation Inspection Report

Valley Landfills Inc. Coffin Butte Landfill

2917 Coffin Butte Rd
Corvallis, Oregon

Inspection Date: June 21, 2024

SARA CONLEY Digitally signed by SARA CONLEY
Date: 2024.08.29 10:24:54 -07'00'

Report Author Signature

Sara Conley
Clean Air Act Inspector
EPA Region 10
Enforcement and Compliance Assurance Division
Air Enforcement Section

Steven Rapp Digitally signed by Steven Rapp
Date: 2024.08.29 14:26:19 -04'00'

Peer Review Signature

Steve Rapp
Environmental Engineer
EPA Office of Enforcement and Compliance Assurance

ELIZABETH WALTERS Digitally signed by ELIZABETH WALTERS
Date: 2024.08.29 14:34:09 -07'00'

Air Enforcement Section (AES) Manager Signature

Elizabeth Walters
Air Enforcement Section Manager
EPA Region 10

Table of Contents

Attachments

I. Basic Facility and Inspection Information

Facility:	Valley Landfills Inc. 2917 Coffin Butte Rd Corvallis, Oregon 97330
Mailing Address:	2917 Coffin Butte Rd Corvallis, OR 97330
AFS/FRS Number:	110004808423
SIC:	4953 Refuse Systems
NAICS:	562212 Solid Waste Landfill
Permit Number:	02-5902-TV-01
Facility Contacts:	Ian Macnab Environmental Manager, Oregon Valley Landfills Inc. ianmacnab@republicservices.com Broc Kienholz Operations Manager Coffin Butte Landfill Republic Services bkienholz@republicservices.com Phil Caruso Environmental Specialist Republic Services pcaruso@republicservices.com
U.S. EPA Inspectors:	Sara Conley Air Enforcement Section (AES) Enforcement and Compliance Assurance Division (ECAD) U.S. EPA Region 10 1200 Sixth Ave. Seattle, WA 98101-3188

	(206) 553-6914 Conley.Sara@epa.gov
	Alyson Skeens Air Enforcement Section (AES) Enforcement and Compliance Assurance Division (ECAD) U.S. EPA Region 10 950 West Bannock Street, Suite #100 Boise, Idaho 83702-5999(208) 378-5748 Skeens.Alyson@epa.gov
	Steve Rapp Air Enforcement Division (AED) Office of Civil Enforcement (OECA) U.S. EPA 1200 Pennsylvania Avenue Washington, DC 20460 (202) 250-8961 Rapp.Steve@epa.gov
ODEQ Representatives:	Becka Puscas Interim Manager, Office of Compliance and Enforcement Oregon Department of Environmental Quality (503) 229-5058 Katie Eagleson – Air Toxics Permitting Engineer Heather Kuoppamaki - Senior Air Quality Engineer Alex Haulman – Air Quality Inspector, Eastern Region Laura McWhorter – Natural Resource Specialist
Date of Inspection:	June 21, 2024
Inspection Start/End Times:	9:45 – 16:30
Inspection Notice:	This was an unannounced inspection. At approximately 9:00am on June 21, 2024 I called Ian Macnab to let him know that we would be arriving at the facility in about 45 minutes.

II. Purpose of Inspection

This was a multi-media Clean Air Act (CAA) compliance inspection by the Environmental Protection Agency (EPA). Inspector Conley, EPA Region 10, led the inspection and was assisted by EPA inspectors Alyson Skeens, EPA Region 10, and Steve Rapp, EPA AED/OECA, (collectively, "the inspectors"). The regulatory state air agency, the Oregon Department of Environmental Quality, was made aware of the inspection beforehand and participated in the inspection.

This was a partial compliance evaluation by the U.S. Environmental Protection Agency Region 10. The purpose was to identify potential compliance concerns with CAA regulations, specifically the National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, 40 CFR Part 63 Subpart AAAA and 40 CFR Part 61 Subpart M—National Emission Standard for Asbestos. The facility operates under a Title V Air Operating Permit (302-9502-TV-01. The facility is also subject to the federally enforceable Oregon State Plan for existing municipal solid waste landfills. The facility is regulated under the Oregon Administrative Rules at Chapter 340, Division 236 (OAR 340-236-0500) entitled "Solid Waste Landfills: Emission Standards for Municipal Solid Waste Landfills."

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection and from a subsequent records review. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

III. Compliance History

EPA's Enforcement and Compliance History Online, ECHO[1], lists four on-site CAA inspections since 2022.

CAA	*PCE On-Site*	*EPA*	*06/21/2024*
CAA	FCE On-Site	State	07/11/2022
CAA	*PCE On-Site*	*State*	*07/07/2022*
CAA	*PCE On-Site Monitoring/Sampling*	*EPA*	*06/23/2022*

[1] See https://echo.epa.gov/

The ECHO database does not list formal or informal enforcement actions in the last three years for the CAA or other statutes.

IV. Pre-Inspection Observations

We went directly to the facility. No observations were made prior to the scheduled inspection.

V. Facility and Process Description

The following facility description is based on information provided by a facility representative in the opening conference as well as documents submitted by the facility to ODEQ.

The Valley Landfills Inc. facility ("the landfill," "the facility," or "Coffin Butte") is located in Benton County Oregon. The landfill began accepting waste in 1978 and has a design capacity of approximately 39.7 tons. In 2021 there were 312 active vertical wells and a landfill gas control capacity equal to 5000 standard cubic feet per minute (scfm). Approximately 110 acres of the landfill have been constructed. The landfill directs landfill gas to an electrical generation plan owned and operated by the Pacific Northwest Generating Cooperative (PNGC). PNGC has a total of five engines capable of combusting 1915 standard cubic feet per minute (scfm). The PNGC facility has two backup flares with a combined capacity of 3,000 scfm.

The landfill uses interim cover consisting of temporary plastic covers. Temporary plastic cover is 12-mil lightweight plastic or 45-mil ethylene propylene diene monomer (EPDM) rubber. The cover material is anchored to the surface of the landfill. Sheet seams are sewn together, taped, or made to overlap with sandbags. Interim soil cover is typically 12 inches thick. Interim soil and plastic cover are placed to control landfill gas prior to final cover placement.

According to the facility, final cover will be installed once areas have settled. The final cover will consist of an under-drainage layer, 24" of soil, geomembrane and a drainage layer.

VI. Entry and Opening Conference

Inspectors Rapp, Skeens and I arrived at 9:40am along with representatives from ODEQ. The opening conference began at 9:45am.

Opening conference attendees included:

ODEQ:

- Becka Puscas
- Katie Eagelston
- Heather Kuoppamaki
- Alex Haulman
- Laura McWhorter

Valley Landfills Inc.

- Ian Macnab
- Broc Kienholz
- Phil Caruso

Inspectors Rapp, Skeens and I presented our credentials to Mr. Macnab. I explained the purpose of the inspection was to evaluate compliance with the Clean Air Act and that we would be primarily focused on conducting surface emission monitoring (SEM). I explained that we had three instruments with us, the two TVA 2020s[2] and an Inficon IRwin SX[3], which can be used to measure surface concentrations of methane. I explained that we would calibrate each instrument following the opening conference. We also notified the facility that we planned to take photos with a digital camera[4] and that we brought a Forward Looking Infrared (FLIR) Camera[5] capable of visually monitoring methane. I explained that all measurements, photos, video, and other information collected during the inspection would be included in the inspection report. I also described the timeline of the inspection and set expectations that we would be asking questions of the facility staff as we conducted the inspection.

I asked about the age of the landfill and about the cells in the landfill that are subject to the gas collection and control and surface emission monitoring (SEM) requirements under the federal CAA regulations for Municipal Solid Waste (MSW) Landfills. The facility representatives explained that the landfill first accepted waste in the 1970s. There is waste older than 5 years in every cell of the landfill. Inspector Rapp asked if there are any areas of the landfill that are currently excluded from gas collection and control. The facility representatives said that long ago there were areas but not now. At this landfill there is a cell of asbestos monofil as well as a small area that has asbestos buried in-place. Most asbestos is in the designated asbestos cell.

Mr. Kienholz explained how waste shipments are accepted at the facility. Trucks with municipal solid waste are weighed at the scale house. Mr. Kienholz stated that the commercial trucks have an account with Republic Services and if they bring in special wastes that information is recorded at the scale house. New waste is placed in active fill areas onsite. There is a new cell under construction at the landfill which will be located near the asbestos cell.

Inspector Skeens asked what the approximate volume of asbestos containing waste (ACW) Coffin Butte received and the customer breakdown between public and commercial. Mr. Macnab stated that Coffin Butte receives approximately 5,000 to 10,000 tons of ACW per year.

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[2] Thermo Fisher Scientific Model TVA 2020, Serial Number 202023127089 and Thermo Fisher Scientific Model TVA 2020, Serial Number 202017092713

[3] Inficon IRwin SX device, using the Elkins Earthworks software, held by EPA OECA/AED, Serial #: 580-01092006439

[4] Olympus Tough TG-6, Serial Number BJ5B27623

[5] FLIR Gx620 1060080

Macnab stated that Coffin Butte does not typically receive ACW from the public and most shipments are from commercial contractors. Mr. Macnab stated that Coffin Butte will see loads coming from Coast from Portland to Eugne up to Willamette. Coffin Butte rarely receives waste from out of state but if they do it would most likely be from Washington.

Inspector Skeens asked if Coffin Butte has turned ACW loads away for discrepancies. Mr. Macnab stated that they have turned loads away before. The load is inspected when dropped off and workers will require bags to be taped if there are rips or tears. Inspector Skeens ask if they could see the asbestos cell during the inspection. Mr. Macnab states that the asbestos cell was downhill from the construction site and advised against going there for safety concerns. Inspector Skeens asked if Coffin Butte had plans to layer over the asbestos cell with MSW. Mr. Macnab stated that there are plans but he was not sure when that would take place.

Inspectors Rapp and I asked about how the facility monitors surface emissions and the landfill gas collection system. The facility representatives explained that their consultant, SCS, provides a SEM route map and performs the SEM monitoring on foot. The facility representatives stated that the most recent surface emissions monitoring was performed a few months ago. The facility representatives do not observe the surface emission monitoring conducted by SCS. According to the facility representatives, if SCS identifies surface emission exceedances, SCS reports the exceedances to Republic Services and Republic Services will make the repairs. Inspector Rapp asked if there are any areas of the landfill that are not monitored for surface emissions. The facility representatives said that they do not monitor dangerous areas such as where there active filling is occurring.

I asked who conducts the well parameter monitoring and the facility told me that PNGC Power monitors the wells. PNGC Power operates the landfill gas to energy facility. I asked about interior well installations and the facility representatives told me that wells will be installed beginning in July. The facility has a combination of vertical and horizontal interior wells installed and the facility representatives explained that the active fill area is managed with horizontal wells. The facility reported that cover integrity monitoring is conducted by in-house staff.

Inspector Rapp asked if the flares were operating that day. The facility representatives indicated that the landfill was producing approximately 1800 scfm of which approximately 1000 scfm was being routed to the engines and the remainder to flares. The inspectors indicated that they would like to visit the flare station later during the facility walkthrough.

I asked the facility for a printed map of the landfill and we discussed where we planned to conduct the monitoring with Mr. Macnab. I explained that we would not be conducting a full surface emission monitoring survey over the entire landfill and that our inspection would be limited to an area before lunch and one after lunch. I decided to start with the area closest to the facility's office for the morning and then to visit the flare station and northeastern area in the afternoon. The opening conference concluded at approximately 10:50. Immediately following the opening conference we calibrated the two TVA 2020s and the Irwin.

VII. Facility Walk-Through

The table of surface emissions exceedances and digital image log is included as Attachment 1 to this report. A map of the Surface Emissions Monitoring (SEM) path walked by Inspector Rapp with the EPA IRwin is included in Attachment 2.

A. Morning SEM on Southwest Face of The Landfill

The walkthrough began at about 11:00. The inspection team was escorted by Mr. Macnab and Mr. Caruso. We began the monitoring with one TVA 2020 operated by inspector Skeens, another TVA 2020 operated by Mr. Haulman of ODEQ, and the EPA IRwin operated by Inspector Rapp.

Mr. Macnab estimated that we were over Cell 3 of the landfill. The lower side of the slope was vegetated, and Mr. Macnab stated that they were in the process of getting the vegetated surface of the landfill mowed. We did not measure any exceedances on the lower-vegetated section of the landfill slope. As we moved up the slope of the landfill we began to walk on the 45-mil ethylene propylene diene monomer (EPDM) rubber covered area. The 45-mil EPDM cover is considered interim cover. Mr. Macnab explained that this area would remain covered with 45-mil EPDM until there was either more waste placed in this cell or the area is placed under final cover. The EPDM material is weighed down with sandbags and straps it is also bolted to the surface in places.

We traversed a section of the southwest side of the landfill moving from one penetration to another and monitoring surface emissions along the way. I noticed that when the wind was blowing from the west there was an odor that smelled like landfill gas. There were a number of exceedances, readings of 500 ppm methane or larger, coming from holes or tears in the cover material. I noted that there were a number of plants growing out of the cover material at the top of the western side of the landfill in the area along the edge of Cell 3 and Cell 5. Some of the plants were between 1.5 to 3 feet tall. We did not monitor at the plant locations because of filling activity immediately uphill from that location. We made our way down the landfill slope and continued to take surface emission measurements with the TVAs and the Irwin. We took a break for lunch at approximately 13:00. The Irwin, operated by Inspector Rapp, detected 31 locations where methane emissions were 500 ppm or greater in this section of the landfill. See Attachment 1.

B. Afternoon SEM at Flare Station

We returned to the facility at 14:30 and performed a calibration bump check on the TVAs and the Irwin which both units passed. See Attachment 3. Mr. Macnab informed us that SCS would be coming the week of June 24th to conduct penetration monitoring. We followed Mr. Macnab in our vehicle to the flare station, the ODEQ representatives joined us for this portion of the afternoon. At the time of our visit, a new enclosed flare was onsite but construction of the flare was not complete and the flare was not operational. I operated the FLIR camera and recorded a

video, FLIR0093, of a leaking flange/blank plate at the flare station. The Irwin measured emissions above 500 ppm at the flange (photo 1734). See Attachment 1. The ODEQ team departed the flare station at approximately 15:00.

C. Afternoon SEM at Eastern Face of The Landfill

We followed Mr. Macnab in our vehicle to a pull-off at the northeastern face of the landfill. There was a noticeable landfill gas odor at the base of the slope. The Irwin measured methane greater than 500ppm at a liquid separation pipe for a horizontal collector. Inspectors Rapp and Skeens monitored surface emissions while we walked up the eastern slope of the landfill. We made our way up the slope walking from one wells or other penetrations to another and monitored surface emissions along the way. We also stopped at areas where visual inspection indicated possible surface emissions such as holes in the cover material. We identified 9 locations with emissions over 500ppm methane along our path. See Attachment 1. The walkthrough ended at approximately 16:00.

D. Asbestos

The inspectors did not observe the asbestos cell due to safety concerns Mr. Macnab expressed during the opening conference.

VIII. Closing Conference

At 16:00, our group returned to the facility conference room to discuss the inspection and conduct the closing conference. I led the closing conference and summarized the parts of the facility we had visited during the inspection and our observations related to CAA. I went through my inspection notes and described potential compliance concerns from the inspection. The following were identified as potential compliance concerns during the closing conference:

1. EPA monitored only a portion of the landfill surface and found numerous methane emissions at 500 ppm and higher, including at holes in the cover material. We identified many of the approximately 40 exceedances at locations where the cover material was damaged. Inspectors had noticed some plants growing out of the cover material near the areas where we monitored for emissions.
2. EPA monitored a flange at the flare station had methane emissions over 500ppm. The facility indicated that they were repairing this flange while we were in the opening conference.
3. One of the wellheads EPA monitored to was open to the atmosphere and the IRwin measured emissions over 500ppm.

Inspector Rapp and I discussed EPA's follow-up from the surface emission monitoring EPA conducted during the inspection. We explained that we would send the locations of the

exceedances and the readings within a week. We explained the 10-day re-monitoring would be due within 10 days following the facility's receipt of the list of exceedances.

I listed the records I needed to further evaluate the facility to Mr. Macnab. I explained that the inspection would not be complete until I have reviewed all the records that the facility submitted, reviewed my notes, and written an inspection report. Inspector Rapp, Skeens, and I thanked the facility representatives for their time and assistance and departed the facility at 16:30.

IX. Post Inspection Activities

A. Records Review

The facility provided a response to our information request on August 16, 2023.

Table 1: Records Review

Records Requested

Electronic copy of a map or maps: • **Including the locations of all wells and an indication of the well type.** • **Indicating the cell outlines on the landfill.** • **Indicating the boundaries of each phase of the landfill.** • **Indicating the most recent planned path for surface emission monitoring, including areas excluded from monitoring.**
Response: The facility provided all of the requested maps in an electronic format.
The most recent two quarters of gas migration/perimeter probe readings.
Response: The facility provided monthly readings from January 2024 through July 2024. The permitter probe readings recorded for the last two quarters were all 0.0% methane.
Electronic copy of the most recent design plan.
Response: The facility provided the requested record.

10 most recent ASM-4 for commercial loads.
Response: The facility provided 10 ASN-4 forms.
Last 6 months of landfill cover monitoring records.
Response: The facility provided records for each month from January 2024 through June 2024.
Last three months of all well readings, including all parameters measured. Please provide in an excel readable file type.
Response: The facility provided the requested data.
Odor complaints received in the last 6 months.
Response: The facility provided records covering December 2023 through June 2024, all months had a complaint about odor.
Electronic copy of the two most recent semi-annual (or annual) reports.
Response: The facility provided the two most recent semi-annual reports. One dated February 13, 2024 covering the reporting period of July 1, 2023 through December 31, 2023 and one dated July 16, 2024 covering the reporting period of January 1, 2024 through June 30, 2024.
2 most recent quarterly surface emission monitoring surveys
Response: Facility provided both of the reports we requested.

B. <u>Surface Emission Monitoring Follow-up</u>

The facility submitted the following documents on August 23, 2024

SEM Repair tracking – listed repairs but not the date of the repair, see Attachment 5.

Second Quarter Emission Monitoring - June 11, 16, 18, 24, 26, and July 6, 16, and 26, 2024, OAR landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the Coffin Butte Landfill.

EPA's surface emissions results, received by the facility on June 26, 2024, indicated that forty-one (41) locations exceeded the 500 ppmv maximum concentration. The required first and second 10-day (Oregon Administrative Rule) follow-up monitoring performed by SCS on July 6, and 16, 2024, indicated that not all locations returned below compliance limits as required, following system adjustments and remediation by site personnel. Based on these monitoring results, and in accordance with the Oregon State Regulations, the site is required to perform a system expansion within 120 days of the third detected exceedance or November 13, 2024.

Attachment 1: EPA Inspection Photo, Video and SEM Log

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A1	6/21/2024 14:11	6/21/2024 11:11	44.69752	-123.233986	4900	1000	P6210151, P6210152	Exceedance at well
--							P6210153	Photo showing the side of the landfill looking east.
--							P6210154	Photo of a well with cover gathered around the base
A2	6/21/2024 14:21	6/21/2024 11:21	44.697938	-123.234216	10011	3%	n/a	
A3	6/21/2024 14:23	6/21/2024 11:23	44.698045	-123.234395	1271	3700	n/a	
A4	6/21/2024 14:29	6/21/2024 11:29	44.698033	-123.234661	1622	1000	P6210155, P6210156	Exceedance measured at base of well
A5	6/21/2024 14:30	6/21/2024 11:30	44.697969	-123.234744	1459	1600	P6210157	Exceedance at opening in cover
							P6210158	Penetration in cover
A6	6/21/2024 14:33	6/21/2024 11:33	44.698005	-123.235072	14097	>1000	P6210159, P6210160, P6210161	Exceedance located at support on left
A7	6/21/2024 14:35	6/21/2024 11:35	44.698088	-123.235163	16501	20000	P6210163	Exceedance at tear in cover
A8	6/21/2024 14:37	6/21/2024 11:37	44.698123	-123.235294	1118	800	P6210164	Exceedance at vegetation growing out of cover
A9	6/21/2024 14:40	6/21/2024 11:40	44.698127	-123.235513	2719	1.30%	P6210165	Exceedance at tear in cover
A10	6/21/2024 14:41	6/21/2024 11:41	44.698197	-123.23546	4762	1.00%	P6210166, P6210167	Exceedance at tear in cover, at worn patch
A11	6/21/2024 14:42	6/21/2024 11:42	44.698206	-123.23543	8350	20000	P6210167	Exceedance at tear in cover at a rock in background of 167

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A12	6/21/2024 14:45:00	6/21/2024 11:45	44.69817	-123.235601	1597	2300	camera battery died	
A13	6/21/2024 14:48	6/21/2024 11:48	44.698197	-123.235671	1839	1000		Exceedance at tear in cover
A14	6/21/2024 14:49	6/21/2024 11:49	44.698184	-123.235675	1182	2000		Exceedance at tear in cover
A15	6/21/2024 14:51	6/21/2024 11:51	44.698257	-123.235666	4253	4255		Exceedance at patched area with new hole in cover
A16	6/21/2024 14:52	6/21/2024 11:52	44.6983	-123.235524	9694	TVA flame out		flame out is generally when > 20000
A17	6/21/2024 14:57	6/21/2024 11:57	44.698489	-123.235238	2967	not taken		Exceedance at tarp hole
A18	6/21/2024 15:00	6/21/2024 12:00	44.698836	-123.235078	2900	2200		Exceedance at wellhead cluster
A19	6/21/2024 15:02	6/21/2024 12:02	44.698871	-123.23504	4436	1300		Exceedance at flange
A20	6/21/2024 15:06	6/21/2024 12:06	44.699096	-123.234886	118265	TVA flame out		The cap is off of this well, exceedance at the top.
A21	6/21/2024 15:09	6/21/2024 12:09	44.699247	-123.235311	51151	13000		
A22	6/21/2024 15:11	6/21/2024 12:11	44.699114	-123.23529	1412	1200		
A23	6/21/2024 15:13	6/21/2024 12:13	44.698985	-123.235414	8110	1100		
A24	6/21/2024 15:18	6/21/2024 12:18	44.698458	-123.234777	7443	1200		Exceedance at penetration
A25	6/21/2024 15:21	6/21/2024 12:21	44.698393	-123.234706	8054	12000		Exceedance at BV92
A26	6/21/2024 15:23	6/21/2024 12:23	44.698392	-123.234575	4502	4600		Exceedance at hole in tarp
A27	6/21/2024 15:25	6/21/2024 12:25	44.698351	-123.234173	12969	1.30%		Exceedance at3V93
A28	6/21/2024 15:28	6/21/2024 12:28	44.698182	-123.23397	4339	2400		Exceedance at hole in tarp, 3V83
A29	6/21/2024 15:31	6/21/2024 12:31	44.698236	-123.233457	55729	>2%		Exceedance at tear at boot where horizontal pipe is coming out of the cover
A30	6/21/2024 15:33	6/21/2024 12:33	44.698186	-123.233425	2368	1800		Exceedance at liquid separation
A31	6/21/2024 15:48	6/21/2024 12:48	44.696522	-123.233878	16740	1.50%		Exceedance at Cell 1 sump, outside of the landfill footprint.
--							FLIR0091	Accidental video
--							FLIR0092	Accidental video

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A32	6/21/2024 17:49	6/21/2024 14:49	44.6974	-123.224024	7700	not taken	FLIR0093	Exceedance at Flare Station flange, in video the flange on the right side
--							FLIR0094	Accidental video
--							FLIR0095	Accidental video
A33	6/21/2024 18:14	6/21/2024 15:14	44.701817	-123.22582	6393	2000+	DSCN1734	Exceedance at liquid separation for horizontal
A34	6/21/2024 18:21	6/21/2024 15:21	44.701431	-123.226183	7110	1200	DSCN1735	Exceedance at tear in the material at the base of 5V22
A35	6/21/2024 18:24	6/21/2024 15:24	44.701263	-123.226236	12247	1.30%		
A36	6/21/2024 18:31	6/21/2024 15:31	44.700978	-123.227052	654	10000	DSCN1736	
A37	6/21/2024 18:35	6/21/2024 15:35	44.700853	-123.227144	24738	1.30%		Exceedance at hole in cover
A38	6/21/2024 18:42	6/21/2024 15:42	44.701694	-123.227427	1707	1%		Exceedance at hole in cover
A39	6/21/2024 18:44	6/21/2024 15:44	44.701818	-123.227413	14956	1.15%		Exceedance at 5H26
A40	6/21/2024 18:47	6/21/2024 15:47	44.701819	-123.2274	2675	1.15%	DSCN1737	Exceedance at hole in cover
A41	6/21/2024 18:51	6/21/2024 15:51	44.702381	-123.227485	1057	4000	DSCN1738	Exceedance at tag FD12

Attachment 2: EPA Surface Emission Monitoring Map

June 21, 2024

Clean Air Act inspection
Valley Landfills Inc

Legend

- EPA Readings >500ppm Methane
- Surface Emission Monitoring Path

A41
A39
A38
A36
A37
A35
A34
A33
A21
A22
A19
A20
A18
A25
A27
A29
A30
A15
A7
A4
A2
A28
A1
A31
A32

Republic Services Coffin Butte Landfill
Knife River - Coffin Butte Quarry
Valley Landfills
Coffin Butte Rd
Wiles Rd
Green Rd
99W

Google Earth
Image © 2024 Airbus
N
1000 ft

Attachment 3: IRwin Calibration

AED IRWin SX 580-010 92006439

Date:	6/20/2024
Calibration Performed By:	Steve Rapp
Warm-Up Time:	Approx. 15 mins.
Detector Calibrated:	AED IRWin SX 580-010 92006439

Calibration Gas: Methane (CH4)				
Calibration Gas	**Calibration Gas Supplier**	**Calibration Gas Expiration**	**Lot #**	**Cylinder #:**
Zero gas (0 ppmv CH4)	Pine Environmental Services	6/29/2027	304-402786171-1	UN10021121719481
500 ppmv CH4	Pine Environmental Services	6/29/2027	304-402785850-1	UN19561121719481

Time	**Location of Calibration**		**Notes:**	
Approx. 10:45:00 AM	Coffin Butte landfill office building, Carvallis, OR.			
Initial Accuracy Test				
Expected Reading (ppmv CH4)	**Zero**	**500**	**Notes:**	Used demand regulators.
Span Reading	0	500	Accepted/pass	
Calibration/Concentration Check				
Expected Reading (ppmv CH4)	**Zero**	**500**		
Instrument Reading	0	500	Accepted/pass	
Bump Check Date: 6/21/2024 Time: 14:28				
Expected Reading (ppmv CH4)		**500**		
Instrument Reading		470	Accepted/pass	
Bump Check Date: 6/21/2024 Time: 16:10				
Expected Reading (ppmv CH4)		**500**		
Instrument Reading		460	Accepted/pass	

Background concentrations (ppmv CH4):			**Location:**	**Time:**
Upwind:	0		Measured on road by portable toilets in northeast corner of LF	16:00
Downwind:	0		Measured in parking lot of office building	11:00

Comments/Notes:

The instrument was calibrated and checked for response time and precision on 6/20/24 at approx. 7:30 am using the 0 air and 500 ppm CH4 from the same cylinders identified above.
All readings are within 10% of the known calibration value. Response times are approximately 7.1 seconds, under the maximum of 30 seconds.
The gas cylinders identified above were used for the daily calibration and bump checks.

Precision and Response Time Checks:

Date:	Time:		Location:
6/20/2024	7:25 AM		Residence Inn, Portland, OR

AED IRWin SX 580-010 92006439

	Cal Gas (zero) 0 ppmv		Notes:
	Reading	Time	Demand regulator used.
Trial 1	0		
Trial 2	0		
Trial 3	0		
Average	0		

AED IRWin SX 580-010 92006439

	Cal Gas (mid): 500 ppmv CH4		Notes:
	Reading	Time	Demand regulator used.
Trial 1	500	6.78	
Trial 2	500	6.92	
Trial 3	500	7.59	
Average	500	7.1	All readings within 10%.All times within 30 seconds.

Calibration gas information:

Gas Concentration (ppmv CH4)	Calibration Gas	Lot #	Cylinder #	Expiration Date	Notes:
0	Pine Environmental Services	304-402786171-1	UN10021121719481	6/29/2027	Pressure = 300 psi. THC < 0.1 ppm, O2 = 20-22%
500	Pine Environmental Services	304-402785850-1	UN19561121719481	6/29/2027	Pressure = 400 psi. 500 ppmv CH4. Air 20.9% O2 in N2.

Attachment 4: TVA 2020 Calibration

EPA Method 21 Quarterly Precision/Daily Calibration Form

Alyson Skeen +

US EPA, Region 10	**Monitor:** Sara conley	**Date:** 6/21/24
Mfg: Thermo Fisher Scientific	**Model No:** TVA 2020	**Instrument SN:** 2020231270089
Facility: Coffin	City/State:	**ICIS No.**

Calibration Gas Information					
	Gas Type	**ppm**	**+ / - %***	**Lot No:**	**Expiration Date: (M-D-Y)**
Calibration Gas 1	0-Air	0	2		
Calibration Gas 2	CH4	500	2		
Calibration Gas 3	CH4	10,000	2		

* % that gas is certified to be w/in of the std concentration. (Method-21, Cylinder gas to be certified within ± 2% of std.)

Calibration Standard Test No. 1: 0 **PPM** Zero Air **Gas**							
Test	Test reading	Drift	Total	Avg.	------		Comments
1	0.1	0.1	0.2	0.1	NA		
2	0.0	0					
3	-0.1	+0.1					
Calibration Standard Test No. 2 500 **PPM** 500 **Gas**							
Test	Test reading	Drift	Total	Avg.	*Avg diff w/in ± 10% std = Pass		Comments
1	499	1	7	2.3	0.5 %	Pass / Fail (circle one)	
2	497	3					
3	497	3					
Calibration Standard Test No. 3 10,000 **PPM** 10000 **Gas**							
Test	Reading	Drift	Total	Avg.	*Avg diff w/in ± 10% std = Pass		Comments
1	1.62	200	900	300	3 %	Pass / Fail (circle one)	
2	1.03	300					
3	1.04	400					

* Avg difference ÷ cal gas std x 100 = _____%, Unit warm up time ≥ 30 min: ☐ Yes, ☐ No

Subpart VVa Drift – Mid Day Reading				**Subpart VVa Drift – End of Day Reading**			
Cal Gas	Concentration	Reading	*Pass /Fail	Cal Gas	Concentration	Reading	*Pass / Fail
1	0	-0.6	P	1	0	-2.5	
2	500	513	P	2	500	504	
3	10,000	10,800	P	3	10,000	10400	

*Negative drift > 10% = Fail per 40 CFR 60, Subpart VVa. Fail = monitored data is void. Pass = ≤ 10% drift.

Response Time W/ extension ◯ W/O extension ◯										
Test No.	Cal Std	Response Time	Total Time	Avg. Time	pass/fail ≤30 sec	Cal Std.	Response Time	Total Time	Avg. Time	pass/fail ≤30 sec
1			____sec	____sec	Pass / Fail			____ sec.	____ sec.	Pass / Fail
2										
3										

Notes: _____

Monitor's Signature _____ Date: 6/21/24

Attachment 5: SEM Repair tracking

PENETRATION ID	TIMESTAMP	LAT WGS84	LON WGS84	Action
A1	6/21/2024 12:11	44.69752	-123.233986	Damaged well repaired; new kanaflex, added dirt.
A2	6/21/2024 12:21	44.697938	-123.234216	EPDM patch
A3	6/21/2024 12:23	44.698045	-123.234395	EPDM patch
A4	6/21/2024 12:29	44.698033	-123.234661	EPDM patch
A5	6/21/2024 12:30	44.697969	-123.234744	EPDM patch
A6	6/21/2024 12:33	44.698005	-123.235072	EPDM patch
A7	6/21/2024 12:35	44.698088	-123.235163	EPDM patch
A8	6/21/2024 12:37	44.698123	-123.235294	Tarp removed for waste placement
A9	6/21/2024 12:40	44.698127	-123.235513	Tarp removed for waste placement
A10	6/21/2024 12:41	44.698197	-123.23546	Tarp removed for waste placement
A11	6/21/2024 12:42	44.698206	-123.23543	Tarp removed for waste placement
A12	6/21/2024 12:45	44.69817	-123.235601	Tarp removed for waste placement
A13	6/21/2024 12:48	44.698197	-123.235671	Tarp removed for waste placement
A14	6/21/2024 12:49	44.698184	-123.235675	Tarp removed for waste placement
A15	6/21/2024 12:51	44.698257	-123.235666	Tarp removed for waste placement
A16	6/21/2024 12:52	44.6983	-123.235524	Tarp removed for waste placement
A17	6/21/2024 12:57	44.698489	-123.235238	Tarp removed for waste placement
A18	6/21/2024 13:00	44.698836	-123.235078	Tarp removed for waste placement
A19	6/21/2024 13:02	44.698871	-123.23504	Tarp removed for waste placement
A20	6/21/2024 13:06	44.699096	-123.234886	Tarp removed for waste placement
A21	6/21/2024 13:09	44.699247	-123.235311	Tarp removed for waste placement
A22	6/21/2024 13:11	44.699114	-123.23529	Tarp removed for waste placement
A23	6/21/2024 13:13	44.698985	-123.235414	Tarp removed for waste placement
A24	6/21/2024 13:18	44.698458	-123.234777	Tarp removed for waste placement
A25	6/21/2024 13:21	44.698393	-123.234706	EPDM sheet added around and booted
A26	6/21/2024 13:23	44.698392	-123.234575	EPDM boot repaired.
A27	6/21/2024 13:25	44.698351	-123.234173	EPDM patch
A28	6/21/2024 13:28	44.698182	-123.23397	EPDM patch
A29	6/21/2024 13:31	44.698236	-123.233457	EPDM patch
A30	6/21/2024 13:33	44.698186	-123.233425	EPDM patch
A31	6/21/2024 13:48	44.696522	-123.233878	Bolts added/tightened lid on Cell 1 sump
A32	6/21/2024 15:49	44.6974	-123.224024	Blind flange bolts added and tightened
A33	6/21/2024 16:14	44.701817	-123.22582	Soil added
A34	6/21/2024 16:21	44.701431	-123.226183	EPDM patch
A35	6/21/2024 16:24	44.701263	-123.226236	EPDM patch
A36	6/21/2024 16:31	44.700978	-123.227052	EPDM patch
A37	6/21/2024 16:35	44.700853	-123.227144	EPDM patch
A38	6/21/2024 16:42	44.701694	-123.227427	EPDM patch
A39	6/21/2024 16:44	44.701818	-123.227413	EPDM patch
A40	6/21/2024 16:47	44.701819	-123.2274	EPDM patch
A41	6/21/2024 16:51	44.702381	-123.227485	EPDM patch
Please see 2nd Quarter SEM report for remonitoring				

REGION 10
SEATTLE, WA 98101

Clean Air Act Partial Compliance Evaluation Inspection Report

Valley Landfills Inc. Coffin Butte Landfill

2917 Coffin Butte Rd
Corvallis, Oregon

Inspection Date: June 21, 2024

SARA CONLEY Digitally signed by SARA CONLEY
Date: 2024.08.29 10:24:54 -07'00'

Report Author Signature

Sara Conley
Clean Air Act Inspector
EPA Region 10
Enforcement and Compliance Assurance Division
Air Enforcement Section

Steven Rapp Digitally signed by Steven Rapp
Date: 2024.08.29 14:26:19 -04'00'

Peer Review Signature

Steve Rapp
Environmental Engineer
EPA Office of Enforcement and Compliance Assurance

ELIZABETH WALTERS Digitally signed by ELIZABETH WALTERS
Date: 2024.08.29 14:34:09 -07'00'

Air Enforcement Section (AES) Manager Signature

Elizabeth Walters
Air Enforcement Section Manager
EPA Region 10

Table of Contents

Attachments

I. Basic Facility and Inspection Information

Facility:	Valley Landfills Inc. 2917 Coffin Butte Rd Corvallis, Oregon 97330
Mailing Address:	2917 Coffin Butte Rd Corvallis, OR 97330
AFS/FRS Number:	110004808423
SIC:	4953 Refuse Systems
NAICS:	562212 Solid Waste Landfill
Permit Number:	02-5902-TV-01
Facility Contacts:	Ian Macnab Environmental Manager, Oregon Valley Landfills Inc. ianmacnab@republicservices.com Broc Kienholz Operations Manager Coffin Butte Landfill Republic Services bkienholz@republicservices.com Phil Caruso Environmental Specialist Republic Services pcaruso@republicservices.com
U.S. EPA Inspectors:	Sara Conley Air Enforcement Section (AES) Enforcement and Compliance Assurance Division (ECAD) U.S. EPA Region 10 1200 Sixth Ave. Seattle, WA 98101-3188

	(206) 553-6914 Conley.Sara@epa.gov
	Alyson Skeens Air Enforcement Section (AES) Enforcement and Compliance Assurance Division (ECAD) U.S. EPA Region 10 950 West Bannock Street, Suite #100 Boise, Idaho 83702-5999(208) 378-5748 Skeens.Alyson@epa.gov
	Steve Rapp Air Enforcement Division (AED) Office of Civil Enforcement (OECA) U.S. EPA 1200 Pennsylvania Avenue Washington, DC 20460 (202) 250-8961 Rapp.Steve@epa.gov
ODEQ Representatives:	Becka Puscas Interim Manager, Office of Compliance and Enforcement Oregon Department of Environmental Quality (503) 229-5058 Katie Eagleson – Air Toxics Permitting Engineer Heather Kuoppamaki - Senior Air Quality Engineer Alex Haulman – Air Quality Inspector, Eastern Region Laura McWhorter – Natural Resource Specialist
Date of Inspection:	June 21, 2024
Inspection Start/End Times:	9:45 – 16:30
Inspection Notice:	This was an unannounced inspection. At approximately 9:00am on June 21, 2024 I called Ian Macnab to let him know that we would be arriving at the facility in about 45 minutes.

II. Purpose of Inspection

This was a multi-media Clean Air Act (CAA) compliance inspection by the Environmental Protection Agency (EPA). Inspector Conley, EPA Region 10, led the inspection and was assisted by EPA inspectors Alyson Skeens, EPA Region 10, and Steve Rapp, EPA AED/OECA, (collectively, "the inspectors"). The regulatory state air agency, the Oregon Department of Environmental Quality, was made aware of the inspection beforehand and participated in the inspection.

This was a partial compliance evaluation by the U.S. Environmental Protection Agency Region 10. The purpose was to identify potential compliance concerns with CAA regulations, specifically the National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, 40 CFR Part 63 Subpart AAAA and 40 CFR Part 61 Subpart M—National Emission Standard for Asbestos. The facility operates under a Title V Air Operating Permit (302-9502-TV-01. The facility is also subject to the federally enforceable Oregon State Plan for existing municipal solid waste landfills. The facility is regulated under the Oregon Administrative Rules at Chapter 340, Division 236 (OAR 340-236-0500) entitled "Solid Waste Landfills: Emission Standards for Municipal Solid Waste Landfills."

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection and from a subsequent records review. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

III. Compliance History

EPA's Enforcement and Compliance History Online, ECHO[1], lists four on-site CAA inspections since 2022.

CAA	*PCE On-Site*	*EPA*	*06/21/2024*
CAA	FCE On-Site	State	07/11/2022
CAA	*PCE On-Site*	*State*	*07/07/2022*
CAA	*PCE On-Site Monitoring/Sampling*	*EPA*	*06/23/2022*

[1] See https://echo.epa.gov/

The ECHO database does not list formal or informal enforcement actions in the last three years for the CAA or other statutes.

IV. Pre-Inspection Observations

We went directly to the facility. No observations were made prior to the scheduled inspection.

V. Facility and Process Description

The following facility description is based on information provided by a facility representative in the opening conference as well as documents submitted by the facility to ODEQ.

The Valley Landfills Inc. facility ("the landfill," "the facility," or "Coffin Butte") is located in Benton County Oregon. The landfill began accepting waste in 1978 and has a design capacity of approximately 39.7 tons. In 2021 there were 312 active vertical wells and a landfill gas control capacity equal to 5000 standard cubic feet per minute (scfm). Approximately 110 acres of the landfill have been constructed. The landfill directs landfill gas to an electrical generation plan owned and operated by the Pacific Northwest Generating Cooperative (PNGC). PNGC has a total of five engines capable of combusting 1915 standard cubic feet per minute (scfm). The PNGC facility has two backup flares with a combined capacity of 3,000 scfm.

The landfill uses interim cover consisting of temporary plastic covers. Temporary plastic cover is 12-mil lightweight plastic or 45-mil ethylene propylene diene monomer (EPDM) rubber. The cover material is anchored to the surface of the landfill. Sheet seams are sewn together, taped, or made to overlap with sandbags. Interim soil cover is typically 12 inches thick. Interim soil and plastic cover are placed to control landfill gas prior to final cover placement.

According to the facility, final cover will be installed once areas have settled. The final cover will consist of an under-drainage layer, 24" of soil, geomembrane and a drainage layer.

VI. Entry and Opening Conference

Inspectors Rapp, Skeens and I arrived at 9:40am along with representatives from ODEQ. The opening conference began at 9:45am.

Opening conference attendees included:

ODEQ:

- Becka Puscas
- Katie Eagelston
- Heather Kuoppamaki
- Alex Haulman
- Laura McWhorter

Valley Landfills Inc.

- Ian Macnab
- Broc Kienholz
- Phil Caruso

Inspectors Rapp, Skeens and I presented our credentials to Mr. Macnab. I explained the purpose of the inspection was to evaluate compliance with the Clean Air Act and that we would be primarily focused on conducting surface emission monitoring (SEM). I explained that we had three instruments with us, the two TVA 2020s[2] and an Inficon IRwin SX[3], which can be used to measure surface concentrations of methane. I explained that we would calibrate each instrument following the opening conference. We also notified the facility that we planned to take photos with a digital camera[4] and that we brought a Forward Looking Infrared (FLIR) Camera[5] capable of visually monitoring methane. I explained that all measurements, photos, video, and other information collected during the inspection would be included in the inspection report. I also described the timeline of the inspection and set expectations that we would be asking questions of the facility staff as we conducted the inspection.

I asked about the age of the landfill and about the cells in the landfill that are subject to the gas collection and control and surface emission monitoring (SEM) requirements under the federal CAA regulations for Municipal Solid Waste (MSW) Landfills. The facility representatives explained that the landfill first accepted waste in the 1970s. There is waste older than 5 years in every cell of the landfill. Inspector Rapp asked if there are any areas of the landfill that are currently excluded from gas collection and control. The facility representatives said that long ago there were areas but not now. At this landfill there is a cell of asbestos monofil as well as a small area that has asbestos buried in-place. Most asbestos is in the designated asbestos cell.

Mr. Kienholz explained how waste shipments are accepted at the facility. Trucks with municipal solid waste are weighed at the scale house. Mr. Kienholz stated that the commercial trucks have an account with Republic Services and if they bring in special wastes that information is recorded at the scale house. New waste is placed in active fill areas onsite. There is a new cell under construction at the landfill which will be located near the asbestos cell.

Inspector Skeens asked what the approximate volume of asbestos containing waste (ACW) Coffin Butte received and the customer breakdown between public and commercial. Mr. Macnab stated that Coffin Butte receives approximately 5,000 to 10,000 tons of ACW per year.

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[2] Thermo Fisher Scientific Model TVA 2020, Serial Number 202023127089 and Thermo Fisher Scientific Model TVA 2020, Serial Number 202017092713

[3] Inficon IRwin SX device, using the Elkins Earthworks software, held by EPA OECA/AED, Serial #: 580-01092006439

[4] Olympus Tough TG-6, Serial Number BJ5B27623

[5] FLIR Gx620 1060080

Macnab stated that Coffin Butte does not typically receive ACW from the public and most shipments are from commercial contractors. Mr. Macnab stated that Coffin Butte will see loads coming from Coast from Portland to Eugne up to Willamette. Coffin Butte rarely receives waste from out of state but if they do it would most likely be from Washington.

Inspector Skeens asked if Coffin Butte has turned ACW loads away for discrepancies. Mr. Macnab stated that they have turned loads away before. The load is inspected when dropped off and workers will require bags to be taped if there are rips or tears. Inspector Skeens ask if they could see the asbestos cell during the inspection. Mr. Macnab states that the asbestos cell was downhill from the construction site and advised against going there for safety concerns. Inspector Skeens asked if Coffin Butte had plans to layer over the asbestos cell with MSW. Mr. Macnab stated that there are plans but he was not sure when that would take place.

Inspectors Rapp and I asked about how the facility monitors surface emissions and the landfill gas collection system. The facility representatives explained that their consultant, SCS, provides a SEM route map and performs the SEM monitoring on foot. The facility representatives stated that the most recent surface emissions monitoring was performed a few months ago. The facility representatives do not observe the surface emission monitoring conducted by SCS. According to the facility representatives, if SCS identifies surface emission exceedances, SCS reports the exceedances to Republic Services and Republic Services will make the repairs. Inspector Rapp asked if there are any areas of the landfill that are not monitored for surface emissions. The facility representatives said that they do not monitor dangerous areas such as where there active filling is occurring.

I asked who conducts the well parameter monitoring and the facility told me that PNGC Power monitors the wells. PNGC Power operates the landfill gas to energy facility. I asked about interior well installations and the facility representatives told me that wells will be installed beginning in July. The facility has a combination of vertical and horizontal interior wells installed and the facility representatives explained that the active fill area is managed with horizontal wells. The facility reported that cover integrity monitoring is conducted by in-house staff.

Inspector Rapp asked if the flares were operating that day. The facility representatives indicated that the landfill was producing approximately 1800 scfm of which approximately 1000 scfm was being routed to the engines and the remainder to flares. The inspectors indicated that they would like to visit the flare station later during the facility walkthrough.

I asked the facility for a printed map of the landfill and we discussed where we planned to conduct the monitoring with Mr. Macnab. I explained that we would not be conducting a full surface emission monitoring survey over the entire landfill and that our inspection would be limited to an area before lunch and one after lunch. I decided to start with the area closest to the facility's office for the morning and then to visit the flare station and northeastern area in the afternoon. The opening conference concluded at approximately 10:50. Immediately following the opening conference we calibrated the two TVA 2020s and the Irwin.

VII. Facility Walk-Through

The table of surface emissions exceedances and digital image log is included as Attachment 1 to this report. A map of the Surface Emissions Monitoring (SEM) path walked by Inspector Rapp with the EPA IRwin is included in Attachment 2.

A. Morning SEM on Southwest Face of The Landfill

The walkthrough began at about 11:00. The inspection team was escorted by Mr. Macnab and Mr. Caruso. We began the monitoring with one TVA 2020 operated by inspector Skeens, another TVA 2020 operated by Mr. Haulman of ODEQ, and the EPA IRwin operated by Inspector Rapp.

Mr. Macnab estimated that we were over Cell 3 of the landfill. The lower side of the slope was vegetated, and Mr. Macnab stated that they were in the process of getting the vegetated surface of the landfill mowed. We did not measure any exceedances on the lower-vegetated section of the landfill slope. As we moved up the slope of the landfill we began to walk on the 45-mil ethylene propylene diene monomer (EPDM) rubber covered area. The 45-mil EPDM cover is considered interim cover. Mr. Macnab explained that this area would remain covered with 45-mil EPDM until there was either more waste placed in this cell or the area is placed under final cover. The EPDM material is weighed down with sandbags and straps it is also bolted to the surface in places.

We traversed a section of the southwest side of the landfill moving from one penetration to another and monitoring surface emissions along the way. I noticed that when the wind was blowing from the west there was an odor that smelled like landfill gas. There were a number of exceedances, readings of 500 ppm methane or larger, coming from holes or tears in the cover material. I noted that there were a number of plants growing out of the cover material at the top of the western side of the landfill in the area along the edge of Cell 3 and Cell 5. Some of the plants were between 1.5 to 3 feet tall. We did not monitor at the plant locations because of filling activity immediately uphill from that location. We made our way down the landfill slope and continued to take surface emission measurements with the TVAs and the Irwin. We took a break for lunch at approximately 13:00. The Irwin, operated by Inspector Rapp, detected 31 locations where methane emissions were 500 ppm or greater in this section of the landfill. See Attachment 1.

B. Afternoon SEM at Flare Station

We returned to the facility at 14:30 and performed a calibration bump check on the TVAs and the Irwin which both units passed. See Attachment 3. Mr. Macnab informed us that SCS would be coming the week of June 24th to conduct penetration monitoring. We followed Mr. Macnab in our vehicle to the flare station, the ODEQ representatives joined us for this portion of the afternoon. At the time of our visit, a new enclosed flare was onsite but construction of the flare was not complete and the flare was not operational. I operated the FLIR camera and recorded a

video, FLIR0093, of a leaking flange/blank plate at the flare station. The Irwin measured emissions above 500 ppm at the flange (photo 1734). See Attachment 1. The ODEQ team departed the flare station at approximately 15:00.

C. Afternoon SEM at Eastern Face of The Landfill

We followed Mr. Macnab in our vehicle to a pull-off at the northeastern face of the landfill. There was a noticeable landfill gas odor at the base of the slope. The Irwin measured methane greater than 500ppm at a liquid separation pipe for a horizontal collector. Inspectors Rapp and Skeens monitored surface emissions while we walked up the eastern slope of the landfill. We made our way up the slope walking from one wells or other penetrations to another and monitored surface emissions along the way. We also stopped at areas where visual inspection indicated possible surface emissions such as holes in the cover material. We identified 9 locations with emissions over 500ppm methane along our path. See Attachment 1. The walkthrough ended at approximately 16:00.

D. Asbestos

The inspectors did not observe the asbestos cell due to safety concerns Mr. Macnab expressed during the opening conference.

VIII. Closing Conference

At 16:00, our group returned to the facility conference room to discuss the inspection and conduct the closing conference. I led the closing conference and summarized the parts of the facility we had visited during the inspection and our observations related to CAA. I went through my inspection notes and described potential compliance concerns from the inspection. The following were identified as potential compliance concerns during the closing conference:

1. EPA monitored only a portion of the landfill surface and found numerous methane emissions at 500 ppm and higher, including at holes in the cover material. We identified many of the approximately 40 exceedances at locations where the cover material was damaged. Inspectors had noticed some plants growing out of the cover material near the areas where we monitored for emissions.
2. EPA monitored a flange at the flare station had methane emissions over 500ppm. The facility indicated that they were repairing this flange while we were in the opening conference.
3. One of the wellheads EPA monitored to was open to the atmosphere and the IRwin measured emissions over 500ppm.

Inspector Rapp and I discussed EPA's follow-up from the surface emission monitoring EPA conducted during the inspection. We explained that we would send the locations of the

exceedances and the readings within a week. We explained the 10-day re-monitoring would be due within 10 days following the facility's receipt of the list of exceedances.

I listed the records I needed to further evaluate the facility to Mr. Macnab. I explained that the inspection would not be complete until I have reviewed all the records that the facility submitted, reviewed my notes, and written an inspection report. Inspector Rapp, Skeens, and I thanked the facility representatives for their time and assistance and departed the facility at 16:30.

IX. Post Inspection Activities

A. Records Review

The facility provided a response to our information request on August 16, 2023.

Table 1: Records Review

Records Requested

Electronic copy of a map or maps: • **Including the locations of all wells and an indication of the well type.** • **Indicating the cell outlines on the landfill.** • **Indicating the boundaries of each phase of the landfill.** • **Indicating the most recent planned path for surface emission monitoring, including areas excluded from monitoring.**
Response: The facility provided all of the requested maps in an electronic format.
The most recent two quarters of gas migration/perimeter probe readings.
Response: The facility provided monthly readings from January 2024 through July 2024. The permitter probe readings recorded for the last two quarters were all 0.0% methane.
Electronic copy of the most recent design plan.
Response: The facility provided the requested record.

10 most recent ASM-4 for commercial loads.
Response: The facility provided 10 ASN-4 forms.
Last 6 months of landfill cover monitoring records.
Response: The facility provided records for each month from January 2024 through June 2024.
Last three months of all well readings, including all parameters measured. Please provide in an excel readable file type.
Response: The facility provided the requested data.
Odor complaints received in the last 6 months.
Response: The facility provided records covering December 2023 through June 2024, all months had a complaint about odor.
Electronic copy of the two most recent semi-annual (or annual) reports.
Response: The facility provided the two most recent semi-annual reports. One dated February 13, 2024 covering the reporting period of July 1, 2023 through December 31, 2023 and one dated July 16, 2024 covering the reporting period of January 1, 2024 through June 30, 2024.
2 most recent quarterly surface emission monitoring surveys
Response: Facility provided both of the reports we requested.

B. <u>Surface Emission Monitoring Follow-up</u>

The facility submitted the following documents on August 23, 2024

SEM Repair tracking – listed repairs but not the date of the repair, see Attachment 5.

Second Quarter Emission Monitoring - June 11, 16, 18, 24, 26, and July 6, 16, and 26, 2024, OAR landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the Coffin Butte Landfill.

EPA's surface emissions results, received by the facility on June 26, 2024, indicated that forty-one (41) locations exceeded the 500 ppmv maximum concentration. The required first and second 10-day (Oregon Administrative Rule) follow-up monitoring performed by SCS on July 6, and 16, 2024, indicated that not all locations returned below compliance limits as required, following system adjustments and remediation by site personnel. Based on these monitoring results, and in accordance with the Oregon State Regulations, the site is required to perform a system expansion within 120 days of the third detected exceedance or November 13, 2024.

Attachment 1: EPA Inspection Photo, Video and SEM Log

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A1	6/21/2024 14:11	6/21/2024 11:11	44.69752	-123.233986	4900	1000	P6210151, P6210152	Exceedance at well
--							P6210153	Photo showing the side of the landfill looking east.
--							P6210154	Photo of a well with cover gathered around the base
A2	6/21/2024 14:21	6/21/2024 11:21	44.697938	-123.234216	10011	3%	n/a	
A3	6/21/2024 14:23	6/21/2024 11:23	44.698045	-123.234395	1271	3700	n/a	
A4	6/21/2024 14:29	6/21/2024 11:29	44.698033	-123.234661	1622	1000	P6210155, P6210156	Exceedance measured at base of well
A5	6/21/2024 14:30	6/21/2024 11:30	44.697969	-123.234744	1459	1600	P6210157	Exceedance at opening in cover
							P6210158	Penetration in cover
A6	6/21/2024 14:33	6/21/2024 11:33	44.698005	-123.235072	14097	>1000	P6210159, P6210160, P6210161	Exceedance located at support on left
A7	6/21/2024 14:35	6/21/2024 11:35	44.698088	-123.235163	16501	20000	P6210163	Exceedance at tear in cover
A8	6/21/2024 14:37	6/21/2024 11:37	44.698123	-123.235294	1118	800	P6210164	Exceedance at vegetation growing out of cover
A9	6/21/2024 14:40	6/21/2024 11:40	44.698127	-123.235513	2719	1.30%	P6210165	Exceedance at tear in cover
A10	6/21/2024 14:41	6/21/2024 11:41	44.698197	-123.23546	4762	1.00%	P6210166, P6210167	Exceedance at tear in cover, at worn patch
A11	6/21/2024 14:42	6/21/2024 11:42	44.698206	-123.23543	8350	20000	P6210167	Exceedance at tear in cover at a rock in background of 167

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A12	6/21/2024 14:45:00	6/21/2024 11:45	44.69817	-123.235601	1597	2300	camera battery died	
A13	6/21/2024 14:48	6/21/2024 11:48	44.698197	-123.235671	1839	1000		Exceedance at tear in cover
A14	6/21/2024 14:49	6/21/2024 11:49	44.698184	-123.235675	1182	2000		Exceedance at tear in cover
A15	6/21/2024 14:51	6/21/2024 11:51	44.698257	-123.235666	4253	4255		Exceedance at patched area with new hole in cover
A16	6/21/2024 14:52	6/21/2024 11:52	44.6983	-123.235524	9694	TVA flame out		flame out is generally when > 20000
A17	6/21/2024 14:57	6/21/2024 11:57	44.698489	-123.235238	2967	not taken		Exceedance at tarp hole
A18	6/21/2024 15:00	6/21/2024 12:00	44.698836	-123.235078	2900	2200		Exceedance at wellhead cluster
A19	6/21/2024 15:02	6/21/2024 12:02	44.698871	-123.23504	4436	1300		Exceedance at flange
A20	6/21/2024 15:06	6/21/2024 12:06	44.699096	-123.234886	118265	TVA flame out		The cap is off of this well, exceedance at the top.
A21	6/21/2024 15:09	6/21/2024 12:09	44.699247	-123.235311	51151	13000		
A22	6/21/2024 15:11	6/21/2024 12:11	44.699114	-123.23529	1412	1200		
A23	6/21/2024 15:13	6/21/2024 12:13	44.698985	-123.235414	8110	1100		
A24	6/21/2024 15:18	6/21/2024 12:18	44.698458	-123.234777	7443	1200		Exceedance at penetration
A25	6/21/2024 15:21	6/21/2024 12:21	44.698393	-123.234706	8054	12000		Exceedance at BV92
A26	6/21/2024 15:23	6/21/2024 12:23	44.698392	-123.234575	4502	4600		Exceedance at hole in tarp
A27	6/21/2024 15:25	6/21/2024 12:25	44.698351	-123.234173	12969	1.30%		Exceedance at3V93
A28	6/21/2024 15:28	6/21/2024 12:28	44.698182	-123.23397	4339	2400		Exceedance at hole in tarp, 3V83
A29	6/21/2024 15:31	6/21/2024 12:31	44.698236	-123.233457	55729	>2%		Exceedance at tear at boot where horizontal pipe is coming out of the cover
A30	6/21/2024 15:33	6/21/2024 12:33	44.698186	-123.233425	2368	1800		Exceedance at liquid separation
A31	6/21/2024 15:48	6/21/2024 12:48	44.696522	-123.233878	16740	1.50%		Exceedance at Cell 1 sump, outside of the landfill footprint.
--							FLIR0091	Accidental video
--							FLIR0092	Accidental video

Attachment 1 – EPA Inspection Photo, Video and SEM Log
Valley Landfills Inc CAA Inspection 06/21/2024

PENETRATION ID	TIMESTAMP (EST)	Corrected time (Pacific time)	LAT WGS84	LON WGS84	MAX DETECTOR CONCENTRATION CH4 (ppmv)	CONFIRMATION TVA 2020 (EPA)CH4 (ppmv)	PHOTO OR VIDEO NUMBER	DESCRIPTION
A32	6/21/2024 17:49	6/21/2024 14:49	44.6974	-123.224024	7700	not taken	FLIR0093	Exceedance at Flare Station flange, in video the flange on the right side
--							FLIR0094	Accidental video
--							FLIR0095	Accidental video
A33	6/21/2024 18:14	6/21/2024 15:14	44.701817	-123.22582	6393	2000+	DSCN1734	Exceedance at liquid separation for horizontal
A34	6/21/2024 18:21	6/21/2024 15:21	44.701431	-123.226183	7110	1200	DSCN1735	Exceedance at tear in the material at the base of 5V22
A35	6/21/2024 18:24	6/21/2024 15:24	44.701263	-123.226236	12247	1.30%		
A36	6/21/2024 18:31	6/21/2024 15:31	44.700978	-123.227052	654	10000	DSCN1736	
A37	6/21/2024 18:35	6/21/2024 15:35	44.700853	-123.227144	24738	1.30%		Exceedance at hole in cover
A38	6/21/2024 18:42	6/21/2024 15:42	44.701694	-123.227427	1707	1%		Exceedance at hole in cover
A39	6/21/2024 18:44	6/21/2024 15:44	44.701818	-123.227413	14956	1.15%		Exceedance at 5H26
A40	6/21/2024 18:47	6/21/2024 15:47	44.701819	-123.2274	2675	1.15%	DSCN1737	Exceedance at hole in cover
A41	6/21/2024 18:51	6/21/2024 15:51	44.702381	-123.227485	1057	4000	DSCN1738	Exceedance at tag FD12

Attachment 2: EPA Surface Emission Monitoring Map

June 21, 2024

Clean Air Act inspection
Valley Landfills Inc

Legend

- EPA Readings >500ppm Methane
- Surface Emission Monitoring Path

A41
A39
A38
A36
A37
A35
A34
A33
A21
A22
A19
A20
A18
A25
A27
A29
A30
A15
A7
A4
A2
A28
A1
A31
A32

Republic Services Coffin Butte Landfill
Knife River - Coffin Butte Quarry
Valley Landfills
Coffin Butte Rd
Wiles Rd
Green Rd
99W

Google Earth
Image © 2024 Airbus
N
1000 ft

Attachment 3: IRwin Calibration

AED IRWin SX 580-010 92006439

Date:	6/20/2024
Calibration Performed By:	Steve Rapp
Warm-Up Time:	Approx. 15 mins.
Detector Calibrated:	AED IRWin SX 580-010 92006439

Calibration Gas: Methane (CH4)				
Calibration Gas	**Calibration Gas Supplier**	**Calibration Gas Expiration**	**Lot #**	**Cylinder #:**
Zero gas (0 ppmv CH4)	Pine Environmental Services	6/29/2027	304-402786171-1	UN10021121719481
500 ppmv CH4	Pine Environmental Services	6/29/2027	304-402785850-1	UN19561121719481

Time	**Location of Calibration**		**Notes:**	
Approx. 10:45:00 AM	Coffin Butte landfill office building, Carvallis, OR.			
Initial Accuracy Test				
Expected Reading (ppmv CH4)	**Zero**	**500**	**Notes:**	Used demand regulators.
Span Reading	0	500	Accepted/pass	
Calibration/Concentration Check				
Expected Reading (ppmv CH4)	**Zero**	**500**		
Instrument Reading	0	500	Accepted/pass	
Bump Check Date: 6/21/2024 Time: 14:28				
Expected Reading (ppmv CH4)		**500**		
Instrument Reading		470	Accepted/pass	
Bump Check Date: 6/21/2024 Time: 16:10				
Expected Reading (ppmv CH4)		**500**		
Instrument Reading		460	Accepted/pass	

Background concentrations (ppmv CH4):			**Location:**	**Time:**
Upwind:	0		Measured on road by portable toilets in northeast corner of LF	16:00
Downwind:	0		Measured in parking lot of office building	11:00

Comments/Notes:

The instrument was calibrated and checked for response time and precision on 6/20/24 at approx. 7:30 am using the 0 air and 500 ppm CH4 from the same cylinders identified above.
All readings are within 10% of the known calibration value. Response times are approximately 7.1 seconds, under the maximum of 30 seconds.
The gas cylinders identified above were used for the daily calibration and bump checks.

Precision and Response Time Checks:

Date:	Time:		Location:
6/20/2024	7:25 AM		Residence Inn, Portland, OR

AED IRWin SX 580-010 92006439

	Cal Gas (zero) 0 ppmv		Notes:
	Reading	Time	Demand regulator used.
Trial 1	0		
Trial 2	0		
Trial 3	0		
Average	0		

AED IRWin SX 580-010 92006439

	Cal Gas (mid): 500 ppmv CH4		Notes:
	Reading	Time	Demand regulator used.
Trial 1	500	6.78	
Trial 2	500	6.92	
Trial 3	500	7.59	
Average	500	7.1	All readings within 10%.All times within 30 seconds.

Calibration gas information:

Gas Concentration (ppmv CH4)	Calibration Gas	Lot #	Cylinder #	Expiration Date	Notes:
0	Pine Environmental Services	304-402786171-1	UN10021121719481	6/29/2027	Pressure = 300 psi. THC < 0.1 ppm, O2 = 20-22%
500	Pine Environmental Services	304-402785850-1	UN19561121719481	6/29/2027	Pressure = 400 psi. 500 ppmv CH4. Air 20.9% O2 in N2.

Attachment 4: TVA 2020 Calibration

EPA Method 21 Quarterly Precision/Daily Calibration Form

Alyson Skeen +

US EPA, Region 10	**Monitor:** Sara conley	**Date:** 6/21/24
Mfg: Thermo Fisher Scientific	**Model No:** TVA 2020	**Instrument SN:** 2020231270089
Facility: Coffin	City/State:	**ICIS No.**

Calibration Gas Information					
	Gas Type	**ppm**	**+ / - %***	**Lot No:**	**Expiration Date: (M-D-Y)**
Calibration Gas 1	0-Air	0	2		
Calibration Gas 2	CH4	500	2		
Calibration Gas 3	CH4	10,000	2		

* % that gas is certified to be w/in of the std concentration. (Method-21, Cylinder gas to be certified within ± 2% of std.)

Calibration Standard Test No. 1: 0 **PPM** Zero Air **Gas**							
Test	Test reading	Drift	Total	Avg.	------		Comments
1	0.1	0.1	0.2	0.1	NA		
2	0.0	0					
3	-0.1	+0.1					
Calibration Standard Test No. 2 500 **PPM** 500 **Gas**							
Test	Test reading	Drift	Total	Avg.	*Avg diff w/in ± 10% std = Pass		Comments
1	499	1	7	2.3	0.5 %	Pass / Fail (circle one)	
2	497	3					
3	497	3					
Calibration Standard Test No. 3 10,000 **PPM** 10000 **Gas**							
Test	Reading	Drift	Total	Avg.	*Avg diff w/in ± 10% std = Pass		Comments
1	1.62	200	900	300	3 %	Pass / Fail (circle one)	
2	1.03	300					
3	1.04	400					

* Avg difference ÷ cal gas std x 100 = _____%, Unit warm up time ≥ 30 min: ☐ Yes, ☐ No

Subpart VVa Drift – Mid Day Reading				**Subpart VVa Drift – End of Day Reading**			
Cal Gas	Concentration	Reading	*Pass /Fail	Cal Gas	Concentration	Reading	*Pass / Fail
1	0	-0.6	P	1	0	-2.5	
2	500	513	P	2	500	504	
3	10,000	10,800	P	3	10,000	10400	

*Negative drift > 10% = Fail per 40 CFR 60, Subpart VVa. Fail = monitored data is void. Pass = ≤ 10% drift.

Response Time W/ extension ◯ W/O extension ◯										
Test No.	Cal Std	Response Time	Total Time	Avg. Time	pass/fail ≤30 sec	Cal Std.	Response Time	Total Time	Avg. Time	pass/fail ≤30 sec
1			____sec	____sec	Pass / Fail			____ sec.	____ sec.	Pass / Fail
2										
3										

Notes: _____

Monitor's Signature _____ Date: 6/21/24

Attachment 5: SEM Repair tracking

PENETRATION ID	TIMESTAMP	LAT WGS84	LON WGS84	Action
A1	6/21/2024 12:11	44.69752	-123.233986	Damaged well repaired; new kanaflex, added dirt.
A2	6/21/2024 12:21	44.697938	-123.234216	EPDM patch
A3	6/21/2024 12:23	44.698045	-123.234395	EPDM patch
A4	6/21/2024 12:29	44.698033	-123.234661	EPDM patch
A5	6/21/2024 12:30	44.697969	-123.234744	EPDM patch
A6	6/21/2024 12:33	44.698005	-123.235072	EPDM patch
A7	6/21/2024 12:35	44.698088	-123.235163	EPDM patch
A8	6/21/2024 12:37	44.698123	-123.235294	Tarp removed for waste placement
A9	6/21/2024 12:40	44.698127	-123.235513	Tarp removed for waste placement
A10	6/21/2024 12:41	44.698197	-123.23546	Tarp removed for waste placement
A11	6/21/2024 12:42	44.698206	-123.23543	Tarp removed for waste placement
A12	6/21/2024 12:45	44.69817	-123.235601	Tarp removed for waste placement
A13	6/21/2024 12:48	44.698197	-123.235671	Tarp removed for waste placement
A14	6/21/2024 12:49	44.698184	-123.235675	Tarp removed for waste placement
A15	6/21/2024 12:51	44.698257	-123.235666	Tarp removed for waste placement
A16	6/21/2024 12:52	44.6983	-123.235524	Tarp removed for waste placement
A17	6/21/2024 12:57	44.698489	-123.235238	Tarp removed for waste placement
A18	6/21/2024 13:00	44.698836	-123.235078	Tarp removed for waste placement
A19	6/21/2024 13:02	44.698871	-123.23504	Tarp removed for waste placement
A20	6/21/2024 13:06	44.699096	-123.234886	Tarp removed for waste placement
A21	6/21/2024 13:09	44.699247	-123.235311	Tarp removed for waste placement
A22	6/21/2024 13:11	44.699114	-123.23529	Tarp removed for waste placement
A23	6/21/2024 13:13	44.698985	-123.235414	Tarp removed for waste placement
A24	6/21/2024 13:18	44.698458	-123.234777	Tarp removed for waste placement
A25	6/21/2024 13:21	44.698393	-123.234706	EPDM sheet added around and booted
A26	6/21/2024 13:23	44.698392	-123.234575	EPDM boot repaired.
A27	6/21/2024 13:25	44.698351	-123.234173	EPDM patch
A28	6/21/2024 13:28	44.698182	-123.23397	EPDM patch
A29	6/21/2024 13:31	44.698236	-123.233457	EPDM patch
A30	6/21/2024 13:33	44.698186	-123.233425	EPDM patch
A31	6/21/2024 13:48	44.696522	-123.233878	Bolts added/tightened lid on Cell 1 sump
A32	6/21/2024 15:49	44.6974	-123.224024	Blind flange bolts added and tightened
A33	6/21/2024 16:14	44.701817	-123.22582	Soil added
A34	6/21/2024 16:21	44.701431	-123.226183	EPDM patch
A35	6/21/2024 16:24	44.701263	-123.226236	EPDM patch
A36	6/21/2024 16:31	44.700978	-123.227052	EPDM patch
A37	6/21/2024 16:35	44.700853	-123.227144	EPDM patch
A38	6/21/2024 16:42	44.701694	-123.227427	EPDM patch
A39	6/21/2024 16:44	44.701818	-123.227413	EPDM patch
A40	6/21/2024 16:47	44.701819	-123.2274	EPDM patch
A41	6/21/2024 16:51	44.702381	-123.227485	EPDM patch
Please see 2nd Quarter SEM report for remonitoring				

TOTAL LANDFILL GAS GENERATION SUMMARY

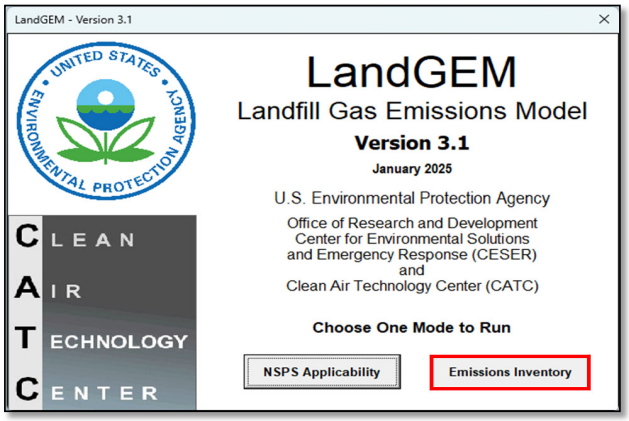
COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1953	0	0	0				0	0	0
1954	67	53,961	4				67	53,961	4
1955	139	110,920	7				139	110,920	7
1956	217	173,874	12				217	173,874	12
1957	300	239,827	16				300	239,827	16
1958	386	308,777	21				386	308,777	21
1959	483	386,721	26				483	386,721	26
1960	584	467,662	31				584	467,662	31
1961	696	557,597	37				696	557,597	37
1962	820	656,526	44				820	656,526	44
1963	955	764,448	51				955	764,448	51
1964	1,101	881,363	59				1,101	881,363	59
1965	1,262	1,010,270	68				1,262	1,010,270	68
1966	1,438	1,151,168	77				1,438	1,151,168	77
1967	1,636	1,310,053	88				1,636	1,310,053	88
1968	1,853	1,483,928	100				1,853	1,483,928	100
1969	2,093	1,675,789	113				2,093	1,675,789	113
1970	2,359	1,888,635	127				2,359	1,888,635	127
1971	2,651	2,122,466	143				2,651	2,122,466	143
1972	2,977	2,383,278	160				2,977	2,383,278	160
1973	3,340	2,674,068	180				3,340	2,674,068	180
1974	3,741	2,994,836	201				3,741	2,994,836	201
1975	4,190	3,354,576	225				4,190	3,354,576	225
1976	4,684	3,750,290	252				4,684	3,750,290	252
1977	5,235	4,190,972	282				5,235	4,190,972	282
1978	5,849	4,682,616	315				5,849	4,682,616	315
1979	6,373	5,102,313	343				6,373	5,102,313	343
1980	6,901	5,525,008	371				6,901	5,525,008	371
1981	7,433	5,950,700	400				7,433	5,950,700	400
1982	7,968	6,379,390	429				7,968	6,379,390	429
1983	8,511	6,814,076	458				8,511	6,814,076	458
1984	8,998	7,203,795	484				8,998	7,203,795	484
1985	9,503	7,608,502	511				9,503	7,608,502	511
1986	10,020	8,022,203	539				10,020	8,022,203	539
1987	10,555	8,450,894	568				10,555	8,450,894	568
1988	11,080	8,870,590	596				11,080	8,870,590	596
1989	11,608	9,293,285	624				11,608	9,293,285	624
1990	12,431	9,952,808	669				12,431	9,952,808	669
1991	13,259	10,615,330	713				13,259	10,615,330	713
1992	14,079	11,271,855	757				14,079	11,271,855	757
1993	15,307	12,255,145	823				15,307	12,255,145	823
1994	16,868	13,505,241	907				16,868	13,505,241	907
1995	18,464	14,782,319	993				18,464	14,782,319	993
1996	19,973	15,990,446	1,074				19,973	15,990,446	1,074
1997	21,399	17,132,620	1,151				21,399	17,132,620	1,151
1998	23,751	19,015,260	1,278				23,751	19,015,260	1,278
1999	26,199	20,975,843	1,409				26,199	20,975,843	1,409
2000	28,723	22,996,383	1,545				28,723	22,996,383	1,545
2001	30,891	24,732,129	1,662				30,891	24,732,129	1,662
2002	33,130	26,524,834	1,782				33,130	26,524,834	1,782
2003	35,399	28,341,521	1,904				35,399	28,341,521	1,904
2004	36,995	29,618,598	1,990				36,995	29,618,598	1,990
2005	40,361	32,313,651	2,171				40,361	32,313,651	2,171
2006	43,615	34,918,768	2,346				43,615	34,918,768	2,346
2007	47,063	37,679,773	2,532				47,063	37,679,773	2,532
2008	51,321	41,088,310	2,761				51,321	41,088,310	2,761
2009	55,091	44,107,129	2,964				55,091	44,107,129	2,964
2010	58,323	46,694,259	3,137	0.00	0	0.00	58,323	46,694,259	3,137
2011	55,091	44,107,129	2,964	5,721.43	4,580,690	307.78	60,813	48,687,819	3,271
2012	52,040	41,663,894	2,799	11,375.45	9,107,419	611.93	63,415	50,771,313	3,411
2013	49,156	39,355,562	2,644	16,546.46	13,247,428	890.09	65,703	52,602,990	3,534
2014	46,430	37,173,139	2,498	21,447.86	17,171,592	1,153.76	67,878	54,344,731	3,651

TOTAL LANDFILL GAS GENERATION SUMMARY

COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2015	43,858	35,113,627	2,359	26,293.10	21,050,789	1,414.40	70,151	56,164,417	3,774
2016	41,428	33,168,033	2,229	31,157.06	24,944,975	1,676.05	72,585	58,113,008	3,905
2017	39,133	31,330,361	2,105	36,047.23	28,860,146	1,939.11	75,180	60,190,507	4,044
2018	36,965	29,594,615	1,988	45,456.88	36,393,703	2,445.29	82,421	65,988,318	4,434
2019	34,916	27,954,800	1,878	55,117.41	44,128,114	2,964.96	90,034	72,082,914	4,843
2020	32,984	26,407,918	1,774	64,440.94	51,592,720	3,466.51	97,425	78,000,638	5,241
2021	31,157	24,944,975	1,676	70,989.87	56,835,931	3,818.80	102,147	81,780,906	5,495
2022	29,431	23,562,974	1,583	79,437.21	63,599,044	4,273.21	108,868	87,162,018	5,856
2023	27,798	22,255,918	1,495	88,199.08	70,613,975	4,744.54	115,997	92,869,894	6,240
2024	26,259	21,023,809	1,413	96,316.92	77,113,279	5,181.23	122,576	98,137,088	6,594
2025	24,803	19,857,651	1,334	104,262.51	83,474,683	5,608.65	129,065	103,332,334	6,943
2026	23,429	18,757,446	1,260	116,218.35	93,046,766	6,251.80	139,647	111,804,212	7,512
2027	22,129	17,717,198	1,190	127,399.09	101,998,298	6,853.25	149,528	119,715,496	8,044
2028	20,905	16,736,906	1,125	137,853.43	110,368,250	7,415.63	158,758	127,105,156	8,540
2029	19,748	15,810,576	1,062	147,630.03	118,195,594	7,941.55	167,378	134,006,169	9,004
2030	18,651	14,932,210	1,003	156,773.82	125,516,304	8,433.43	175,425	140,448,514	9,437
2031	17,617	14,104,808	948	165,326.01	132,363,356	8,893.48	182,943	146,468,164	9,841
2032	16,644	13,325,371	895	173,324.02	138,766,729	9,323.72	189,968	152,092,101	10,219
2033	15,719	12,584,906	846	180,805.31	144,756,401	9,726.16	196,524	157,341,308	10,572
2034	14,850	11,889,409	799	187,799.83	150,356,355	10,102.43	202,650	162,245,764	10,901
2035	**14,026**	**11,229,885**	**755**	**194,337.53**	**155,590,573**	**10,454.11**	**208,364**	**166,820,458**	**11,209**



Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 1

Date: Friday, October 3, 2025

Description/Comments:
Cells 0-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

About LandGEM:

First-Order Decomposition Rate Equation

$$G_{CH4} = \sum_{x=S}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)}\right)$$

Where,

GCH4 = Modeled methane generation rate in reporting year T (metric tons CH4).
x = Year in which waste was disposed
Wx = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)). Use bulk waste tonnage
DOC = Degradable organic carbon (Mg C/Mg waste)
16/12 = stoichiometric ratio of CH4/C molecular weights

T = Reporting year for which emissions are calculated.
S = Start year of calculation
MCF = Methane correction factor (fraction). Use the default value of 1
DOCf = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.
F = Fraction by volume of CH4 in landfill gas; use the default of 0.5.
k = Rate constant from Table HH–1 to this subpart (yr-1).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at https://www.epa.gov/land-research/landfill-gas-emissions-model-landgem.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**1953**	
Landfill Closure Year (with 80-year limit)	**2009**	
Actual Closure Year (without limit)		
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**39,600,000**	*U.S. tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.057**	*year^{-1}*
Degradable Organic Carbon, DOC	**0.200**	*Mg C/Mg waste*
Potential Methane Generation Capacity, L_0	**100**	*m^3/Mg*
NMOC Concentration	**600**	*ppmv as hexane*
Methane Content	**0.50**	*Fraction by volume in landfill gas (0.5 = 50%)*
Fraction of DOC dissimilated, DOC_f	**0.50**	*Fraction by mass (0.5 = 50%)*
Methane Correction Factor, MCF	**1.0**	*fractional percentage (1.0 = 100%)*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1953	4,915	5,418	0	0
1954	5,474	6,034	4,915	4,459
1955	6,097	6,721	10,389	9,425
1956	6,791	7,486	16,486	14,956
1957	7,564	8,338	23,277	21,117
1958	8,425	9,287	30,841	27,979
1959	9,384	10,344	39,266	35,622
1960	10,452	11,521	48,650	44,135
1961	11,642	12,833	59,102	53,617
1962	12,967	14,294	70,744	64,179
1963	14,443	15,921	83,711	75,942
1964	16,086	17,732	98,154	89,045
1965	17,917	19,750	114,240	103,638
1966	19,956	21,997	132,157	119,892
1967	22,228	24,502	152,113	137,996
1968	24,758	27,291	174,341	158,161
1969	27,576	30,397	199,099	180,621
1970	30,714	33,856	226,675	205,638
1971	34,210	37,710	257,389	233,502
1972	38,104	42,002	291,599	264,537
1973	42,440	46,782	329,703	299,105
1974	47,271	52,107	372,143	337,606
1975	52,651	58,037	419,414	380,490
1976	58,644	64,643	472,065	428,255
1977	65,318	72,000	530,709	481,456
1978	61,236	67,500	596,027	540,712
1979	63,685	70,200	657,263	596,265
1980	66,134	72,900	720,948	654,040
1981	68,584	75,600	787,082	714,036
1982	71,033	78,300	855,666	776,255
1983	69,400	76,500	926,699	840,696
1984	72,485	79,900	996,099	903,655
1985	75,569	83,300	1,068,584	969,413
1986	78,654	86,700	1,144,153	1,037,969
1987	80,196	88,400	1,222,807	1,109,323
1988	82,736	91,200	1,303,003	1,182,077
1989	105,960	116,800	1,385,739	1,257,134
1990	109,589	120,800	1,491,699	1,353,260
1991	112,492	124,000	1,601,288	1,452,679
1992	145,151	160,000	1,713,780	1,554,731
1993	174,138	191,952	1,858,931	1,686,411
1994	183,069	201,797	2,033,069	1,844,388
1995	183,069	201,797	2,216,138	2,010,467
1996	183,069	201,797	2,399,207	2,176,546
1997	255,858	282,032	2,582,276	2,342,625
1998	271,995	299,820	2,838,134	2,574,738
1999	287,497	316,908	3,110,129	2,821,491
2000	271,920	299,737	3,397,626	3,082,306
2001	285,600	314,817	3,669,546	3,328,990
2002	296,868	327,238	3,955,146	3,588,085
2003	256,923	283,206	4,252,014	3,857,402
2004	391,839	431,924	4,508,937	4,090,481
2005	396,945	437,552	4,900,776	4,445,955
2006	423,997	467,372	5,297,721	4,806,061
2007	496,234	546,999	5,721,718	5,190,709
2008	478,378	527,316	6,217,952	5,640,889
2009	454,226	500,693	6,696,330	6,074,871
2010	0	0	7,150,556	6,486,942
2011	0	0	7,150,556	6,486,942
2012	0	0	7,150,556	6,486,942
2013	0	0	7,150,556	6,486,942
2014	0	0	7,150,556	6,486,942
2015	0	0	7,150,556	6,486,942
2016	0	0	7,150,556	6,486,942
2017	0	0	7,150,556	6,486,942
2018	0	0	7,150,556	6,486,942
2019	0	0	7,150,556	6,486,942
2020	0	0	7,150,556	6,486,942

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1953	0	0	0	0	0	0
1954	6.740E+01	5.396E+04	3.626E+00	1.800E+01	2.698E+04	1.813E+00
1955	1.385E+02	1.109E+05	7.453E+00	3.700E+01	5.546E+04	3.726E+00
1956	2.172E+02	1.739E+05	1.168E+01	5.800E+01	8.694E+04	5.841E+00
1957	2.996E+02	2.398E+05	1.611E+01	8.000E+01	1.199E+05	8.057E+00
1958	3.857E+02	3.088E+05	2.075E+01	1.030E+02	1.544E+05	1.037E+01
1959	4.830E+02	3.867E+05	2.598E+01	1.290E+02	1.934E+05	1.299E+01
1960	5.841E+02	4.677E+05	3.142E+01	1.560E+02	2.338E+05	1.571E+01
1961	6.965E+02	5.576E+05	3.746E+01	1.860E+02	2.788E+05	1.873E+01
1962	8.200E+02	6.565E+05	4.411E+01	2.190E+02	3.283E+05	2.206E+01
1963	9.548E+02	7.644E+05	5.136E+01	2.550E+02	3.822E+05	2.568E+01
1964	1.101E+03	8.814E+05	5.922E+01	2.940E+02	4.407E+05	2.961E+01
1965	1.262E+03	1.010E+06	6.788E+01	3.370E+02	5.051E+05	3.394E+01
1966	1.438E+03	1.151E+06	7.735E+01	3.840E+02	5.756E+05	3.867E+01
1967	1.636E+03	1.310E+06	8.802E+01	4.370E+02	6.550E+05	4.401E+01
1968	1.853E+03	1.484E+06	9.970E+01	4.950E+02	7.420E+05	4.985E+01
1969	2.093E+03	1.676E+06	1.126E+02	5.590E+02	8.379E+05	5.630E+01
1970	2.359E+03	1.889E+06	1.269E+02	6.300E+02	9.443E+05	6.345E+01
1971	2.651E+03	2.122E+06	1.426E+02	7.080E+02	1.061E+06	7.130E+01
1972	2.977E+03	2.383E+06	1.601E+02	7.950E+02	1.192E+06	8.007E+01
1973	3.340E+03	2.674E+06	1.797E+02	8.920E+02	1.337E+06	8.984E+01
1974	3.741E+03	2.995E+06	2.012E+02	9.990E+02	1.497E+06	1.006E+02
1975	4.190E+03	3.355E+06	2.254E+02	1.119E+03	1.677E+06	1.127E+02
1976	4.684E+03	3.750E+06	2.520E+02	1.251E+03	1.875E+06	1.260E+02
1977	5.235E+03	4.191E+06	2.816E+02	1.398E+03	2.095E+06	1.408E+02
1978	5.849E+03	4.683E+06	3.146E+02	1.562E+03	2.341E+06	1.573E+02
1979	6.373E+03	5.102E+06	3.428E+02	1.702E+03	2.551E+06	1.714E+02
1980	6.901E+03	5.525E+06	3.712E+02	1.843E+03	2.763E+06	1.856E+02
1981	7.433E+03	5.951E+06	3.998E+02	1.985E+03	2.975E+06	1.999E+02
1982	7.968E+03	6.379E+06	4.286E+02	2.128E+03	3.190E+06	2.143E+02
1983	8.511E+03	6.814E+06	4.578E+02	2.273E+03	3.407E+06	2.289E+02
1984	8.998E+03	7.204E+06	4.840E+02	2.403E+03	3.602E+06	2.420E+02
1985	9.503E+03	7.609E+06	5.112E+02	2.538E+03	3.804E+06	2.556E+02
1986	1.002E+04	8.022E+06	5.390E+02	2.676E+03	4.011E+06	2.695E+02
1987	1.056E+04	8.451E+06	5.678E+02	2.819E+03	4.225E+06	2.839E+02
1988	1.108E+04	8.871E+06	5.960E+02	2.959E+03	4.435E+06	2.980E+02
1989	1.161E+04	9.293E+06	6.244E+02	3.100E+03	4.647E+06	3.122E+02
1990	1.243E+04	9.953E+06	6.687E+02	3.320E+03	4.976E+06	3.344E+02
1991	1.326E+04	1.062E+07	7.132E+02	3.541E+03	5.308E+06	3.566E+02
1992	1.408E+04	1.127E+07	7.574E+02	3.760E+03	5.636E+06	3.787E+02
1993	1.531E+04	1.226E+07	8.234E+02	4.088E+03	6.128E+06	4.117E+02
1994	1.687E+04	1.351E+07	9.074E+02	4.505E+03	6.753E+06	4.537E+02
1995	1.846E+04	1.478E+07	9.932E+02	4.931E+03	7.391E+06	4.966E+02
1996	1.997E+04	1.599E+07	1.074E+03	5.334E+03	7.995E+06	5.372E+02
1997	2.140E+04	1.713E+07	1.151E+03	5.715E+03	8.566E+06	5.756E+02
1998	2.375E+04	1.902E+07	1.278E+03	6.343E+03	9.508E+06	6.388E+02
1999	2.620E+04	2.098E+07	1.409E+03	6.997E+03	1.049E+07	7.047E+02
2000	2.872E+04	2.300E+07	1.545E+03	7.671E+03	1.150E+07	7.726E+02
2001	3.089E+04	2.473E+07	1.662E+03	8.250E+03	1.237E+07	8.309E+02
2002	3.313E+04	2.652E+07	1.782E+03	8.848E+03	1.326E+07	8.911E+02
2003	3.540E+04	2.834E+07	1.904E+03	9.454E+03	1.417E+07	9.521E+02
2004	3.699E+04	2.962E+07	1.990E+03	9.880E+03	1.481E+07	9.950E+02
2005	4.036E+04	3.231E+07	2.171E+03	1.078E+04	1.616E+07	1.086E+03
2006	4.361E+04	3.492E+07	2.346E+03	1.165E+04	1.746E+07	1.173E+03
2007	4.706E+04	3.768E+07	2.532E+03	1.257E+04	1.884E+07	1.266E+03
2008	5.132E+04	4.109E+07	2.761E+03	1.371E+04	2.054E+07	1.380E+03
2009	5.509E+04	4.411E+07	2.964E+03	1.471E+04	2.205E+07	1.482E+03
2010	5.832E+04	4.669E+07	3.137E+03	1.558E+04	2.335E+07	1.569E+03
2011	5.509E+04	4.411E+07	2.964E+03	1.471E+04	2.205E+07	1.482E+03
2012	5.204E+04	4.166E+07	2.799E+03	1.390E+04	2.083E+07	1.400E+03
2013	4.916E+04	3.936E+07	2.644E+03	1.313E+04	1.968E+07	1.322E+03
2014	4.643E+04	3.717E+07	2.498E+03	1.240E+04	1.859E+07	1.249E+03
2015	4.386E+04	3.511E+07	2.359E+03	1.171E+04	1.756E+07	1.180E+03
2016	4.143E+04	3.317E+07	2.229E+03	1.106E+04	1.658E+07	1.114E+03
2017	3.913E+04	3.133E+07	2.105E+03	1.045E+04	1.567E+07	1.053E+03
2018	3.696E+04	2.959E+07	1.988E+03	9.872E+03	1.480E+07	9.942E+02
2019	3.492E+04	2.795E+07	1.878E+03	9.325E+03	1.398E+07	9.391E+02
2020	3.298E+04	2.641E+07	1.774E+03	8.809E+03	1.320E+07	8.872E+02
2021	3.116E+04	2.494E+07	1.676E+03	8.321E+03	1.247E+07	8.380E+02
2022	2.943E+04	2.356E+07	1.583E+03	7.860E+03	1.178E+07	7.916E+02
2023	2.780E+04	2.226E+07	1.495E+03	7.424E+03	1.113E+07	7.477E+02
2024	2.626E+04	2.102E+07	1.413E+03	7.013E+03	1.051E+07	7.063E+02
2025	2.480E+04	1.986E+07	1.334E+03	6.624E+03	9.929E+06	6.671E+02
2026	2.343E+04	1.876E+07	1.260E+03	6.257E+03	9.379E+06	6.302E+02
2027	2.213E+04	1.772E+07	1.190E+03	5.910E+03	8.859E+06	5.952E+02
2028	2.090E+04	1.674E+07	1.125E+03	5.583E+03	8.368E+06	5.623E+02
2029	1.975E+04	1.581E+07	1.062E+03	5.274E+03	7.905E+06	5.312E+02
2030	1.865E+04	1.493E+07	1.003E+03	4.981E+03	7.466E+06	5.016E+02
2031	1.762E+04	1.410E+07	9.477E+02	4.705E+03	7.052E+06	4.739E+02
2032	1.664E+04	1.333E+07	8.953E+02	4.445E+03	6.663E+06	4.477E+02
2033	1.572E+04	1.258E+07	8.456E+02	4.198E+03	6.292E+06	4.228E+02
2034	1.485E+04	1.189E+07	7.988E+02	3.966E+03	5.945E+06	3.994E+02
2035	1.403E+04	1.123E+07	7.545E+02	3.746E+03	5.615E+06	3.773E+02

Year	Carbon Dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1953	0	0	0	0	0	0
1954	4.939E+01	2.698E+04	1.813E+00	1.161E-01	3.238E+01	2.175E-03
1955	1.015E+02	5.546E+04	3.726E+00	2.386E-01	6.655E+01	4.472E-03
1956	1.591E+02	8.694E+04	5.841E+00	3.739E-01	1.043E+02	7.010E-03
1957	2.195E+02	1.199E+05	8.057E+00	5.158E-01	1.439E+02	9.668E-03
1958	2.826E+02	1.544E+05	1.037E+01	6.641E-01	1.853E+02	1.245E-02
1959	3.539E+02	1.934E+05	1.299E+01	8.317E-01	2.320E+02	1.559E-02
1960	4.280E+02	2.338E+05	1.571E+01	1.006E+00	2.806E+02	1.885E-02
1961	5.103E+02	2.788E+05	1.873E+01	1.199E+00	3.346E+02	2.248E-02
1962	6.009E+02	3.283E+05	2.206E+01	1.412E+00	3.939E+02	2.647E-02
1963	6.997E+02	3.822E+05	2.568E+01	1.644E+00	4.587E+02	3.082E-02
1964	8.067E+02	4.407E+05	2.961E+01	1.896E+00	5.288E+02	3.553E-02
1965	9.246E+02	5.051E+05	3.394E+01	2.173E+00	6.062E+02	4.073E-02
1966	1.054E+03	5.756E+05	3.867E+01	2.476E+00	6.907E+02	4.641E-02
1967	1.199E+03	6.550E+05	4.401E+01	2.818E+00	7.860E+02	5.281E-02
1968	1.358E+03	7.420E+05	4.985E+01	3.191E+00	8.904E+02	5.982E-02
1969	1.534E+03	8.379E+05	5.630E+01	3.604E+00	1.005E+03	6.756E-02
1970	1.729E+03	9.443E+05	6.345E+01	4.062E+00	1.133E+03	7.614E-02
1971	1.943E+03	1.061E+06	7.130E+01	4.565E+00	1.273E+03	8.556E-02
1972	2.181E+03	1.192E+06	8.007E+01	5.126E+00	1.430E+03	9.608E-02
1973	2.447E+03	1.337E+06	8.984E+01	5.751E+00	1.604E+03	1.078E-01
1974	2.741E+03	1.497E+06	1.006E+02	6.441E+00	1.797E+03	1.207E-01
1975	3.070E+03	1.677E+06	1.127E+02	7.215E+00	2.013E+03	1.352E-01
1976	3.432E+03	1.875E+06	1.260E+02	8.066E+00	2.250E+03	1.512E-01
1977	3.836E+03	2.095E+06	1.408E+02	9.013E+00	2.515E+03	1.690E-01
1978	4.286E+03	2.341E+06	1.573E+02	1.007E+01	2.810E+03	1.888E-01
1979	4.670E+03	2.551E+06	1.714E+02	1.097E+01	3.061E+03	2.057E-01
1980	5.057E+03	2.763E+06	1.856E+02	1.188E+01	3.315E+03	2.227E-01
1981	5.446E+03	2.975E+06	1.999E+02	1.280E+01	3.570E+03	2.399E-01
1982	5.839E+03	3.190E+06	2.143E+02	1.372E+01	3.828E+03	2.572E-01
1983	6.237E+03	3.407E+06	2.289E+02	1.465E+01	4.088E+03	2.747E-01
1984	6.593E+03	3.602E+06	2.420E+02	1.549E+01	4.322E+03	2.904E-01
1985	6.964E+03	3.804E+06	2.556E+02	1.636E+01	4.565E+03	3.067E-01
1986	7.342E+03	4.011E+06	2.695E+02	1.725E+01	4.813E+03	3.234E-01
1987	7.735E+03	4.225E+06	2.839E+02	1.818E+01	5.071E+03	3.407E-01
1988	8.119E+03	4.435E+06	2.980E+02	1.908E+01	5.322E+03	3.576E-01
1989	8.506E+03	4.647E+06	3.122E+02	1.999E+01	5.576E+03	3.746E-01
1990	9.109E+03	4.976E+06	3.344E+02	2.141E+01	5.972E+03	4.012E-01
1991	9.716E+03	5.308E+06	3.566E+02	2.283E+01	6.369E+03	4.279E-01
1992	1.032E+04	5.636E+06	3.787E+02	2.424E+01	6.763E+03	4.544E-01
1993	1.122E+04	6.128E+06	4.117E+02	2.636E+01	7.353E+03	4.941E-01
1994	1.236E+04	6.753E+06	4.537E+02	2.905E+01	8.103E+03	5.444E-01
1995	1.353E+04	7.391E+06	4.966E+02	3.179E+01	8.869E+03	5.959E-01
1996	1.464E+04	7.995E+06	5.372E+02	3.439E+01	9.594E+03	6.446E-01
1997	1.568E+04	8.566E+06	5.756E+02	3.685E+01	1.028E+04	6.907E-01
1998	1.740E+04	9.508E+06	6.388E+02	4.090E+01	1.141E+04	7.666E-01
1999	1.920E+04	1.049E+07	7.047E+02	4.511E+01	1.259E+04	8.456E-01
2000	2.105E+04	1.150E+07	7.726E+02	4.946E+01	1.380E+04	9.271E-01
2001	2.264E+04	1.237E+07	8.309E+02	5.319E+01	1.484E+04	9.970E-01
2002	2.428E+04	1.326E+07	8.911E+02	5.705E+01	1.591E+04	1.069E+00
2003	2.594E+04	1.417E+07	9.521E+02	6.095E+01	1.700E+04	1.143E+00
2004	2.711E+04	1.481E+07	9.950E+02	6.370E+01	1.777E+04	1.194E+00
2005	2.958E+04	1.616E+07	1.086E+03	6.950E+01	1.939E+04	1.303E+00
2006	3.196E+04	1.746E+07	1.173E+03	7.510E+01	2.095E+04	1.408E+00
2007	3.449E+04	1.884E+07	1.266E+03	8.104E+01	2.261E+04	1.519E+00
2008	3.761E+04	2.054E+07	1.380E+03	8.837E+01	2.465E+04	1.656E+00
2009	4.037E+04	2.205E+07	1.482E+03	9.486E+01	2.646E+04	1.778E+00
2010	4.274E+04	2.335E+07	1.569E+03	1.004E+02	2.802E+04	1.882E+00
2011	4.037E+04	2.205E+07	1.482E+03	9.486E+01	2.646E+04	1.778E+00
2012	3.813E+04	2.083E+07	1.400E+03	8.961E+01	2.500E+04	1.680E+00
2013	3.602E+04	1.968E+07	1.322E+03	8.464E+01	2.361E+04	1.587E+00
2014	3.402E+04	1.859E+07	1.249E+03	7.995E+01	2.230E+04	1.499E+00
2015	3.214E+04	1.756E+07	1.180E+03	7.552E+01	2.107E+04	1.416E+00
2016	3.036E+04	1.658E+07	1.114E+03	7.133E+01	1.990E+04	1.337E+00
2017	2.868E+04	1.567E+07	1.053E+03	6.738E+01	1.880E+04	1.263E+00
2018	2.709E+04	1.480E+07	9.942E+02	6.365E+01	1.776E+04	1.193E+00
2019	2.559E+04	1.398E+07	9.391E+02	6.012E+01	1.677E+04	1.127E+00
2020	2.417E+04	1.320E+07	8.872E+02	5.679E+01	1.584E+04	1.065E+00
2021	2.283E+04	1.247E+07	8.380E+02	5.365E+01	1.497E+04	1.006E+00
2022	2.157E+04	1.178E+07	7.916E+02	5.068E+01	1.414E+04	9.499E-01
2023	2.037E+04	1.113E+07	7.477E+02	4.787E+01	1.335E+04	8.972E-01
2024	1.924E+04	1.051E+07	7.063E+02	4.522E+01	1.261E+04	8.476E-01
2025	1.817E+04	9.929E+06	6.671E+02	4.271E+01	1.191E+04	8.005E-01
2026	1.717E+04	9.379E+06	6.302E+02	4.034E+01	1.125E+04	7.562E-01
2027	1.622E+04	8.859E+06	5.952E+02	3.810E+01	1.063E+04	7.142E-01
2028	1.532E+04	8.368E+06	5.623E+02	3.600E+01	1.004E+04	6.747E-01
2029	1.447E+04	7.905E+06	5.312E+02	3.400E+01	9.486E+03	6.374E-01
2030	1.367E+04	7.466E+06	5.016E+02	3.211E+01	8.959E+03	6.020E-01
2031	1.291E+04	7.052E+06	4.739E+02	3.033E+01	8.463E+03	5.686E-01
2032	1.220E+04	6.663E+06	4.477E+02	2.866E+01	7.995E+03	5.372E-01
2033	1.152E+04	6.292E+06	4.228E+02	2.707E+01	7.551E+03	5.073E-01
2034	1.088E+04	5.945E+06	3.994E+02	2.557E+01	7.134E+03	4.793E-01
2035	1.028E+04	5.615E+06	3.773E+02	2.415E+01	6.738E+03	4.527E-01

Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 2

Date: Wednesday, October 8, 2025

Description/Comments:
Cells 0-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

About LandGEM:

First-Order Decomposition Rate Equation

$$G_{CH4} = \sum_{x=S}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)}\right)$$

Where,

GCH4 = Modeled methane generation rate in reporting year T (metric tons CH4).
x = Year in which waste was disposed
Wx = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)). Use bulk waste tonnage
DOC = Degradable organic carbon (Mg C/Mg waste)
16/12 = stoichiometric ratio of CH4/C molecular weights

T = Reporting year for which emissions are calculated.
S = Start year of calculation
MCF = Methane correction factor (fraction). Use the default value of 1
DOCf = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.
F = Fraction by volume of CH4 in landfill gas; use the default of 0.5.
k = Rate constant from Table HH–1 to this subpart (yr-1).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at https://www.epa.gov/land-research/landfill-gas-emissions-model-landgem.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**2010**	
Landfill Closure Year (with 80-year limit)	**2045**	
Actual Closure Year (without limit)		
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**39,600,000**	*U.S. tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.067**	*year^{-1}*
Degradable Organic Carbon, DOC	**0.170**	*Mg C/Mg waste*
Potential Methane Generation Capacity, L_0	**80**	*m^3/Mg*
NMOC Concentration	**550**	*ppmv as hexane*
Methane Content	**0.50**	*Fraction by volume in landfill gas (0.5 = 50%)*
Fraction of DOC dissimilated, DOC_f	**0.50**	*Fraction by mass (0.5 = 50%)*
Methane Correction Factor, MCF	**1.0**	*fractional percentage (1.0 = 100%)*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2010	416,028	458,588	0	0
2011	438,206	483,034	416,028	377,418
2012	429,603	473,551	854,234	774,956
2013	434,645	479,109	1,283,837	1,164,689
2014	453,388	499,770	1,718,482	1,558,997
2015	477,693	526,561	2,171,870	1,970,308
2016	502,431	553,830	2,649,563	2,403,668
2017	854,040	941,408	3,151,994	2,859,470
2018	917,041	1,010,854	4,006,034	3,634,250
2019	937,654	1,033,576	4,923,075	4,466,184
2020	780,118	859,924	5,860,729	5,316,818
2021	948,940	1,046,017	6,640,847	6,024,537
2022	1,011,362	1,114,824	7,589,787	6,885,410
2023	1,006,029	1,108,946	8,601,149	7,802,911
2024	1,031,923	1,137,489	9,607,178	8,715,575
2025	1,360,791	1,500,000	10,639,101	9,651,729
2026	1,360,791	1,500,000	11,999,892	10,886,231
2027	1,360,791	1,500,000	13,360,683	12,120,732
2028	1,360,791	1,500,000	14,721,474	13,355,234
2029	1,360,791	1,500,000	16,082,265	14,589,735
2030	1,360,791	1,500,000	17,443,056	15,824,237
2031	1,360,791	1,500,000	18,803,847	17,058,738
2032	1,360,791	1,500,000	20,164,638	18,293,240
2033	1,360,791	1,500,000	21,525,429	19,527,741
2034	1,360,791	1,500,000	22,886,220	20,762,243
2035	1,360,791	1,500,000	24,247,011	21,996,744

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	5.721E+03	4.581E+06	3.078E+02	1.528E+03	2.290E+06	1.539E+02
2012	1.138E+04	9.107E+06	6.119E+02	3.038E+03	4.554E+06	3.060E+02
2013	1.655E+04	1.325E+07	8.901E+02	4.419E+03	6.624E+06	4.450E+02
2014	2.145E+04	1.717E+07	1.154E+03	5.728E+03	8.586E+06	5.769E+02
2015	2.629E+04	2.105E+07	1.414E+03	7.022E+03	1.053E+07	7.072E+02
2016	3.116E+04	2.494E+07	1.676E+03	8.321E+03	1.247E+07	8.380E+02
2017	3.605E+04	2.886E+07	1.939E+03	9.627E+03	1.443E+07	9.696E+02
2018	4.546E+04	3.639E+07	2.445E+03	1.214E+04	1.820E+07	1.223E+03
2019	5.512E+04	4.413E+07	2.965E+03	1.472E+04	2.206E+07	1.482E+03
2020	6.444E+04	5.159E+07	3.467E+03	1.721E+04	2.580E+07	1.733E+03
2021	7.099E+04	5.684E+07	3.819E+03	1.896E+04	2.842E+07	1.909E+03
2022	7.944E+04	6.360E+07	4.273E+03	2.122E+04	3.180E+07	2.137E+03
2023	8.820E+04	7.061E+07	4.745E+03	2.356E+04	3.531E+07	2.372E+03
2024	9.632E+04	7.711E+07	5.181E+03	2.572E+04	3.856E+07	2.591E+03
2025	1.043E+05	8.347E+07	5.609E+03	2.785E+04	4.174E+07	2.804E+03
2026	1.162E+05	9.305E+07	6.252E+03	3.104E+04	4.652E+07	3.126E+03
2027	1.274E+05	1.020E+08	6.853E+03	3.402E+04	5.100E+07	3.427E+03
2028	1.379E+05	1.104E+08	7.416E+03	3.682E+04	5.518E+07	3.708E+03
2029	1.476E+05	1.182E+08	7.942E+03	3.943E+04	5.910E+07	3.971E+03
2030	1.568E+05	1.255E+08	8.433E+03	4.187E+04	6.276E+07	4.217E+03
2031	1.653E+05	1.324E+08	8.893E+03	4.415E+04	6.618E+07	4.447E+03
2032	1.733E+05	1.388E+08	9.324E+03	4.629E+04	6.938E+07	4.662E+03
2033	1.808E+05	1.448E+08	9.726E+03	4.829E+04	7.238E+07	4.863E+03
2034	1.878E+05	1.504E+08	1.010E+04	5.016E+04	7.518E+07	5.051E+03
2035	1.943E+05	1.556E+08	1.045E+04	5.190E+04	7.780E+07	5.227E+03

Year	Carbon Dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	4.192E+03	2.290E+06	1.539E+02	9.031E+00	2.519E+03	1.693E-01
2012	8.336E+03	4.554E+06	3.060E+02	1.795E+01	5.009E+03	3.366E-01
2013	1.212E+04	6.624E+06	4.450E+02	2.612E+01	7.286E+03	4.896E-01
2014	1.572E+04	8.586E+06	5.769E+02	3.385E+01	9.444E+03	6.346E-01
2015	1.927E+04	1.053E+07	7.072E+02	4.150E+01	1.158E+04	7.779E-01
2016	2.283E+04	1.247E+07	8.380E+02	4.918E+01	1.372E+04	9.218E-01
2017	2.641E+04	1.443E+07	9.696E+02	5.690E+01	1.587E+04	1.067E+00
2018	3.331E+04	1.820E+07	1.223E+03	7.175E+01	2.002E+04	1.345E+00
2019	4.039E+04	2.206E+07	1.482E+03	8.700E+01	2.427E+04	1.631E+00
2020	4.722E+04	2.580E+07	1.733E+03	1.017E+02	2.838E+04	1.907E+00
2021	5.202E+04	2.842E+07	1.909E+03	1.120E+02	3.126E+04	2.100E+00
2022	5.821E+04	3.180E+07	2.137E+03	1.254E+02	3.498E+04	2.350E+00
2023	6.463E+04	3.531E+07	2.372E+03	1.392E+02	3.884E+04	2.609E+00
2024	7.058E+04	3.856E+07	2.591E+03	1.520E+02	4.241E+04	2.850E+00
2025	7.640E+04	4.174E+07	2.804E+03	1.646E+02	4.591E+04	3.085E+00
2026	8.516E+04	4.652E+07	3.126E+03	1.834E+02	5.118E+04	3.438E+00
2027	9.335E+04	5.100E+07	3.427E+03	2.011E+02	5.610E+04	3.769E+00
2028	1.010E+05	5.518E+07	3.708E+03	2.176E+02	6.070E+04	4.079E+00
2029	1.082E+05	5.910E+07	3.971E+03	2.330E+02	6.501E+04	4.368E+00
2030	1.149E+05	6.276E+07	4.217E+03	2.474E+02	6.903E+04	4.638E+00
2031	1.211E+05	6.618E+07	4.447E+03	2.609E+02	7.280E+04	4.891E+00
2032	1.270E+05	6.938E+07	4.662E+03	2.736E+02	7.632E+04	5.128E+00
2033	1.325E+05	7.238E+07	4.863E+03	2.854E+02	7.962E+04	5.349E+00
2034	1.376E+05	7.518E+07	5.051E+03	2.964E+02	8.270E+04	5.556E+00
2035	1.424E+05	7.780E+07	5.227E+03	3.067E+02	8.557E+04	5.750E+00

TOTAL LANDFILL GAS GENERATION SUMMARY

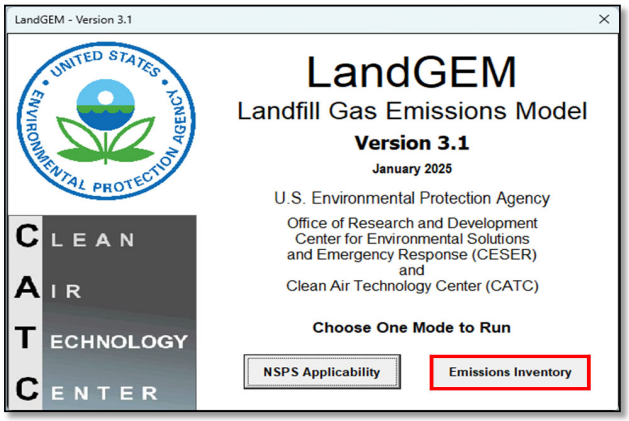
COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
1953	0	0	0				0	0	0
1954	67	53,961	4				67	53,961	4
1955	139	110,920	7				139	110,920	7
1956	217	173,874	12				217	173,874	12
1957	300	239,827	16				300	239,827	16
1958	386	308,777	21				386	308,777	21
1959	483	386,721	26				483	386,721	26
1960	584	467,662	31				584	467,662	31
1961	696	557,597	37				696	557,597	37
1962	820	656,526	44				820	656,526	44
1963	955	764,448	51				955	764,448	51
1964	1,101	881,363	59				1,101	881,363	59
1965	1,262	1,010,270	68				1,262	1,010,270	68
1966	1,438	1,151,168	77				1,438	1,151,168	77
1967	1,636	1,310,053	88				1,636	1,310,053	88
1968	1,853	1,483,928	100				1,853	1,483,928	100
1969	2,093	1,675,789	113				2,093	1,675,789	113
1970	2,359	1,888,635	127				2,359	1,888,635	127
1971	2,651	2,122,466	143				2,651	2,122,466	143
1972	2,977	2,383,278	160				2,977	2,383,278	160
1973	3,340	2,674,068	180				3,340	2,674,068	180
1974	3,741	2,994,836	201				3,741	2,994,836	201
1975	4,190	3,354,576	225				4,190	3,354,576	225
1976	4,684	3,750,290	252				4,684	3,750,290	252
1977	5,235	4,190,972	282				5,235	4,190,972	282
1978	5,849	4,682,616	315				5,849	4,682,616	315
1979	6,373	5,102,313	343				6,373	5,102,313	343
1980	6,901	5,525,008	371				6,901	5,525,008	371
1981	7,433	5,950,700	400				7,433	5,950,700	400
1982	7,968	6,379,390	429				7,968	6,379,390	429
1983	8,511	6,814,076	458				8,511	6,814,076	458
1984	8,998	7,203,795	484				8,998	7,203,795	484
1985	9,503	7,608,502	511				9,503	7,608,502	511
1986	10,020	8,022,203	539				10,020	8,022,203	539
1987	10,555	8,450,894	568				10,555	8,450,894	568
1988	11,080	8,870,590	596				11,080	8,870,590	596
1989	11,608	9,293,285	624				11,608	9,293,285	624
1990	12,431	9,952,808	669				12,431	9,952,808	669
1991	13,259	10,615,330	713				13,259	10,615,330	713
1992	14,079	11,271,855	757				14,079	11,271,855	757
1993	15,307	12,255,145	823				15,307	12,255,145	823
1994	16,868	13,505,241	907				16,868	13,505,241	907
1995	18,464	14,782,319	993				18,464	14,782,319	993
1996	19,973	15,990,446	1,074				19,973	15,990,446	1,074
1997	21,399	17,132,620	1,151				21,399	17,132,620	1,151
1998	23,751	19,015,260	1,278				23,751	19,015,260	1,278
1999	26,199	20,975,843	1,409				26,199	20,975,843	1,409
2000	28,723	22,996,383	1,545				28,723	22,996,383	1,545
2001	30,891	24,732,129	1,662				30,891	24,732,129	1,662
2002	33,130	26,524,834	1,782				33,130	26,524,834	1,782
2003	35,399	28,341,521	1,904				35,399	28,341,521	1,904
2004	36,995	29,618,598	1,990				36,995	29,618,598	1,990
2005	40,361	32,313,651	2,171				40,361	32,313,651	2,171
2006	43,615	34,918,768	2,346				43,615	34,918,768	2,346
2007	47,063	37,679,773	2,532				47,063	37,679,773	2,532
2008	51,321	41,088,310	2,761				51,321	41,088,310	2,761
2009	55,091	44,107,129	2,964				55,091	44,107,129	2,964
2010	58,323	46,694,259	3,137	0.00	0	0.00	58,323	46,694,259	3,137
2011	55,091	44,107,129	2,964	5,721.43	4,580,690	307.78	60,813	48,687,819	3,271
2012	52,040	41,663,894	2,799	11,375.45	9,107,419	611.93	63,415	50,771,313	3,411
2013	49,156	39,355,562	2,644	16,546.46	13,247,428	890.09	65,703	52,602,990	3,534
2014	46,430	37,173,139	2,498	21,447.86	17,171,592	1,153.76	67,878	54,344,731	3,651

TOTAL LANDFILL GAS GENERATION SUMMARY

COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)	(Mg/year)	(m^3/year)	(av ft^3/min)
2015	43,858	35,113,627	2,359	26,293.10	21,050,789	1,414.40	70,151	56,164,417	3,774
2016	41,428	33,168,033	2,229	31,157.06	24,944,975	1,676.05	72,585	58,113,008	3,905
2017	39,133	31,330,361	2,105	36,047.23	28,860,146	1,939.11	75,180	60,190,507	4,044
2018	36,965	29,594,615	1,988	45,456.88	36,393,703	2,445.29	82,421	65,988,318	4,434
2019	34,916	27,954,800	1,878	55,117.41	44,128,114	2,964.96	90,034	72,082,914	4,843
2020	32,984	26,407,918	1,774	64,440.94	51,592,720	3,466.51	97,425	78,000,638	5,241
2021	31,157	24,944,975	1,676	70,989.87	56,835,931	3,818.80	102,147	81,780,906	5,495
2022	29,431	23,562,974	1,583	79,437.21	63,599,044	4,273.21	108,868	87,162,018	5,856
2023	27,798	22,255,918	1,495	88,199.08	70,613,975	4,744.54	115,997	92,869,894	6,240
2024	26,259	21,023,809	1,413	96,316.92	77,113,279	5,181.23	122,576	98,137,088	6,594
2025	24,803	19,857,651	1,334	104,262.51	83,474,683	5,608.65	129,065	103,332,334	6,943
2026	23,429	18,757,446	1,260	116,218.35	93,046,766	6,251.80	139,647	111,804,212	7,512
2027	22,129	17,717,198	1,190	127,399.09	101,998,298	6,853.25	149,528	119,715,496	8,044
2028	20,905	16,736,906	1,125	137,853.43	110,368,250	7,415.63	158,758	127,105,156	8,540
2029	19,748	15,810,576	1,062	147,630.03	118,195,594	7,941.55	167,378	134,006,169	9,004
2030	18,651	14,932,210	1,003	156,773.82	125,516,304	8,433.43	175,425	140,448,514	9,437
2031	17,617	14,104,808	948	165,326.01	132,363,356	8,893.48	182,943	146,468,164	9,841
2032	16,644	13,325,371	895	173,324.02	138,766,729	9,323.72	189,968	152,092,101	10,219
2033	15,719	12,584,906	846	180,805.31	144,756,401	9,726.16	196,524	157,341,308	10,572
2034	14,850	11,889,409	799	187,799.83	150,356,355	10,102.43	202,650	162,245,764	10,901
2035	**14,026**	**11,229,885**	**755**	**194,337.53**	**155,590,573**	**10,454.11**	**208,364**	**166,820,458**	**11,209**



Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 1

Date: Friday, October 3, 2025

Description/Comments:
Cells 0-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

About LandGEM:

First-Order Decomposition Rate Equation

$$G_{CH4} = \sum_{x=S}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)}\right)$$

Where,

GCH4 = Modeled methane generation rate in reporting year T (metric tons CH4).
x = Year in which waste was disposed
Wx = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)). Use bulk waste tonnage
DOC = Degradable organic carbon (Mg C/Mg waste)
16/12 = stoichiometric ratio of CH4/C molecular weights

T = Reporting year for which emissions are calculated.
S = Start year of calculation
MCF = Methane correction factor (fraction). Use the default value of 1
DOCf = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.
F = Fraction by volume of CH4 in landfill gas; use the default of 0.5.
k = Rate constant from Table HH–1 to this subpart (yr-1).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at https://www.epa.gov/land-research/landfill-gas-emissions-model-landgem.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**1953**	
Landfill Closure Year (with 80-year limit)	**2009**	
Actual Closure Year (without limit)		
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**39,600,000**	*U.S. tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.057**	*year^{-1}*
Degradable Organic Carbon, DOC	**0.200**	*Mg C/Mg waste*
Potential Methane Generation Capacity, L_0	**100**	*m^3/Mg*
NMOC Concentration	**600**	*ppmv as hexane*
Methane Content	**0.50**	*Fraction by volume in landfill gas (0.5 = 50%)*
Fraction of DOC dissimilated, DOC_f	**0.50**	*Fraction by mass (0.5 = 50%)*
Methane Correction Factor, MCF	**1.0**	*fractional percentage (1.0 = 100%)*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
1953	4,915	5,418	0	0
1954	5,474	6,034	4,915	4,459
1955	6,097	6,721	10,389	9,425
1956	6,791	7,486	16,486	14,956
1957	7,564	8,338	23,277	21,117
1958	8,425	9,287	30,841	27,979
1959	9,384	10,344	39,266	35,622
1960	10,452	11,521	48,650	44,135
1961	11,642	12,833	59,102	53,617
1962	12,967	14,294	70,744	64,179
1963	14,443	15,921	83,711	75,942
1964	16,086	17,732	98,154	89,045
1965	17,917	19,750	114,240	103,638
1966	19,956	21,997	132,157	119,892
1967	22,228	24,502	152,113	137,996
1968	24,758	27,291	174,341	158,161
1969	27,576	30,397	199,099	180,621
1970	30,714	33,856	226,675	205,638
1971	34,210	37,710	257,389	233,502
1972	38,104	42,002	291,599	264,537
1973	42,440	46,782	329,703	299,105
1974	47,271	52,107	372,143	337,606
1975	52,651	58,037	419,414	380,490
1976	58,644	64,643	472,065	428,255
1977	65,318	72,000	530,709	481,456
1978	61,236	67,500	596,027	540,712
1979	63,685	70,200	657,263	596,265
1980	66,134	72,900	720,948	654,040
1981	68,584	75,600	787,082	714,036
1982	71,033	78,300	855,666	776,255
1983	69,400	76,500	926,699	840,696
1984	72,485	79,900	996,099	903,655
1985	75,569	83,300	1,068,584	969,413
1986	78,654	86,700	1,144,153	1,037,969
1987	80,196	88,400	1,222,807	1,109,323
1988	82,736	91,200	1,303,003	1,182,077
1989	105,960	116,800	1,385,739	1,257,134
1990	109,589	120,800	1,491,699	1,353,260
1991	112,492	124,000	1,601,288	1,452,679
1992	145,151	160,000	1,713,780	1,554,731
1993	174,138	191,952	1,858,931	1,686,411
1994	183,069	201,797	2,033,069	1,844,388
1995	183,069	201,797	2,216,138	2,010,467
1996	183,069	201,797	2,399,207	2,176,546
1997	255,858	282,032	2,582,276	2,342,625
1998	271,995	299,820	2,838,134	2,574,738
1999	287,497	316,908	3,110,129	2,821,491
2000	271,920	299,737	3,397,626	3,082,306
2001	285,600	314,817	3,669,546	3,328,990
2002	296,868	327,238	3,955,146	3,588,085
2003	256,923	283,206	4,252,014	3,857,402
2004	391,839	431,924	4,508,937	4,090,481
2005	396,945	437,552	4,900,776	4,445,955
2006	423,997	467,372	5,297,721	4,806,061
2007	496,234	546,999	5,721,718	5,190,709
2008	478,378	527,316	6,217,952	5,640,889
2009	454,226	500,693	6,696,330	6,074,871
2010	0	0	7,150,556	6,486,942
2011	0	0	7,150,556	6,486,942
2012	0	0	7,150,556	6,486,942
2013	0	0	7,150,556	6,486,942
2014	0	0	7,150,556	6,486,942
2015	0	0	7,150,556	6,486,942
2016	0	0	7,150,556	6,486,942
2017	0	0	7,150,556	6,486,942
2018	0	0	7,150,556	6,486,942
2019	0	0	7,150,556	6,486,942
2020	0	0	7,150,556	6,486,942

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1953	0	0	0	0	0	0
1954	6.740E+01	5.396E+04	3.626E+00	1.800E+01	2.698E+04	1.813E+00
1955	1.385E+02	1.109E+05	7.453E+00	3.700E+01	5.546E+04	3.726E+00
1956	2.172E+02	1.739E+05	1.168E+01	5.800E+01	8.694E+04	5.841E+00
1957	2.996E+02	2.398E+05	1.611E+01	8.000E+01	1.199E+05	8.057E+00
1958	3.857E+02	3.088E+05	2.075E+01	1.030E+02	1.544E+05	1.037E+01
1959	4.830E+02	3.867E+05	2.598E+01	1.290E+02	1.934E+05	1.299E+01
1960	5.841E+02	4.677E+05	3.142E+01	1.560E+02	2.338E+05	1.571E+01
1961	6.965E+02	5.576E+05	3.746E+01	1.860E+02	2.788E+05	1.873E+01
1962	8.200E+02	6.565E+05	4.411E+01	2.190E+02	3.283E+05	2.206E+01
1963	9.548E+02	7.644E+05	5.136E+01	2.550E+02	3.822E+05	2.568E+01
1964	1.101E+03	8.814E+05	5.922E+01	2.940E+02	4.407E+05	2.961E+01
1965	1.262E+03	1.010E+06	6.788E+01	3.370E+02	5.051E+05	3.394E+01
1966	1.438E+03	1.151E+06	7.735E+01	3.840E+02	5.756E+05	3.867E+01
1967	1.636E+03	1.310E+06	8.802E+01	4.370E+02	6.550E+05	4.401E+01
1968	1.853E+03	1.484E+06	9.970E+01	4.950E+02	7.420E+05	4.985E+01
1969	2.093E+03	1.676E+06	1.126E+02	5.590E+02	8.379E+05	5.630E+01
1970	2.359E+03	1.889E+06	1.269E+02	6.300E+02	9.443E+05	6.345E+01
1971	2.651E+03	2.122E+06	1.426E+02	7.080E+02	1.061E+06	7.130E+01
1972	2.977E+03	2.383E+06	1.601E+02	7.950E+02	1.192E+06	8.007E+01
1973	3.340E+03	2.674E+06	1.797E+02	8.920E+02	1.337E+06	8.984E+01
1974	3.741E+03	2.995E+06	2.012E+02	9.990E+02	1.497E+06	1.006E+02
1975	4.190E+03	3.355E+06	2.254E+02	1.119E+03	1.677E+06	1.127E+02
1976	4.684E+03	3.750E+06	2.520E+02	1.251E+03	1.875E+06	1.260E+02
1977	5.235E+03	4.191E+06	2.816E+02	1.398E+03	2.095E+06	1.408E+02
1978	5.849E+03	4.683E+06	3.146E+02	1.562E+03	2.341E+06	1.573E+02
1979	6.373E+03	5.102E+06	3.428E+02	1.702E+03	2.551E+06	1.714E+02
1980	6.901E+03	5.525E+06	3.712E+02	1.843E+03	2.763E+06	1.856E+02
1981	7.433E+03	5.951E+06	3.998E+02	1.985E+03	2.975E+06	1.999E+02
1982	7.968E+03	6.379E+06	4.286E+02	2.128E+03	3.190E+06	2.143E+02
1983	8.511E+03	6.814E+06	4.578E+02	2.273E+03	3.407E+06	2.289E+02
1984	8.998E+03	7.204E+06	4.840E+02	2.403E+03	3.602E+06	2.420E+02
1985	9.503E+03	7.609E+06	5.112E+02	2.538E+03	3.804E+06	2.556E+02
1986	1.002E+04	8.022E+06	5.390E+02	2.676E+03	4.011E+06	2.695E+02
1987	1.056E+04	8.451E+06	5.678E+02	2.819E+03	4.225E+06	2.839E+02
1988	1.108E+04	8.871E+06	5.960E+02	2.959E+03	4.435E+06	2.980E+02
1989	1.161E+04	9.293E+06	6.244E+02	3.100E+03	4.647E+06	3.122E+02
1990	1.243E+04	9.953E+06	6.687E+02	3.320E+03	4.976E+06	3.344E+02
1991	1.326E+04	1.062E+07	7.132E+02	3.541E+03	5.308E+06	3.566E+02
1992	1.408E+04	1.127E+07	7.574E+02	3.760E+03	5.636E+06	3.787E+02
1993	1.531E+04	1.226E+07	8.234E+02	4.088E+03	6.128E+06	4.117E+02
1994	1.687E+04	1.351E+07	9.074E+02	4.505E+03	6.753E+06	4.537E+02
1995	1.846E+04	1.478E+07	9.932E+02	4.931E+03	7.391E+06	4.966E+02
1996	1.997E+04	1.599E+07	1.074E+03	5.334E+03	7.995E+06	5.372E+02
1997	2.140E+04	1.713E+07	1.151E+03	5.715E+03	8.566E+06	5.756E+02
1998	2.375E+04	1.902E+07	1.278E+03	6.343E+03	9.508E+06	6.388E+02
1999	2.620E+04	2.098E+07	1.409E+03	6.997E+03	1.049E+07	7.047E+02
2000	2.872E+04	2.300E+07	1.545E+03	7.671E+03	1.150E+07	7.726E+02
2001	3.089E+04	2.473E+07	1.662E+03	8.250E+03	1.237E+07	8.309E+02
2002	3.313E+04	2.652E+07	1.782E+03	8.848E+03	1.326E+07	8.911E+02
2003	3.540E+04	2.834E+07	1.904E+03	9.454E+03	1.417E+07	9.521E+02
2004	3.699E+04	2.962E+07	1.990E+03	9.880E+03	1.481E+07	9.950E+02
2005	4.036E+04	3.231E+07	2.171E+03	1.078E+04	1.616E+07	1.086E+03
2006	4.361E+04	3.492E+07	2.346E+03	1.165E+04	1.746E+07	1.173E+03
2007	4.706E+04	3.768E+07	2.532E+03	1.257E+04	1.884E+07	1.266E+03
2008	5.132E+04	4.109E+07	2.761E+03	1.371E+04	2.054E+07	1.380E+03
2009	5.509E+04	4.411E+07	2.964E+03	1.471E+04	2.205E+07	1.482E+03
2010	5.832E+04	4.669E+07	3.137E+03	1.558E+04	2.335E+07	1.569E+03
2011	5.509E+04	4.411E+07	2.964E+03	1.471E+04	2.205E+07	1.482E+03
2012	5.204E+04	4.166E+07	2.799E+03	1.390E+04	2.083E+07	1.400E+03
2013	4.916E+04	3.936E+07	2.644E+03	1.313E+04	1.968E+07	1.322E+03
2014	4.643E+04	3.717E+07	2.498E+03	1.240E+04	1.859E+07	1.249E+03
2015	4.386E+04	3.511E+07	2.359E+03	1.171E+04	1.756E+07	1.180E+03
2016	4.143E+04	3.317E+07	2.229E+03	1.106E+04	1.658E+07	1.114E+03
2017	3.913E+04	3.133E+07	2.105E+03	1.045E+04	1.567E+07	1.053E+03
2018	3.696E+04	2.959E+07	1.988E+03	9.872E+03	1.480E+07	9.942E+02
2019	3.492E+04	2.795E+07	1.878E+03	9.325E+03	1.398E+07	9.391E+02
2020	3.298E+04	2.641E+07	1.774E+03	8.809E+03	1.320E+07	8.872E+02
2021	3.116E+04	2.494E+07	1.676E+03	8.321E+03	1.247E+07	8.380E+02
2022	2.943E+04	2.356E+07	1.583E+03	7.860E+03	1.178E+07	7.916E+02
2023	2.780E+04	2.226E+07	1.495E+03	7.424E+03	1.113E+07	7.477E+02
2024	2.626E+04	2.102E+07	1.413E+03	7.013E+03	1.051E+07	7.063E+02
2025	2.480E+04	1.986E+07	1.334E+03	6.624E+03	9.929E+06	6.671E+02
2026	2.343E+04	1.876E+07	1.260E+03	6.257E+03	9.379E+06	6.302E+02
2027	2.213E+04	1.772E+07	1.190E+03	5.910E+03	8.859E+06	5.952E+02
2028	2.090E+04	1.674E+07	1.125E+03	5.583E+03	8.368E+06	5.623E+02
2029	1.975E+04	1.581E+07	1.062E+03	5.274E+03	7.905E+06	5.312E+02
2030	1.865E+04	1.493E+07	1.003E+03	4.981E+03	7.466E+06	5.016E+02
2031	1.762E+04	1.410E+07	9.477E+02	4.705E+03	7.052E+06	4.739E+02
2032	1.664E+04	1.333E+07	8.953E+02	4.445E+03	6.663E+06	4.477E+02
2033	1.572E+04	1.258E+07	8.456E+02	4.198E+03	6.292E+06	4.228E+02
2034	1.485E+04	1.189E+07	7.988E+02	3.966E+03	5.945E+06	3.994E+02
2035	1.403E+04	1.123E+07	7.545E+02	3.746E+03	5.615E+06	3.773E+02

Year	Carbon Dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
1953	0	0	0	0	0	0
1954	4.939E+01	2.698E+04	1.813E+00	1.161E-01	3.238E+01	2.175E-03
1955	1.015E+02	5.546E+04	3.726E+00	2.386E-01	6.655E+01	4.472E-03
1956	1.591E+02	8.694E+04	5.841E+00	3.739E-01	1.043E+02	7.010E-03
1957	2.195E+02	1.199E+05	8.057E+00	5.158E-01	1.439E+02	9.668E-03
1958	2.826E+02	1.544E+05	1.037E+01	6.641E-01	1.853E+02	1.245E-02
1959	3.539E+02	1.934E+05	1.299E+01	8.317E-01	2.320E+02	1.559E-02
1960	4.280E+02	2.338E+05	1.571E+01	1.006E+00	2.806E+02	1.885E-02
1961	5.103E+02	2.788E+05	1.873E+01	1.199E+00	3.346E+02	2.248E-02
1962	6.009E+02	3.283E+05	2.206E+01	1.412E+00	3.939E+02	2.647E-02
1963	6.997E+02	3.822E+05	2.568E+01	1.644E+00	4.587E+02	3.082E-02
1964	8.067E+02	4.407E+05	2.961E+01	1.896E+00	5.288E+02	3.553E-02
1965	9.246E+02	5.051E+05	3.394E+01	2.173E+00	6.062E+02	4.073E-02
1966	1.054E+03	5.756E+05	3.867E+01	2.476E+00	6.907E+02	4.641E-02
1967	1.199E+03	6.550E+05	4.401E+01	2.818E+00	7.860E+02	5.281E-02
1968	1.358E+03	7.420E+05	4.985E+01	3.191E+00	8.904E+02	5.982E-02
1969	1.534E+03	8.379E+05	5.630E+01	3.604E+00	1.005E+03	6.756E-02
1970	1.729E+03	9.443E+05	6.345E+01	4.062E+00	1.133E+03	7.614E-02
1971	1.943E+03	1.061E+06	7.130E+01	4.565E+00	1.273E+03	8.556E-02
1972	2.181E+03	1.192E+06	8.007E+01	5.126E+00	1.430E+03	9.608E-02
1973	2.447E+03	1.337E+06	8.984E+01	5.751E+00	1.604E+03	1.078E-01
1974	2.741E+03	1.497E+06	1.006E+02	6.441E+00	1.797E+03	1.207E-01
1975	3.070E+03	1.677E+06	1.127E+02	7.215E+00	2.013E+03	1.352E-01
1976	3.432E+03	1.875E+06	1.260E+02	8.066E+00	2.250E+03	1.512E-01
1977	3.836E+03	2.095E+06	1.408E+02	9.013E+00	2.515E+03	1.690E-01
1978	4.286E+03	2.341E+06	1.573E+02	1.007E+01	2.810E+03	1.888E-01
1979	4.670E+03	2.551E+06	1.714E+02	1.097E+01	3.061E+03	2.057E-01
1980	5.057E+03	2.763E+06	1.856E+02	1.188E+01	3.315E+03	2.227E-01
1981	5.446E+03	2.975E+06	1.999E+02	1.280E+01	3.570E+03	2.399E-01
1982	5.839E+03	3.190E+06	2.143E+02	1.372E+01	3.828E+03	2.572E-01
1983	6.237E+03	3.407E+06	2.289E+02	1.465E+01	4.088E+03	2.747E-01
1984	6.593E+03	3.602E+06	2.420E+02	1.549E+01	4.322E+03	2.904E-01
1985	6.964E+03	3.804E+06	2.556E+02	1.636E+01	4.565E+03	3.067E-01
1986	7.342E+03	4.011E+06	2.695E+02	1.725E+01	4.813E+03	3.234E-01
1987	7.735E+03	4.225E+06	2.839E+02	1.818E+01	5.071E+03	3.407E-01
1988	8.119E+03	4.435E+06	2.980E+02	1.908E+01	5.322E+03	3.576E-01
1989	8.506E+03	4.647E+06	3.122E+02	1.999E+01	5.576E+03	3.746E-01
1990	9.109E+03	4.976E+06	3.344E+02	2.141E+01	5.972E+03	4.012E-01
1991	9.716E+03	5.308E+06	3.566E+02	2.283E+01	6.369E+03	4.279E-01
1992	1.032E+04	5.636E+06	3.787E+02	2.424E+01	6.763E+03	4.544E-01
1993	1.122E+04	6.128E+06	4.117E+02	2.636E+01	7.353E+03	4.941E-01
1994	1.236E+04	6.753E+06	4.537E+02	2.905E+01	8.103E+03	5.444E-01
1995	1.353E+04	7.391E+06	4.966E+02	3.179E+01	8.869E+03	5.959E-01
1996	1.464E+04	7.995E+06	5.372E+02	3.439E+01	9.594E+03	6.446E-01
1997	1.568E+04	8.566E+06	5.756E+02	3.685E+01	1.028E+04	6.907E-01
1998	1.740E+04	9.508E+06	6.388E+02	4.090E+01	1.141E+04	7.666E-01
1999	1.920E+04	1.049E+07	7.047E+02	4.511E+01	1.259E+04	8.456E-01
2000	2.105E+04	1.150E+07	7.726E+02	4.946E+01	1.380E+04	9.271E-01
2001	2.264E+04	1.237E+07	8.309E+02	5.319E+01	1.484E+04	9.970E-01
2002	2.428E+04	1.326E+07	8.911E+02	5.705E+01	1.591E+04	1.069E+00
2003	2.594E+04	1.417E+07	9.521E+02	6.095E+01	1.700E+04	1.143E+00
2004	2.711E+04	1.481E+07	9.950E+02	6.370E+01	1.777E+04	1.194E+00
2005	2.958E+04	1.616E+07	1.086E+03	6.950E+01	1.939E+04	1.303E+00
2006	3.196E+04	1.746E+07	1.173E+03	7.510E+01	2.095E+04	1.408E+00
2007	3.449E+04	1.884E+07	1.266E+03	8.104E+01	2.261E+04	1.519E+00
2008	3.761E+04	2.054E+07	1.380E+03	8.837E+01	2.465E+04	1.656E+00
2009	4.037E+04	2.205E+07	1.482E+03	9.486E+01	2.646E+04	1.778E+00
2010	4.274E+04	2.335E+07	1.569E+03	1.004E+02	2.802E+04	1.882E+00
2011	4.037E+04	2.205E+07	1.482E+03	9.486E+01	2.646E+04	1.778E+00
2012	3.813E+04	2.083E+07	1.400E+03	8.961E+01	2.500E+04	1.680E+00
2013	3.602E+04	1.968E+07	1.322E+03	8.464E+01	2.361E+04	1.587E+00
2014	3.402E+04	1.859E+07	1.249E+03	7.995E+01	2.230E+04	1.499E+00
2015	3.214E+04	1.756E+07	1.180E+03	7.552E+01	2.107E+04	1.416E+00
2016	3.036E+04	1.658E+07	1.114E+03	7.133E+01	1.990E+04	1.337E+00
2017	2.868E+04	1.567E+07	1.053E+03	6.738E+01	1.880E+04	1.263E+00
2018	2.709E+04	1.480E+07	9.942E+02	6.365E+01	1.776E+04	1.193E+00
2019	2.559E+04	1.398E+07	9.391E+02	6.012E+01	1.677E+04	1.127E+00
2020	2.417E+04	1.320E+07	8.872E+02	5.679E+01	1.584E+04	1.065E+00
2021	2.283E+04	1.247E+07	8.380E+02	5.365E+01	1.497E+04	1.006E+00
2022	2.157E+04	1.178E+07	7.916E+02	5.068E+01	1.414E+04	9.499E-01
2023	2.037E+04	1.113E+07	7.477E+02	4.787E+01	1.335E+04	8.972E-01
2024	1.924E+04	1.051E+07	7.063E+02	4.522E+01	1.261E+04	8.476E-01
2025	1.817E+04	9.929E+06	6.671E+02	4.271E+01	1.191E+04	8.005E-01
2026	1.717E+04	9.379E+06	6.302E+02	4.034E+01	1.125E+04	7.562E-01
2027	1.622E+04	8.859E+06	5.952E+02	3.810E+01	1.063E+04	7.142E-01
2028	1.532E+04	8.368E+06	5.623E+02	3.600E+01	1.004E+04	6.747E-01
2029	1.447E+04	7.905E+06	5.312E+02	3.400E+01	9.486E+03	6.374E-01
2030	1.367E+04	7.466E+06	5.016E+02	3.211E+01	8.959E+03	6.020E-01
2031	1.291E+04	7.052E+06	4.739E+02	3.033E+01	8.463E+03	5.686E-01
2032	1.220E+04	6.663E+06	4.477E+02	2.866E+01	7.995E+03	5.372E-01
2033	1.152E+04	6.292E+06	4.228E+02	2.707E+01	7.551E+03	5.073E-01
2034	1.088E+04	5.945E+06	3.994E+02	2.557E+01	7.134E+03	4.793E-01
2035	1.028E+04	5.615E+06	3.773E+02	2.415E+01	6.738E+03	4.527E-01

Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 2

Date: Wednesday, October 8, 2025

Description/Comments:
Cells 0-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

About LandGEM:

First-Order Decomposition Rate Equation

$$G_{CH4} = \sum_{x=S}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)}\right)$$

Where,

GCH4 = Modeled methane generation rate in reporting year T (metric tons CH4).
x = Year in which waste was disposed
Wx = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)). Use bulk waste tonnage
DOC = Degradable organic carbon (Mg C/Mg waste)
16/12 = stoichiometric ratio of CH4/C molecular weights

T = Reporting year for which emissions are calculated.
S = Start year of calculation
MCF = Methane correction factor (fraction). Use the default value of 1
DOCf = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.
F = Fraction by volume of CH4 in landfill gas; use the default of 0.5.
k = Rate constant from Table HH–1 to this subpart (yr-1).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at https://www.epa.gov/land-research/landfill-gas-emissions-model-landgem.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**2010**	
Landfill Closure Year (with 80-year limit)	**2045**	
Actual Closure Year (without limit)		
Have Model Calculate Closure Year?	**No**	
Waste Design Capacity	**39,600,000**	*U.S. tons*

MODEL PARAMETERS

Methane Generation Rate, k	**0.067**	*year^{-1}*
Degradable Organic Carbon, DOC	**0.170**	*Mg C/Mg waste*
Potential Methane Generation Capacity, L_0	**80**	*m^3/Mg*
NMOC Concentration	**550**	*ppmv as hexane*
Methane Content	**0.50**	*Fraction by volume in landfill gas (0.5 = 50%)*
Fraction of DOC dissimilated, DOC_f	**0.50**	*Fraction by mass (0.5 = 50%)*
Methane Correction Factor, MCF	**1.0**	*fractional percentage (1.0 = 100%)*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2010	416,028	458,588	0	0
2011	438,206	483,034	416,028	377,418
2012	429,603	473,551	854,234	774,956
2013	434,645	479,109	1,283,837	1,164,689
2014	453,388	499,770	1,718,482	1,558,997
2015	477,693	526,561	2,171,870	1,970,308
2016	502,431	553,830	2,649,563	2,403,668
2017	854,040	941,408	3,151,994	2,859,470
2018	917,041	1,010,854	4,006,034	3,634,250
2019	937,654	1,033,576	4,923,075	4,466,184
2020	780,118	859,924	5,860,729	5,316,818
2021	948,940	1,046,017	6,640,847	6,024,537
2022	1,011,362	1,114,824	7,589,787	6,885,410
2023	1,006,029	1,108,946	8,601,149	7,802,911
2024	1,031,923	1,137,489	9,607,178	8,715,575
2025	1,360,791	1,500,000	10,639,101	9,651,729
2026	1,360,791	1,500,000	11,999,892	10,886,231
2027	1,360,791	1,500,000	13,360,683	12,120,732
2028	1,360,791	1,500,000	14,721,474	13,355,234
2029	1,360,791	1,500,000	16,082,265	14,589,735
2030	1,360,791	1,500,000	17,443,056	15,824,237
2031	1,360,791	1,500,000	18,803,847	17,058,738
2032	1,360,791	1,500,000	20,164,638	18,293,240
2033	1,360,791	1,500,000	21,525,429	19,527,741
2034	1,360,791	1,500,000	22,886,220	20,762,243
2035	1,360,791	1,500,000	24,247,011	21,996,744

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	5.721E+03	4.581E+06	3.078E+02	1.528E+03	2.290E+06	1.539E+02
2012	1.138E+04	9.107E+06	6.119E+02	3.038E+03	4.554E+06	3.060E+02
2013	1.655E+04	1.325E+07	8.901E+02	4.419E+03	6.624E+06	4.450E+02
2014	2.145E+04	1.717E+07	1.154E+03	5.728E+03	8.586E+06	5.769E+02
2015	2.629E+04	2.105E+07	1.414E+03	7.022E+03	1.053E+07	7.072E+02
2016	3.116E+04	2.494E+07	1.676E+03	8.321E+03	1.247E+07	8.380E+02
2017	3.605E+04	2.886E+07	1.939E+03	9.627E+03	1.443E+07	9.696E+02
2018	4.546E+04	3.639E+07	2.445E+03	1.214E+04	1.820E+07	1.223E+03
2019	5.512E+04	4.413E+07	2.965E+03	1.472E+04	2.206E+07	1.482E+03
2020	6.444E+04	5.159E+07	3.467E+03	1.721E+04	2.580E+07	1.733E+03
2021	7.099E+04	5.684E+07	3.819E+03	1.896E+04	2.842E+07	1.909E+03
2022	7.944E+04	6.360E+07	4.273E+03	2.122E+04	3.180E+07	2.137E+03
2023	8.820E+04	7.061E+07	4.745E+03	2.356E+04	3.531E+07	2.372E+03
2024	9.632E+04	7.711E+07	5.181E+03	2.572E+04	3.856E+07	2.591E+03
2025	1.043E+05	8.347E+07	5.609E+03	2.785E+04	4.174E+07	2.804E+03
2026	1.162E+05	9.305E+07	6.252E+03	3.104E+04	4.652E+07	3.126E+03
2027	1.274E+05	1.020E+08	6.853E+03	3.402E+04	5.100E+07	3.427E+03
2028	1.379E+05	1.104E+08	7.416E+03	3.682E+04	5.518E+07	3.708E+03
2029	1.476E+05	1.182E+08	7.942E+03	3.943E+04	5.910E+07	3.971E+03
2030	1.568E+05	1.255E+08	8.433E+03	4.187E+04	6.276E+07	4.217E+03
2031	1.653E+05	1.324E+08	8.893E+03	4.415E+04	6.618E+07	4.447E+03
2032	1.733E+05	1.388E+08	9.324E+03	4.629E+04	6.938E+07	4.662E+03
2033	1.808E+05	1.448E+08	9.726E+03	4.829E+04	7.238E+07	4.863E+03
2034	1.878E+05	1.504E+08	1.010E+04	5.016E+04	7.518E+07	5.051E+03
2035	1.943E+05	1.556E+08	1.045E+04	5.190E+04	7.780E+07	5.227E+03

Year	Carbon Dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	4.192E+03	2.290E+06	1.539E+02	9.031E+00	2.519E+03	1.693E-01
2012	8.336E+03	4.554E+06	3.060E+02	1.795E+01	5.009E+03	3.366E-01
2013	1.212E+04	6.624E+06	4.450E+02	2.612E+01	7.286E+03	4.896E-01
2014	1.572E+04	8.586E+06	5.769E+02	3.385E+01	9.444E+03	6.346E-01
2015	1.927E+04	1.053E+07	7.072E+02	4.150E+01	1.158E+04	7.779E-01
2016	2.283E+04	1.247E+07	8.380E+02	4.918E+01	1.372E+04	9.218E-01
2017	2.641E+04	1.443E+07	9.696E+02	5.690E+01	1.587E+04	1.067E+00
2018	3.331E+04	1.820E+07	1.223E+03	7.175E+01	2.002E+04	1.345E+00
2019	4.039E+04	2.206E+07	1.482E+03	8.700E+01	2.427E+04	1.631E+00
2020	4.722E+04	2.580E+07	1.733E+03	1.017E+02	2.838E+04	1.907E+00
2021	5.202E+04	2.842E+07	1.909E+03	1.120E+02	3.126E+04	2.100E+00
2022	5.821E+04	3.180E+07	2.137E+03	1.254E+02	3.498E+04	2.350E+00
2023	6.463E+04	3.531E+07	2.372E+03	1.392E+02	3.884E+04	2.609E+00
2024	7.058E+04	3.856E+07	2.591E+03	1.520E+02	4.241E+04	2.850E+00
2025	7.640E+04	4.174E+07	2.804E+03	1.646E+02	4.591E+04	3.085E+00
2026	8.516E+04	4.652E+07	3.126E+03	1.834E+02	5.118E+04	3.438E+00
2027	9.335E+04	5.100E+07	3.427E+03	2.011E+02	5.610E+04	3.769E+00
2028	1.010E+05	5.518E+07	3.708E+03	2.176E+02	6.070E+04	4.079E+00
2029	1.082E+05	5.910E+07	3.971E+03	2.330E+02	6.501E+04	4.368E+00
2030	1.149E+05	6.276E+07	4.217E+03	2.474E+02	6.903E+04	4.638E+00
2031	1.211E+05	6.618E+07	4.447E+03	2.609E+02	7.280E+04	4.891E+00
2032	1.270E+05	6.938E+07	4.662E+03	2.736E+02	7.632E+04	5.128E+00
2033	1.325E+05	7.238E+07	4.863E+03	2.854E+02	7.962E+04	5.349E+00
2034	1.376E+05	7.518E+07	5.051E+03	2.964E+02	8.270E+04	5.556E+00
2035	1.424E+05	7.780E+07	5.227E+03	3.067E+02	8.557E+04	5.750E+00