REPUBLIC SERVICES

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Direction of Compliance and Enforcement
Bay Area Air Quality Management District
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San Francisco, CA 94105
Attn: Title V Reports

Director of the Air Division, USEPA Region IX
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Attn: Air-3

1. ☐ RECEIVED IN ENFORCEMENT: 02/28/2022

TV Tracking #: 420 (Semi-Annual)
TV Tracking #: 421 (Annual)

Subject: Combined NESHAP Initial Report, 8-34 Semi-Annual Report, 40 CFR Subpart AAA Semi-Annual Report, Title V Semi-Annual Monitoring Report, and Title V Annual Compliance Certification Report
Sonoma County Central Landfill, Petaluma, California (Title V Facility No. A2254)

Dear Sir or Madam:

Republic Services of Sonoma County, Inc. is pleased to submit the enclosed combined National Emission Standards for Hazardous Air Pollutants (NESHAP) Initial Report, Bay Area Air Quality Management District (BAAQMD), Regulation 8, Rule 34 (8-34) Semi-Annual Report; Semi-Annual Startup, Shutdown and Malfunction (SSM) Plan Report, Title V Semi-Annual Monitoring Report, and the Title V Annual Compliance Certification (ACC) Report to the BAAQMD and the U.S. Environmental Protection Agency (EPA) Region IX for the Sonoma County Central Landfill (Sonoma Central).

The Title V ACC Report covers the period from February 1, 2021 through January 31, 2022. The Title V Semi-Annual Monitoring Report, BAAQMD Rule 8-34 Semi-Annual Report and the SSM Plan Report cover the period from August 1, 2021 through January 31, 2022. The Initial NESHAP report covers the period of September 27, 2021 through January 31, 2022.

The Title V report meet the requirements specified in the Title V permit, BAAQMD guidance on Title V report submittals, and Regulation 2, Rule 6. The Rule 8-34 report includes the information required by BAAQMD Rule 8-34-411 and also satisfies the requirements under the New Source Performance Standards (NSPS) for municipal solid waste landfills (40 Code of Federal Regulation [CFR] Part 60, Subpart WWW), including 40 CFR 60.757(f). The Semi-Annual SSM Plan Report satisfies the requirements under the NESHAP rule for semi-annual reporting of SSM Plan implementation including 40 CFR 63.10(d)(S). The Initial NESHAP report meets the requirements under 40 CFR 63.1981(h).The Title V reports and the SSM Plan report each includes a certification by the responsible official for Sonoma Central.

Please note that as of June 21, 2021, the facility complies with the new Emission Guidelines (EG) requirements in California. The approved state plan for the EG includes compliance with Title 17 California Code of Regulations (CCR) Sections 95460 to 95476, known as AB 32 Landfill Methane Rule (LMR) and specific portions of 40 CFR Part 62 Subpart OOO. The major compliance provisions of Subpart WWW and OOO were replaced as of September 27, 2021 by the NESHAP 40 CFR 63, Subpart AAAA requirements, which essentially implement and enhance provisions of 40 CFR 60, Subparts XXX (which were updated NSPS for Municipal Solid Waste (MSW) landfills promulgated in 2016) as well as removing the SSM Plan requirements. However, because the Title V Permit references Subpart WWW and includes SSM reporting, this semi-annual report will continue to include Subpart WWW and SSM requirements. References to Subpart WWW will be removed from all reports after a new Title V Permit is issued removing references to Subpart WWW and updating applicable regulations, or we otherwise obtain approval from the BAAQMD to only comply with the new requirements

If you have any questions regarding this submittal, please do not hesitate to call me at (510) 301-9387 or email me at DCheney@republicservices.com.

Sincerely,

Derek Cheney
Environmental Manager
Sonoma Central Landfill

cc: Rob Sherman, Sonoma Central
Maria Bowen, SCS Engineers
Pat Sullivan, SCS Engineers

NESHAP Initial/NSPS/BAAQMD Rule 8-34 Semi-Annual Report, SSM Plan Semi-Annual Report, Title V Semi-Annual Report, and Title V Annual Certification
Sonoma County Central Landfill
Petaluma, California (Title V Facility No. A2254)

Prepared for:

Republic Services of Sonoma County, Inc.
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For Submittal to:

Bay Area Air Quality Management District
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San Francisco, CA 94105

SCS ENGINEERS

01213327.01 Task 1 | February 2022

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This submittal consisting of the National Emission Standards for Hazardous Air Pollutants (NESHAP) Initial/New Source Performance Standards (NSPS)/Bay Area Air Quality Management District (BAAQMD) Rule 8-34 Semi-Annual Report, the Semi-Annual Startup, Shutdown, and Malfunction Plan Report, the Title V Semi-Annual Monitoring Report, and the Title V Annual Compliance Certification for the Sonoma County Central Landfill in Petaluma, California, dated February 2022, was prepared and reviewed by the following:

Anne Liu
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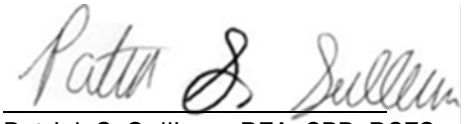

Patrick S. Sullivan, REA, CPP, BCES
Senior Vice President
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SECTION I. NESHAP INITIAL/NSPS/BAAQMD RULE 8-34 SEMI-ANNUAL REPORT

1.0 INTRODUCTION

On behalf of Republic Services of Sonoma County, Inc. (Republic), SCS Engineers (SCS) prepared this combined National Emission Standards for Hazardous Air Pollutants (NESHAP) Initial, New Source Performance Standard (NSPS), 40 Code of Federal Regulations (CFR) Part 60, Subpart WWW, Bay Area Air Quality Management District (BAAQMD or District) Rule 8-34 Semi-Annual Report (SAR) pertaining to the Sonoma County Central Landfill (Sonoma Central) for the period of August 1, 2021 through January 31, 2022 to the BAAQMD and the United States Environmental Protection Agency (EPA).

As of June 21, 2021, the facility complies with the new Emission Guidelines (EG) requirements in California. The approved state plan for the EG includes compliance with Title 17 California Code of Regulations (CCR) Sections 95460 to 95476, known as AB 32 Landfill Methane Rule (LMR) and specific portions of 40 CFR Part 62 Subpart OOO. The major compliance provisions of Subpart WWW and OOO were replaced as of September 27, 2021 by the NESHAP 40 CFR 63, Subpart AAAA requirements, which essentially implement and enhance provisions of 40 CFR 60, Subparts XXX (which were updated NSPS for Municipal Solid Waste (MSW) landfills promulgated in 2016) as well as removing the SSM Plan requirements. However, because the Title V Permit references Subpart WWW and SSM reporting, this semi-annual report will continue to include Subpart WWW and SSM requirements. References to Subpart WWW and SSM will be removed from all reports after a new Title V Permit is issued removing references to Subpart WWW and updating applicable regulations, or we otherwise obtain approval from the BAAQMD to only comply with the new requirements

The Semi-Annual Report pertains to the landfill gas (LFG) collection and control system (GCCS) operated at the Sonoma County Central Landfill (Sonoma Central).

This report includes the following information, as required by BAAQMD Rule 8-34-411:

- All collection system and/or component downtime and reasons for the shutdown (8-34-501.1).
- All emission control system downtime and reason for the shutdown (8-34-501.2).
- Continuous temperature monitoring and dates of any excesses (8-34-501.3 and 507).
- Testing performed to satisfy the requirements of this Rule (8-34-501.4).
- Monthly LFG flow rates and excesses (8-34-501.5).
- Collection and emission control system leak testing and any excesses, action taken to correct excesses, and re-monitored concentrations (8-34-501.6 and 503).
- Landfill surface monitoring, location of excesses, excess concentration, date discovered, actions taken to repair the excess, and re-monitored concentrations (8-34-501.6 and 506).

- Annual waste acceptance rate and the current amount of waste in-place (8-34-501.7).
- Records of non-degradable waste if area is excluded from LFG collection (8-34-501.8).
- Well head monitoring including gauge pressure, LFG temperature, and LFG oxygen concentration (8-34-501.9 and 505).
- Continuous flow monitoring (8-34-501.10).

Information summarizing the monitoring activities associated with the above-listed items is provided in the following sections.

2.0 SITE BACKGROUND INFORMATION

Sonoma Central is a municipal solid waste (MSW) landfill located in Petaluma, California and is operated by Republic. The approximately 170-acre landfill began accepting waste circa 1971 and is currently in operation.

2.1 EXISTING AIR PERMITS

Sonoma Central maintains a BAAQMD permit to operate (PTO) (Plant No. 22987). PTO Condition No. 4044 includes requirements for the wellfield, collection system, and A-4 Flare station, as well as waste and cover material dumping (S-22) and landfill excavating, bulldozing, and compacting activities (S-23). PTO Condition No. 19933 includes requirements for the ten LFG-fired internal combustion (IC) engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14). The PTO also has conditions for a LFG compression plant (S-15) (Condition No. 23087) and a 195 horsepower (HP) portable propane tipper engine (S-24) (Condition No. 26171). Please note on September 21, 2021, the S-24 Tipper Engine was removed from the site and replaced with a 49 HP engine. On September 28, 2021, an application was submitted to remove the S-24 language from the PTO.

Condition No. 4044 incorporates all applicable requirements from NSPS Subpart WWW and from BAAQMD Rule 8-34, which are addressed in this report. Sonoma also maintains a Major Facility Review (MFR or Title V) Permit (Facility No. A2254), which was most recently issued on June 9, 2021, expiring on June 8, 2026.

A GCCS Design Plan was prepared for the site to review and determine the adequacy of the existing LFG system. The current design of the system was determined to be adequate to comply with both NSPS and BAAQMD Rule 8-34 requirements. The system design is based on the density of wells calculated to sufficiently extract the maximum flow of LFG generated, according to the EPA LFG emissions model (LandGEM). The GCCS is designed to control surface emissions, as well as to minimize subsurface lateral migration of LFG. Both the perimeter of the landfill and the landfill surface are monitored on a quarterly basis. Additional details regarding the GCCS are in the GCCS Design Plan that was previously submitted to the BAAQMD. A drawing showing the existing GCCS is provided in Appendix B.

2.2 EXISTING LANDFILL GAS COLLECTION AND CONTROL SYSTEM

The GCCS at Sonoma Central consists of extraction wells used to collect the LFG from within the landfill (the “wellfield”) and a piping system (the “collection system”) used to convey the collected

LFG to the control systems for destruction. The LFG is extracted from the landfill through a combination of vertical gas extraction wells and horizontal gas extraction trenches/pipes, as well as leachate collection system components.

The LFG is controlled by the emission control system. The emission control system consists of a LFG-to-energy (LFGTE) facility, which consists of ten IC engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14), and an enclosed backup flare (A-4).

The A-4 Flare was installed on December 12, 2017 and replaced the A-3 Flare. The A-4 Flare is now the backup flare to the engines at the landfill. Engine No. 10 (S-14) is on long-term standby pursuant to BAAQMD Application No. 22513.

A diagram of the GCCS displaying system component locations is shown in the site plan provided in Appendix B.

3.0 MONITORING AND RECORDS

This NSPS Semi-Annual Report for Sonoma is being submitted to the BAAQMD and U.S. EPA in compliance with 40 CFR Subpart WWW ("NSPS"), including 40 CFR 60.757(f), which describe the items to be submitted in an annual report for landfills seeking to comply with NSPS using an active collection system. In compliance with 40 CFR 63, Subpart AAAA (NESHAP for MSW Landfills), this report is submitted semi-annually.

As of June 21, 2021, the facility complies with the new EG requirements in California. The approved state plan for the EG includes compliance with Title 17 CCR Sections 95460 to 95476, known as AB 32 LMR and specific portions of 40 CFR Part 62 Subpart OOO. The major compliance provisions of Subpart WWW and OOO were replaced as of September 27, 2021 by the NESHAP 40 CFR 63, Subpart AAAA requirements, which essentially implement and enhance provisions of 40 CFR 60, Subparts XXX (which were updated NSPS for MSW landfills promulgated in 2016) as well as removing the SSM Plan requirements. However, as the SSM requirements are still noted in the Title V Permit, the SSM report has not been closed out as of the submittal of this report.

This section of the report represents the Semi-Annual Monitoring Report and covers the items required to be reported in the applicable rules under 40 CFR Part 60, Subpart WWW, 40 CFR Part 62, Subpart OOO, and 40 CFR Part 63, Subpart AAAA. The reporting period is from August 1, 2021 to January 31, 2022. The table below summarizes the corresponding sections for the regulatory references addressed in this report:

Reporting Requirements, Corresponding Regulatory References

NSPS Subpart WWW	Updated NESHAP Subpart AAAA	Federal Subpart OOO
40 CFR 60.757(f), (g)	**40 CFR 63.1981(h), (i), (j), (k), (l)**	**40 CFR 62.16724(h), (i), (j), (l), (q)**
Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).	Number of times that applicable parameters monitored under 40 CFR 63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under 40 CFR 63.1958(e), including periods of SSM.	Value and length of time for exceedance of applicable parameters monitored under 40 CFR 62.16722(a)(1), (b), (c), (d), and (g).

NSPS Subpart WWW	Updated NESHAP Subpart AAAA	Federal Subpart OOO
40 CFR 60.757(f), (g)	**40 CFR 63.1981(h), (i), (j), (k), (l)**	**40 CFR 62.16724(h), (i), (j), (l), (q)**
Description and duration of all periods when the gas stream is diverted from the control device.	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 under 40 CFR 63.1961.	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 under 40 CFR 62.16722.
Description and duration of all periods when the control device was not operating for more than 1 hour.	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.	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.
All periods when the collection system was not operating in excess of 5 days.	All periods when the collection system was not operating.	All periods when the collection system was not operating.
The location of each 500 ppmv methane exceedance, and the concentration recorded at each location for which an exceedance was recorded in the previous month.	The location of each exceedance of the 500-ppm methane concentration as provided in 40 CFR 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.	The location of each exceedance of the 500 parts-per-million methane concentration as provided in 40 CFR 62.16716(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755 paragraphs (a)(3), (b), and (c)(4).	The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 63.1960(a)(3) and (4), (b), and (c)(4).	The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 62.16720(a)(3), (4), (b), and (c)(4).
Required information of the initial performance source test report pursuant to 40 CFR 60.757(g).	Required information of the initial performance source test report pursuant to 40 CFR 63.1981(i).	Required information of the initial performance source test report pursuant to 40 CFR 62.16724(i).
--	For any corrective action analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted.	For any corrective action analysis for which corrective actions are required in 40 CFR 62.16720(a)(3) or (4) and that take more than 60 days to correct the exceedance, the root cause analysis conducted.
--	Each owner or operator required to conduct enhanced monitoring in 40 CFR 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.	--
--	Where an owner or operator subject to the provisions of subpart 40 CFR 63.1981(k) seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7	Each owner or operator that chooses to comply with the provisions in §63.1958, 63.1960, and 63.1961 of this chapter, as allowed in §62.16716, 62.16720, and 62.16722, must submit the 24-hour high temperature report according to § 63.1981(k) of this chapter.

NSPS Subpart WWW	Updated NESHAP Subpart AAAA	Federal Subpart OOO
40 CFR 60.757(f), (g)	40 CFR 63.1981(h), (i), (j), (k), (l)	40 CFR 62.16724(h), (i), (j), (l), (q)
	degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then you must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of the measurement.	
--	Beginning no later than September 27, 2021, the owner or operator must submit reports electronically according to paragraphs 40 CFR 63.1981(l)(1) and (2) of this section.	Beginning no later than September 27, 2021, the owner or operator must submit reports electronically according to paragraphs 40 CFR 62.16724(j) of this section.
--	--	The owner or operator that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act (RCRA), subtitle D, part 258) within the last 10 years must submit to the Administrator, annually, following the procedure specified in paragraph 40 CFR 62.16724(l).
--	Submit semi-annual CMS summary reports including required items listed in 40 CFR 63.10(e)(3)(vi)	--

3.1 CONTINUOUSLY MONITORED PARAMETERS

According to BAAQMD Rule 8-34-301.1, the GCCS must be operated continuously. To comply with this requirement, the landfill owner/operator is required to maintain full-time operation of the LFG collection system and control system, as well as individual extraction wells. Downtime for any of these components must be reported in the Rule 8-34 Semi-Annual Report. This information is summarized below and in the attached tables. Records of continuously monitored parameters are available for review at the site.

3.1.1 Gas Extraction System Downtime

During the reporting period, the LFG extraction system was off-line on 24 occasions for a total of 27.13 hours. Shutdowns involved pre-programmed or manual system shutdowns for inspection, maintenance and/or repair of the GCCS, and thus meet the criteria for allowed GCCS downtime, as specified in Rule 8-34-113 and in accordance with the BAAQMD November 5, 2018 Compliance Advisory, with the exception of 5 events.

These events included Pacific Gas and Electric (PG&E) utility power outages, which resulted in shutdowns of the GCCS that occurred on September 18, 2021 from 12:06 to 12:12 and 21:34 to

21:42, and September 19, 2021 from 16:14 to 16:40, and thermocouple malfunctions, which resulted in shutdowns of the GCCS that occurred on December 17, 2021 at 22:48 to December 18, 2021 00:44 and December 19, 2021 from 04:56 to 09:24. These events were reported to the BAAQMD as reportable compliance activities (RCA) and breakdown relief was requested. Due to the short duration of these events, there is no reason to believe there were any excess LFG surface emissions during these GCCS downtimes.

On September 29, 2021, Notice of Violation (NOV) No. A59872 was issued by BAAQMD inspector Mr. Richard Murray for an alleged violation of BAAQMD Regulation 8, Rule 34, Section 301.1 (Landfill Gas Collection and Emission Control Requirements). Per the NOV, Sonoma allegedly failed to operate the GCCS continuously during the three RCA events that occurred on September 18 and 19, 2021 (IDs 08B84 and 08B85; 08B89 and 08B90; and 08B91 and 08B92). The 10-Day NOV Response letter was submitted on October 7, 2021.

A summary of the GCCS downtime for this reporting period is provided in **Table 1a**, including the date, reason for the downtime, description of the corrective measure(s) implemented to resume GCCS operation, and the total elapsed time for each event. Gas extraction system downtime records are available for review at the site. These include periods of times when the entire GCCS was offline.

3.1.2 Emission Control System Downtime

A-4 Flare

During the reporting period, the A-4 Flare was off-line on several occasions. A summary of the A-4 Flare downtime is provided in **Table 1b**, including the date, reason for the downtime, and the total elapsed time for each event. During the reporting period, downtime for the A-4 Flare occurred over a cumulative period of approximately 172.30 hours. Emission control system downtime records are available for review at the site.

LFGTE Facility

During the reporting period, individual IC engines were offline on several occasions. In addition, there were several periods when the entire LFGTE facility was offline (all engines were offline concurrently). Note that Engine 9 (S-13) was out of service during the reporting period. In addition, Engine 10 (S-14) is on long-term standby. During the reporting period, the entire LFGTE facility was offline for a total of 547.66 hours. Downtime logs, which include individual IC engine shut downs, are included in **Appendix C**.

3.1.3 Individual Well Downtime

In some instances, the entire GCCS may not go off-line, but individual extraction wells may be taken off-line for inspection, maintenance, and/or repair, as well as for other unforeseen circumstances. These are generally planned events, although such events can occur without notice. During the reporting period, several wells were temporarily taken offline or were taken offline during a previous reporting period and remained offline for a portion of the reporting period due to active filling and construction activities occurring in their vicinity.

SCV68-1A, SCV065-0, SC000H03, SCEC0019, SCV124-0, SCV52-5A, SCLEW-05, SCV122-0, SCV243-0, and SCV068-5 were abandoned during the reporting period due to poor gas production.

Pursuant to Permit Condition No. 4044, Part 4b(iv) and (v), the owner/operator must notify the District at least three days prior to initiating operation of a well or collector and no later than three working days after the disconnection of a component. These notifications were submitted to the BAAQMD for the well actions noted above, as required. In addition, pursuant to permit condition No. 4044, Part 4b(vii), if there is a net reduction (number of decommissioned components minus the number of installed components) of more than five components during a 120-day period, a comprehensive decommissioning notice must be submitted to the BAAQMD. This requirement was applicable during the reporting period, and comprehensive decommissioning notices were submitted to the BAAQMD as required.

Details of individual well shutdown and well startups occurring during the reporting period are provided in Table 2.

3.1.4 Flow Meter and Temperature Gauge Downtime

The continuous operation of the GCCS is measured through the continuous measurement of LFG flow to each flare and flare combustion temperature. As required by Rule 8-34, the A-4 Flare at Sonoma Central is equipped with flow measuring devices and temperature gauges that provide continuous readout displays using digital chart recorders. During the reporting period, the flow meter(s) and temperature gauge(s)/recorders at the flare station did not go out of operation due to malfunction or other breakdown conditions.

Continuous monitoring and calibration information are available for review at the site.

3.1.5 Flare Combustion Zone Temperature

Sonoma Central is required by permit condition No. 4044, Part 10 to operate the A-4 Flare in such a manner that the combustion zone temperature within the flare does not drop below the permitted limit of 1,599 degrees Fahrenheit (°F) (averaged over a 3-hour period), or a higher or lower temperature based on the most recent source test. During the reporting period, the minimum temperature above which the flare was required to operate was 1,602°F (based on the January 20, 2021 source test results minus 50°F), based on the source test report dated March 3, 2021. During the reporting period, the flare operated above the minimum established temperature at all times, except during periods of SSM.

Flare temperature records are available for review at the site. Excerpts from the March 3, 2021 source test report, summarizing the test results for the flares were provided in the August 2021 SAR.

3.2 COMPONENT LEAK QUARTERLY MONITORING

During the reporting period, quarterly testing of the GCCS components for any leaks with a methane concentration of greater than 1,000 parts per million by volume (ppmv), as required by BAAQMD Rule 8-34-503, was conducted. Testing in the wellfield and at the flare station was performed using an organic vapor analyzer (OVA), which was calibrated on the same day as the testing. Monitoring results are provided in Appendix D and are available for review at the site.

3.2.1 Third Quarter 2021 Monitoring

SCS Field Services (SCSFS) personnel conducted component leak monitoring of the flare station and the LFGTE facility on July 28, 2021. No component leaks above 1,000 ppmv were detected at the flare station, wellfield, or LFGTE facility during the third quarter 2021 monitoring event. These results are included in **Appendix D**.

3.2.2 Fourth Quarter 2021 Monitoring

SCSFS personnel conducted the component leak monitoring of the flare station and the LFGTE Plant on November 1, 2021. No component leaks above 1,000 ppmv were detected at the flare station, wellfield, or LFGTE facility during fourth quarter 2021 monitoring events. These results are included in **Appendix D**.

3.3 CONTROL EFFICIENCY

Flare A-4

LFG Flare A-4 was tested on January 20, 2021 to demonstrate compliance with the control efficiency standard of 98 percent non-methane organic compound (NMOC) destruction efficiency or outlet concentration of 30 ppmv of NMOC as methane, corrected to 3% oxygen (for flares) as required by BAAQMD Rules 8-34-301.3, 8-34-412, and 8-34-501.4. The NMOC destruction efficiency for the A-4 Flare during the January 2021 source test was measured to be greater than (>) 98.85 percent by weight, and the NMOC as methane concentration in the flare outlet was less than (<) 4.9 ppmv. As such, Flare A-4 is in compliance with the aforementioned rules.

Excerpts from the January 2021 source test report dated March 3, 2021, summarizing the test results were provided in the August 2021 SAR.

IC Engines

The IC engines are required to demonstrate compliance with the control efficiency standard of 97 percent NMOC destruction efficiency or outlet concentration of 120 ppmv of NMOC as methane, corrected to 3% oxygen (for energy recovery devices) as required by BAAQMD Rules 8-34-301.4, 8-34-412, and 8-34-501.4. The most recent source testing results for these engines are summarized below. All engines met the outlet concentration limit of 120 ppmv of NMOC as methane, corrected to 3% oxygen during the most recent source tests.

Engine	Source Test Date	Results (ppm @ 3% O_2)
1 (S-4[1])	July 28, 2021	125.6*
2 (S-5)	December 6, 2021	91.9
3 (S-6[2])	November 6, 2020	99.8
4 (S-7[2])	October 21, 2020	<32
5 (S-9)	March 12, 2021	109.3
6 (S-10)	April 29, 2021	95.7

Engine	Source Test Date	Results (ppm @ 3% O_2)
7 (S-11)	April 26, 2021	74.8
8 (S-12[2])	January 12, 2021	122.8*
9 (S-13)	February 20, 2018**	40.97

[1] The S-4 Engine was source tested near the end of the previous reporting period, thus the source test report was not available for inclusion in the August 2021 report. As such, the S-4 source test report is included in this report.
[2] Per the Lead Power Plant Operator of the LFGTE facility, the S-6, S-7, and S-12 engines were not source tested this reporting period as they are currently out of service pending overhaul. Once the engines are brought back into service, they will be promptly source tested in 2022.
*NMOC outlet concentration exceeds the limit but falls within 10% of the permitted limit and is considered in compliance per BAAQMD Resolution No. 1390.
**Note 2019 and 2020 source tests for S-13 were unable to be completed due to mechanical issues. S-13 has been offline since 2019 and will be tested once repairs are completed.

Excerpts for the IC engine source test reports that were issued during the reporting period (S-4 and S-5) are included in **Appendix E**.

3.4 LANDFILL SURFACE EMISSIONS MONITORING

Surface emissions monitoring (SEM) was conducted at Sonoma Central on a quarterly basis during the reporting period, in accordance with BAAQMD Rule 8-34-303 and 8-34-506. The SEM events were conducted in accordance with the SEM plan in the landfill's GCCS Design Plan. Testing was performed using a Trimble SiteFID Landfill Gas Monitor Portable Flame Ionization Detector (FID), which was calibrated the same day as the testing. The results of this monitoring are summarized below. Reports for each quarterly monitoring event are provided in **Appendix D**.

3.4.1 Third Quarter 2021 Monitoring

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on July 26, 27, and 28, 2021. Surface emissions in excess of 500 ppmv were detected at eighteen (18) locations during the Third Quarter 2021 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring events, which were conducted on August 6 and 16, 2021, indicated that all areas with instantaneous exceedances had returned to compliance. One-month re-monitoring event was conducted, as required by NSPS, on August 27, 2021, and all locations remained in compliance.

The locations with the exceedances and associated methane concentrations are provided in the Third Quarter 2021 SEM report (**Appendix D**).

3.4.2 Fourth Quarter 2021 Monitoring

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on November 1, 2, 4, 5, and 8, 2021. Surface emissions in excess of 500 ppmv were detected at eight (8) locations during the fourth quarter 2021 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring, which was conducted on November 12, 2021, indicated that all areas with

instantaneous exceedances had returned to compliance. One-month re-monitoring was conducted, as required by NSPS, on November 22, 2021, and all locations remained in compliance.

The locations with the exceedances and associated methane concentrations are provided in the fourth quarter 2021 SEM report (Appendix D).

3.5 WELLHEAD MONTHLY MONITORING

Monthly wellhead monitoring for pressure, temperature, and oxygen content was conducted by SCSFS personnel during the reporting period to comply with BAAQMD Rule 8-34-305 and 9-34-414. The results of this monitoring are summarized below.

3.5.1 Pressure

The majority of the operational extraction wells were under negative pressure during the monitoring events conducted during the reporting period, in accordance with BAAQMD Rule 8-34-305 and 8-34-414. For any wells that exhibited positive pressure during this reporting period, the identification number and dates on which each well was operating with positive pressure are provided in Table 3. The table also includes corrective action and re-monitoring results. In all instances, corrective action and re-monitoring were performed in accordance with the 5- and 15-day requirements specified in the NSPS regulations and in Rule 8-34.

Two (2) operating wells, SCEC0208 and SCEW2015, demonstrated positive pressure readings at the end of the reporting period. These wells will be returned under negative pressure by the applicable compliance date, as specified in BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report.

As of the end of the previous reporting period, SCV082-1 was operating under positive pressure. The well was back in compliance within the timeline specified in BAAQMD Rule 8-34-414.

3.5.2 Oxygen

Sonoma Central has elected to use oxygen as its compliance standard under Rule 8-34-305, rather than nitrogen. Per Sonoma's PTO Condition No. 4044, Part 5(b)i, the oxygen Higher Operating Value (HOV) of 15% is approved for wells: V-058, V-061, V-062, and V-117; EC-9.1, EC-15, EC-19, EC-24, EC-25, EC-26, and EC- 26.1. However, all of these wells have since been permanently decommissioned with the exception of EC-15 and EC-24.

The majority of the wells were operating within the regulatory limit of five (5) percent oxygen (or within 15% oxygen for EC-15 and EC-24) during the monitoring events conducted during the reporting period. The dates when wells were operating with excessive oxygen, and the well identification number, corrective actions, and re-monitoring results for these wells are provided in Table 4.

As of the end of the reporting period, all of the operating wells were operating with an oxygen concentration below the 5 percent limit except for wells SC000H04, SCEC0020, SCEC0022, SCHC2001, SCV117-A, SCV139-0, SCV230-0, and SCV232-0. These wells will be returned to below the 5 percent limit by the applicable compliance dates, as specified in BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report.

As of the end of the previous reporting period, wells SC000H03, SC000H04, SCEC0019, SCHC2001, SCLEW-05, SCV003-0, SCV065-0, SCV066-5, SCV067-A, SCV068-5, SCV079-1, SCV100-5, SCV112-0, SCV124-0, SCV137-0, SCV143-0, SCV149-A, SCV222-0, SCV52-5A, SCV68-1A were operating with an oxygen concentration above the 5 percent limit. These wells were back in compliance within the timeline specified in BAAQMD Rule 8-34-414.

3.5.3 Temperature

BAAQMD Rule 8-34-305 requires the LFG temperature in each wellhead to measure less than 55 degrees Celsius (°C) or 131°F. However, Condition 4044, Part 5(b)ii in Sonoma's BAAQMD PTO allows Sonoma Central to operate wells SCV107-0, SCV109-0, SCV112-0, SCV113-0, SCV114-0, and SCV115-0, SCV108A, and SCV128A at an alternative temperature of 145°F. However, note that SCV109-0 has been permanently decommissioned.

The majority of wells were operating within their respective limits of 131°F and 145°F during the monitoring events conducted during the reporting period. The dates when wells were operating above their respective temperature limits, and the well identification number, correction actions, and re-monitoring results for each of these wells are provided in **Table 5.**

As of the end of the reporting period, all wells were operating below their respective temperature limits of 131°F and 145°F.

As of the end of the previous reporting period, all wells were operating with a temperature concentration below the 131°F limit.

3.5.4 Corrective Action Analysis

40 CFR 63.1981(j) and the 40 CFR 62.16724(k) require notifications for corrective action that will exceed 60 days to implement. Such corrective actions also require a "root cause analysis" (RCA) to determine the reason for the exceedance if exceedances cannot be corrected in 15 days. For corrective actions that require more than 60 days to complete, an additional "corrective action analysis" (CAA) is also required. There were no such exceedances during the reporting period and therefore no corrective actions or root cause analyses to report.

3.5.5 24 Hour High Temperature

Title 40 CFR 63.1981(k) and 40 CFR 62.16724(q) require the reporting of any LFG temperature measurements greater than or equal to 170°F. During the reporting period, there were no readings greater or equal to 170°F.

3.6 COVER INTEGRITY MONITORING

Under BAAQMD Rule 8-34-510 and the NSPS, the landfill surface must be monitored at least monthly for evidence of cracks or other surface integrity issues, which could allow for surface emissions. During the reporting period, cover integrity monitoring was conducted by SCSFS personnel in conjunction with the wellhead monitoring on August 30, September 30, October 29, November 29, December 29, 2021, and January 27, 2022. All necessary repairs were implemented in a timely manner. Records of cover integrity monitoring are available for review upon request.

3.7 LIQUIDS ADDITION REPORT

40 CFR 62.16724(l) requires documentation and reporting for the addition of liquids or leachate recirculation. The landfill has not injected liquid in the last 10 years, nor injected liquids during the reporting period. Therefore, there were zero (0) volumes of liquids injected and zero (0) acres of area for liquids injection.

3.8 GAS GENERATION ESTIMATE AND MONTHLY LANDFILL GAS FLOW RATES

Sonoma Central is not subject to Rule 8-34-404 because the Landfill does not operate less than continuously. Therefore, monthly flow data are not required to be reported.

3.9 ANNUAL WASTE ACCEPTANCE RATE AND REFUSE IN PLACE

Sonoma Central is an active landfill that continues to accept refuse for disposal. From August 1, 2021 through January 31, 2022, the site accepted 165,216.47 tons of MSW, resulting in a cumulative waste-in-place total of 17,640,793 as of January 31, 2022.

3.9.1 Non-Degradable Waste Areas

No areas of non-degradable waste deposition are known to exist. There are no landfill areas that are excluded from the collection system requirements. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

3.10 REPORTING REQUIREMENTS THAT WERE PREVIOUSLY SUBMITTED

Amendments to the MSW Landfill NESHAP (40 CFR 63, Subpart AAAA) were published in the Federal Register on March 26, 2020. As noted in 40 CFR 63.1930(a) and (b), landfills must meet the requirements of the amended subpart beginning no later than September 27, 2021. 40 CFR 63.1981 notes that reports submitted previously under NSPS or EG (40 CFR 60 Subparts WWW or XXX; or a state or federal plan implementing 40 CFR 60 Subparts Cc or Cf) do not have to be resubmitted, but a statement certifying submission of these reports must be included in the first semi-annual report required under the amended NESHAP. The facility is therefore taking the opportunity to notify and certify that the following reports were submitted previously:

- Initial Design Capacity Report;
- Initial NMOC Emission Rate Report;
- Initial/Revised Gas Collection and Control System (GCCS) Design Plan (Certification submitted on September 27, 2021); and
- Initial Performance Test Report.

Note that all other reports noted above with the exception of the Revised GCCS Design Plan were submitted outside of the 5-year retention window. A certification statement is included with this report in Appendix C. This ensures the reports are recognized as previously submitted under 40 CFR 60 Subparts WWW or XXX; or a state or federal plan implementing 40 CFR 60 Subparts Cc or Cf.

SECTION II. SSM PLAN REPORT

This Semi-Annual report also meets the requirements of the National Emissions for Hazardous Air Pollutants (NESHAP) for MSW landfills, 40 CFR 63, Subpart AAAA and complies with the requirements specified in Sonoma Central's Title V permit. This Semi-Annual report includes a certification signed by a Responsible Official which is provided in **Appendix A**. In accordance with the NESHAP for Landfills, this report is submitted semi-annually.

Beginning September 27, 2021 the new NESHAP rule went into effect, removing SSM Plan requirements. We would like to close out the SSM Plan report as of September 27, 2021, however due to the NESHAP Subpart AAAA SSM Plan condition in the Title V permit, we reported SSMs for the entire reporting period noted below.

Sonoma Central maintains a SSM Plan which describes the procedures for operating and maintaining the affected elements of the GCCS during startup, shutdown, and malfunction (SSM). The SSM events that occurred during the reporting period of August 1, 2021 through January 31, 2022 are documented below.

- During the reporting period, the GCCS had 24 SSM events. Details of these events are included in **Table 1a**.
- During the reporting period, A-4 Flare had 107 SSM events. Details of these events are included in **Table 1b**.
- During the reporting period, 203 SSM events occurred at the nine IC Engines (S-4, S-5, S-6, S-7, S-9, S- 10, S-11, and S-12). IC Engines S-13 and S-14 did not operate during the reporting period. The IC Engines were shut down and restarted during the reporting period due to the reasons noted in the downtime logs provided in **Appendix C**.
- During the reporting period, 12 Wellfield SSM events occurred. Details are included **Table 2**.
- During the reporting period, there were no SSM events associated with the LFG monitoring equipment (e.g. flow measuring/recording device, temperature measuring/recording device).
- In all events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan. There were no deviations from the SSM plan.
- Exceedances were not identified during the reporting period for any applicable emission limitation in the landfills NESHAP (§63.10(d)(5)(i)).
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).
- A copy of the SSM Plan and all revisions/addenda are kept on file at the facility for at least five (5) years and are available to appropriate regulatory agency personnel for inspection.

SECTION III. TITLE V SEMI-ANNUAL REPORT

As specified in 40 Code of Federal Regulation (CFR) Part 70, reports of any required monitoring must be submitted at least every 6 months. All instances of deviations from permit requirements for the semi-annual reporting period, specified in the Landfill's Initial Title V Permit as August 1 through January 31 and February 1 through July 31, must be clearly identified in each report. This Title V Report covers the August 1, 2021 through January 31, 2022 reporting period.

This report has been prepared based on Part VII (Applicable Limits and Compliance Monitoring Requirements) of the Landfill's MFR Permit. The report includes a certification by a responsible official, consistent with §70.5(d).

The full Title V Semi-Annual Report, including certification by a responsible official, is provided as **Appendix F**.

SECTION IV. ANNUAL TITLE V COMPLIANCE CERTIFICATION

A Title V Annual Compliance Certification has been prepared for the annual period specified in the Title V permit. The annual certification period for this report extends from February 1, 2021 to January 31, 2022.

As specified in 40 CFR Part 70, the compliance certification shall include all of the following:

- The identification of each federally-enforceable term or condition of the permit that is the basis of the certification;

- The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; and

- The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent.

The full Compliance Certification is provided as **Appendix G**.

Tables

Table 1a. GCCS Downtime
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

GCCS Shutdown	GCCS Restarted	Downtime Hours	Reason for Downtime	Corrective Actions Taken
8/2/21 8:20	8/2/21 8:36	0.27	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
8/2/21 10:44	8/2/21 11:00	0.27	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
8/2/21 13:40	8/2/21 14:02	0.37	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
9/18/21 12:06	**9/18/21 12:12**	**0.10**	**Pacific Gas and Electric (PG&E) utility power outage (RCA Submitted, IDs 08B84 and 08B85)**	**Flare was inspected and adjusted before being returned to service.**
9/18/21 21:34	**9/18/21 21:42**	**0.13**	**PG&E utility power outage (RCA Submitted, IDs 08B89 and 08B90)**	**Flare was inspected and adjusted before being returned to service.**
9/19/21 16:14	**9/19/21 16:40**	**0.43**	**PG&E utility power outage (RCA Submitted, IDs 08B91 and 08B92)**	**Flare was inspected and adjusted before being returned to service.**
9/20/21 8:58	9/20/21 9:24	0.43	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
9/20/21 9:36	9/20/21 9:46	0.17	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
10/14/21 5:18	10/14/21 8:58	3.67	Manuel shutdown for maintenance and troubleshooting (113)	Flare was inspected and adjusted before being returned to service.
11/15/21 7:52	11/15/21 10:16	2.40	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/13/21 7:40	12/13/21 7:52	0.20	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/14/21 13:10	12/14/21 13:42	0.53	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/17/21 15:24	12/17/21 15:46	0.37	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/17/21 16:04	12/17/21 16:20	0.27	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/17/21 22:48	**12/18/21 0:44**	**1.93**	**Thermocouple malfunction (RCA Submitted, IDs 08E23 and 08E24)**	**An operations and maintenance (O&M) technician was able to manually restart the flare upon receiving the automated notification of the shutdown and was dispatched to the flare station to manually switch the flare to operate using the middle thermocouple for operations instead of the lowest thermocouple. Flare was inspected and adjusted before being returned to service.**
12/18/21 10:46	12/18/21 10:56	0.17	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/18/21 11:08	12/18/21 12:06	0.97	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
12/19/21 4:56	**12/19/21 9:24**	**4.47**	**Thermocouple malfunction (RCA Submitted, IDs 08E28 and 08E29)**	**An operations and maintenance (O&M) technician was able to manually restart the flare upon receiving the automated notification of the shutdown and was dispatched to the flare station to manually switch the flare to operate using the middle thermocouple for operations instead of the lowest thermocouple. Flare was inspected and adjusted before being returned to service.**
12/21/21 8:00	12/21/21 8:40	0.67	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
1/3/22 12:18	1/3/22 12:28	0.17	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
1/5/22 9:20	1/5/22 9:50	0.50	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
1/6/22 6:56	1/6/22 8:54	1.97	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
1/12/22 8:20	1/12/22 14:48	6.47	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
1/13/22 12:32	1/13/22 12:46	0.23	Manual Shutdown for plant operations (113)	Flare was inspected and adjusted before being returned to service.
	Total:	**27.13**		

Notes:
Events in bold type denotes Malfunction Events
Downtimes listed represent periods when all landfill gas combustion devices were offline concurrently (no gas flow from the collection system).

All events listed involved GCCS inspection and/or maintenance activities prior to start up (or as soon as feasible following programmed startups) in accordance with Rule 8-34-113 requirements and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018, with the exception of the events that occurred on September 18 and 19, December 17 and 19, 2021 which involved utility outages from the Pacific Gas and Energy (PG&E) and thermocouple malfunction. These events were considered reportable compliance activities (RCA) and breakdown relief was requested.

Table 1b. Flare (A-4) Downtime
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown	Startup	Downtime Hours	Reason for Downtime
8/2/21 8:20	8/2/21 8:36	0.27	Blower maintenance and inspection (113)
8/2/21 10:44	8/2/21 11:00	0.27	Blower maintenance and inspection (113)
8/2/21 13:40	8/2/21 14:02	0.37	Blower maintenance and inspection (113)
8/11/21 11:00	8/11/21 11:22	0.37	Blower maintenance and inspection (113)
8/16/21 9:38	8/16/21 9:48	0.17	Blower maintenance and inspection (113)
8/23/21 8:52	8/23/21 9:06	0.23	Blower maintenance and inspection (113)
8/30/21 9:20	8/30/21 9:50	0.50	Blower maintenance and inspection (113)
9/7/21 11:08	9/7/21 11:34	0.43	Manual Shutdown for plant operations (113)
9/7/21 13:52	9/7/21 14:38	0.77	Manual Shutdown for plant operations (113)
9/8/21 10:38	9/8/21 10:50	0.20	Manual Shutdown for plant operations (113)
9/14/21 8:40	9/14/21 9:58	1.30	Manual Shutdown for plant operations (113)
9/14/21 10:14	9/14/21 10:28	0.23	Manual Shutdown for plant operations (113)
9/14/21 11:52	9/14/21 12:02	0.17	Manual Shutdown for plant operations (113)
9/14/21 12:10	9/14/21 12:20	0.17	Flame Failure due to engine ramp up (113)
9/18/21 12:04	**9/18/21 12:12**	**0.13**	**Pacific Gas and Electric (PG&E) utility power outage (RCA Submitted, IDs 08B84 and 08B85)**
9/18/21 21:34	**9/18/21 21:42**	**0.13**	**PG&E utility power outage (RCA Submitted, IDs 08B89 and 08B90)**
9/19/21 16:14	**9/19/21 16:40**	**0.43**	**PG&E utility power outage (RCA Submitted, IDs 08B91 and 08B92)**
9/20/21 8:58	9/20/21 9:24	0.43	Manual Shutdown for plant operations (113)
9/20/21 9:36	9/20/21 9:46	0.17	Manual Shutdown for plant operations (113)
9/29/21 12:58	9/29/21 13:00	0.03	Flame Failure due to engine ramp up (113)
9/29/21 14:10	9/29/21 14:12	0.03	Flame Failure due to engine ramp up (113)
9/29/21 14:16	9/29/21 14:18	0.03	Flame Failure due to engine ramp up (113)
9/29/21 17:20	9/29/21 17:22	0.03	Flame Failure due to engine ramp up (113)
9/29/21 17:34	9/29/21 17:36	0.03	Flame Failure due to engine ramp up (113)
9/29/21 17:46	9/29/21 17:48	0.03	Flame Failure due to engine ramp up (113)
9/29/21 17:50	9/29/21 17:52	0.03	Flame Failure due to engine ramp up (113)
9/29/21 18:48	9/29/21 18:50	0.03	Flame Failure due to engine ramp up (113)
9/29/21 18:52	9/29/21 18:54	0.03	Flame Failure due to engine ramp up (113)
9/29/21 19:00	9/29/21 19:10	0.17	Flame Failure due to engine ramp up (113)
9/29/21 19:16	9/29/21 19:20	0.07	Flame Failure due to engine ramp up (113)
9/29/21 19:26	9/29/21 19:30	0.07	Flame Failure due to engine ramp up (113)
9/29/21 19:52	9/29/21 19:58	0.10	Flame Failure due to engine ramp up (113)
9/29/21 20:32	9/29/21 21:00	0.47	Flame Failure due to engine ramp up (113)
9/29/21 21:02	9/29/21 21:28	0.43	Flame Failure due to engine ramp up (113)
9/29/21 21:34	9/29/21 21:38	0.07	Flame Failure due to engine ramp up (113)
9/29/21 21:40	9/29/21 21:50	0.17	Flame Failure due to engine ramp up (113)
9/29/21 21:52	9/29/21 21:56	0.07	Flame Failure due to engine ramp up (113)
9/29/21 21:58	9/29/21 22:28	0.50	Flame Failure due to engine ramp up (113)
9/29/21 22:36	9/29/21 22:40	0.07	Flame Failure due to engine ramp up (113)
9/29/21 22:46	9/29/21 22:50	0.07	Flame Failure due to engine ramp up (113)
9/29/21 22:54	9/29/21 22:58	0.07	Flame Failure due to engine ramp up (113)
9/29/21 23:00	9/29/21 23:08	0.13	Flame Failure due to engine ramp up (113)
9/29/21 23:10	9/29/21 23:22	0.20	Flame Failure due to engine ramp up (113)
9/29/21 23:26	9/29/21 23:30	0.07	Flame Failure due to engine ramp up (113)
9/29/21 23:52	9/30/21 0:00	0.13	Flame Failure due to engine ramp up (113)
9/30/21 0:04	9/30/21 0:30	0.43	Flame Failure due to engine ramp up (113)

Table 1b. Flare (A-4) Downtime
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown	Startup	Downtime Hours	Reason for Downtime
9/30/21 0:38	9/30/21 1:00	0.37	Flame Failure due to engine ramp up (113)
9/30/21 1:02	9/30/21 1:30	0.47	Flame Failure due to engine ramp up (113)
9/30/21 1:34	9/30/21 1:50	0.27	Flame Failure due to engine ramp up (113)
9/30/21 2:06	9/30/21 2:34	0.47	Flame Failure due to engine ramp up (113)
9/30/21 2:40	9/30/21 2:50	0.17	Flame Failure due to engine ramp up (113)
9/30/21 2:56	9/30/21 3:06	0.17	Flame Failure due to engine ramp up (113)
9/30/21 3:26	9/30/21 3:30	0.07	Flame Failure due to engine ramp up (113)
9/30/21 3:32	9/30/21 3:34	0.03	Flame Failure due to engine ramp up (113)
9/30/21 3:36	9/30/21 3:48	0.20	Flame Failure due to engine ramp up (113)
9/30/21 4:12	9/30/21 4:44	0.53	Flame Failure due to engine ramp up (113)
9/30/21 4:50	9/30/21 4:58	0.13	Flame Failure due to engine ramp up (113)
9/30/21 5:00	9/30/21 6:00	1.00	Flame Failure due to engine ramp up (113)
9/30/21 6:02	9/30/21 6:26	0.40	Flame Failure due to engine ramp up (113)
9/30/21 6:28	9/30/21 7:16	0.80	Flame Failure due to engine ramp up (113)
9/30/21 7:20	9/30/21 7:36	0.27	Flame Failure due to engine ramp up (113)
9/30/21 7:42	9/30/21 8:46	1.07	Manual Shutdown for plant operations (113)
9/30/21 8:48	9/30/21 11:50	3.03	Manual Shutdown for plant operations (113)
9/30/21 11:54	9/30/21 12:04	0.17	Flame Failure due to engine ramp up (113)
9/30/21 18:50	9/30/21 19:26	0.60	Flame Failure due to engine ramp up (113)
9/30/21 19:44	9/30/21 19:54	0.17	Flame Failure due to engine ramp up (113)
9/30/21 20:10	10/1/21 6:00	3.83	Flame Failure due to engine ramp up (113)
10/4/21 8:28	10/4/21 8:44	0.27	Flame Failure due to engine ramp up (113)
10/4/21 8:50	10/4/21 9:04	0.23	Flame Failure due to engine ramp up (113)
10/8/21 8:30	10/12/21 8:04	95.57	Manual Shutdown for plant operations (113)
10/12/21 8:50	10/12/21 8:52	0.03	Flame Failure due to engine ramp up (113)
10/12/21 9:06	10/12/21 9:10	0.07	Flame Failure due to engine ramp up (113)
10/12/21 9:12	10/12/21 9:20	0.13	Flame Failure due to engine ramp up (113)
10/12/21 9:22	10/12/21 9:24	0.03	Flame Failure due to engine ramp up (113)
10/12/21 9:38	10/12/21 9:40	0.03	Flame Failure due to engine ramp up (113)
10/14/21 4:16	10/14/21 8:58	4.70	Manual shutdown for maintenance and troubleshooting (113)
10/18/21 9:44	10/18/21 9:58	0.23	Flame Failure due to engine ramp up (113)
10/25/21 9:54	10/25/21 10:24	0.50	Flame Failure due to engine ramp up (113)
11/1/21 10:20	11/1/21 10:36	0.27	Flame Failure due to engine ramp up (113)
11/8/21 9:56	11/8/21 10:14	0.30	Flame Failure due to engine ramp up (113)
11/15/21 7:52	11/15/21 10:16	2.40	Manual Shutdown for plant operations (113)
11/22/21 9:28	11/22/21 9:46	0.30	Flame Failure due to engine ramp up (113)
12/1/21 9:42	12/1/21 10:00	0.30	Manual Shutdown for plant operations (113)
12/13/21 7:38	12/13/21 7:52	0.23	Manual Shutdown for plant operations (113)
12/14/21 13:10	12/14/21 13:42	0.53	Manual Shutdown for plant operations (113)
12/17/21 15:24	12/17/21 15:46	0.37	Manual Shutdown for plant operations (113)
12/17/21 16:04	12/17/21 16:20	0.27	Manual Shutdown for plant operations (113)
12/17/21 22:48	**12/18/21 0:44**	**1.93**	**Thermocouple malfunction (RCA Submitted, IDs 08E23 and 08E24)**
12/18/21 10:46	12/18/21 10:56	0.17	Manual Shutdown for plant operations (113)
12/18/21 11:08	12/18/21 12:06	0.97	Manual Shutdown for plant operations (113)
12/19/21 4:56	**12/19/21 9:24**	**4.47**	**Thermocouple malfunction (RCA Submitted, IDs 08E28 and 08E29)**
12/21/21 8:00	12/21/21 8:40	0.67	Manual Shutdown for plant operations (113)
12/29/21 7:12	12/29/21 8:12	1.00	Manual Shutdown for plant operations (113)

Table 1b. Flare (A-4) Downtime
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown	Startup	Downtime Hours	Reason for Downtime
12/29/21 12:38	12/29/21 14:54	2.27	Manual Shutdown for plant operations (113)
12/29/21 18:54	12/30/21 6:14	11.33	Manual Shutdown for plant operations (113)
12/30/21 6:34	12/30/21 6:44	0.17	Manual Shutdown for plant operations (113)
12/30/21 10:02	12/30/21 10:16	0.23	Manual Shutdown for plant operations (113)
1/2/22 3:34	1/2/22 11:04	7.50	Manual Shutdown for plant operations (113)
1/3/22 12:18	1/3/22 12:28	0.17	Manual Shutdown for plant operations (113)
1/5/22 9:20	1/5/22 9:50	0.50	Manual Shutdown for plant operations (113)
1/6/22 6:56	1/6/22 8:54	1.97	Manual Shutdown for plant operations (113)
1/12/22 8:20	1/12/22 14:48	6.47	Manual Shutdown for plant operations (113)
1/13/22 12:32	1/13/22 12:46	0.23	Manual Shutdown for plant operations (113)
1/19/22 9:26	1/19/22 9:38	0.20	Manual Shutdown for plant operations (113)
1/26/22 8:36	1/26/22 8:54	0.30	Manual Shutdown for plant operations (113)
1/28/22 8:20	1/28/22 8:34	0.23	Manual Shutdown for plant operations (113)
1/31/22 9:42	1/31/22 9:58	0.27	Manual Shutdown for plant operations (113)
Total		**172.30**	

Notes:
Events in bold type denotes Malfunction Events

All events listed involved GCCS inspection and/or maintenance activities prior to start up (or as soon as feasible following programmed startups) in accordance with Rule 8-34-113 requirements and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018, with the exception of the events that occurred on September 18 and 19, December 17 and 19, 2021 which involved utility outages from the Pacific Gas and Energy (PG&E) and thermocouple malfunction. These events were considered reportable compliance activities (RCA) and breakdown relief was requested.

Table 2. Individual Well Startups, Shutdowns and Decommissions
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Shutdown	Start-up	Days Offline	Reason for Shutdown/Startup
SCV68-1A	9/8/21	N/A	N/A	Vertical Well Decommissioning
SCV065-0	9/24/21	N/A	N/A	Vertical Well Decommissioning
SC000H03	10/8/21	N/A	N/A	Horizontal Collector Decommissioning
SCEC0019	10/15/21	N/A	N/A	Horizontal Collector Decommissioning
SCV124-0	10/26/21	N/A	N/A	Vertical Well Decommissioning
SCV52-5A	10/29/21	N/A	N/A	Vertical Well Decommissioning
SCLEW-05	11/17/21	N/A	N/A	Vertical Well Decommissioning
SCV122-0	12/1/21	N/A	N/A	Vertical Well Decommissioning
SCHC2001	10/28/21 0:00	1/11/22 9:40	75.40	Inactive Horizontal Well
SCV243-0	12/10/21	N/A	N/A	Vertical Well Decommissioning
SCV068-5	1/14/22	N/A	N/A	Vertical Well Decommissioning

Note: All well downtime events listed are consistent with applicable Rule 8-34 provisions and BAAQMD permit conditions.

Table 2. Individual Well Startups, Shutdowns and Decommissions
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Shutdown	Start-up	Days Offline	Reason for Shutdown/Startup
SCV68-1A	9/8/21	N/A	N/A	Vertical Well Decommissioning
SCV065-0	9/24/21	N/A	N/A	Vertical Well Decommissioning
SC000H03	10/8/21	N/A	N/A	Horizontal Collector Decommissioning
SCEC0019	10/15/21	N/A	N/A	Horizontal Collector Decommissioning
SCV124-0	10/26/21	N/A	N/A	Vertical Well Decommissioning
SCV52-5A	10/29/21	N/A	N/A	Vertical Well Decommissioning
SCLEW-05	11/17/21	N/A	N/A	Vertical Well Decommissioning
SCV122-0	12/1/21	N/A	N/A	Vertical Well Decommissioning
SCHC2001	10/28/21 0:00	1/11/22 9:40	75.40	Inactive Horizontal Well
SCV243-0	12/10/21	N/A	N/A	Vertical Well Decommissioning
SCV068-5	1/14/22	N/A	N/A	Vertical Well Decommissioning

Note: All well downtime events listed are consistent with applicable Rule 8-34 provisions and BAAQMD permit conditions.

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SC000H04	9/8/2021 9:01	0.04	-0.55	Adjusted Valve, In Compliance
SC000H04	11/16/2021 7:42	0.59	-0.09	Adjusted Valve, In Compliance
SC000H04	12/14/2021 8:41	0.72	-0.74	Adjusted Valve, In Compliance
SC000H04	1/28/2022 10:01	0.31	-0.37	Adjusted Valve, In Compliance
SC0V106A	12/20/2021 13:21	0.07	-0.02	Adjusted Valve, In Compliance
SC0V106A	1/13/2022 8:39	0.34	-0.02	Adjusted Valve, In Compliance
SC0V108A	8/2/2021 12:58	0.35	-0.1	Adjusted Valve, In Compliance
SC0V108A	9/16/2021 13:27	0.8	-0.06	Adjusted Valve, In Compliance
SCEC0006	8/12/2021 10:46	0.5	-0.1	Adjusted Valve, In Compliance
SCEC0006	12/21/2021 13:32	0.07	-0.01	Adjusted Valve, In Compliance
SCEC0019	10/15/2021 7:17	0.03	-0.77	Adjusted Valve, In Compliance
SCEC0207	8/12/2021 9:21	0.8	-0.06	Adjusted Valve, In Compliance
SCEC0207	12/21/2021 11:47	0.26	-0.02	Adjusted Valve, In Compliance
SCEC0208	8/12/2021 9:37	0.8	-0.26	Adjusted Valve, In Compliance
SCEC0208	1/21/2022 8:27	0.05	0.06	Adjusted Valve
SCEC0208	1/21/2022 8:29	0.09	0.09	Second Reading
SCEW2001	8/16/2021 11:31	0.82	-0.07	Adjusted Valve, In Compliance
SCEW2001	12/28/2021 12:24	0.1	-0.03	Adjusted Valve, In Compliance
SCEW2002	8/16/2021 10:58	0.74	-0.04	Adjusted Valve, In Compliance
SCEW2002	12/28/2021 12:53	0.04	-0.06	Adjusted Valve, In Compliance
SCEW2003	8/16/2021 15:10	0.73	-0.05	Adjusted Valve, In Compliance
SCEW2003	12/28/2021 13:16	0.08	-0.06	Adjusted Valve, In Compliance
SCEW2004	8/16/2021 14:21	0.8	-0.05	Adjusted Valve, In Compliance
SCEW2005	8/16/2021 14:32	0.62	-0.04	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCEW2009	8/16/2021 10:38	0.82	-0.06	Adjusted Valve, In Compliance
SCEW2009	9/9/2021 9:41	0.01	-0.06	Adjusted Valve, In Compliance
SCEW2009	12/28/2021 13:30	0.28	-0.04	Adjusted Valve, In Compliance
SCEW2010	8/16/2021 16:21	0.61	-0.02	Adjusted Valve, In Compliance
SCEW2010	12/28/2021 12:35	0.06	-0.02	Adjusted Valve, In Compliance
SCEW2011	8/16/2021 16:47	0.58	-0.06	Adjusted Valve, In Compliance
SCEW2011	9/9/2021 10:30	0.05	-0.04	Adjusted Valve, In Compliance
SCEW2012	8/16/2021 16:37	0.75	-0.05	Adjusted Valve, In Compliance
SCEW2014	8/11/2021 12:24	0.46	-0.19	Adjusted Valve, In Compliance
SCEW2015	8/11/2021 13:02	1.08	-0.13	Adjusted Valve, In Compliance
SCEW2015	1/13/2022 9:59	0.05	-0.03	Adjusted Valve, In Compliance
SCEW2015	1/26/2022 9:51	0.07	-0.02	Adjusted Valve, In Compliance
SCEW2015	1/26/2022 9:53	-0.08	0.12	Adjusted Valve
SCEW2017	8/11/2021 12:14	0.1	-0.17	Adjusted Valve, In Compliance
SCEW2017	1/26/2022 9:36	-0.04	0.08	Adjusted Valve
SCEW2017	1/26/2022 9:38	-0.32	-0.31	In Compliance
SCEW2102	8/16/2021 10:26	0.85	-0.09	Adjusted Valve, In Compliance
SCEW2103	8/16/2021 15:00	0.95	-0.05	Adjusted Valve, In Compliance
SCEW2103	12/28/2021 13:53	0.13	-0.03	Adjusted Valve, In Compliance
SCEW2104	8/11/2021 13:38	0.74	-0.06	Adjusted Valve, In Compliance
SCEW2104	12/7/2021 13:44	-0.28	0.2	Adjusted Valve
SCEW2104	12/9/2021 9:34	-0.5	-0.46	In Compliance
SCEW2104	12/29/2021 9:17	0.02	-0.03	Adjusted Valve, In Compliance
SCEW2105	8/11/2021 13:16	0.93	-0.13	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCEW2106	11/9/2021 12:05	0.01	-0.04	Adjusted Valve, In Compliance
SCEW2107	8/11/2021 12:51	1.08	-0.17	Adjusted Valve, In Compliance
SCEW2108	8/17/2021 7:15	0.47	-0.03	Adjusted Valve, In Compliance
SCEW2109	8/16/2021 11:13	0.85	-0.03	Adjusted Valve, In Compliance
SCEW2109	12/28/2021 12:46	0.38	-0.1	Adjusted Valve, In Compliance
SCEW2110	9/9/2021 8:50	0.13	-0.03	Adjusted Valve, In Compliance
SCEW2112	9/23/2021 12:48	12.11	-0.38	Adjusted Valve, In Compliance
SCEW2115	8/18/2021 9:00	0.27	-0.18	Adjusted Valve, In Compliance
SCEW2116	8/17/2021 13:24	0.19	-0.19	Adjusted Valve, In Compliance
SCEW2117	8/17/2021 13:16	0.67	-0.14	Adjusted Valve, In Compliance
SCEW2118	8/17/2021 13:07	0.98	-0.07	Adjusted Valve, In Compliance
SCEW2119	8/17/2021 12:57	0.7	-0.13	Adjusted Valve, In Compliance
SCEW2120	8/18/2021 7:31	0.99	-0.06	Adjusted Valve, In Compliance
SCEW2120	1/10/2022 11:50	0.24	-0.02	Adjusted Valve, In Compliance
SCEW2121	10/11/2021 13:28	0.04	-0.03	Adjusted Valve, In Compliance
SCEW2122	10/11/2021 13:40	0.03	-0.03	Adjusted Valve, In Compliance
SCEW2123	10/11/2021 13:53	0.13	-0.06	Adjusted Valve, In Compliance
SCEW2124	8/18/2021 8:21	0.89	-0.08	Adjusted Valve, In Compliance
SCEW2124	9/13/2021 12:24	0.24	-0.04	Adjusted Valve, In Compliance
SCEW2126	11/8/2021 12:17	0.01	-0.22	Adjusted Valve, In Compliance
SCHC2001	1/11/2022 9:36	0.24	0.24	Adjusted Valve
SCHC2001	1/11/2022 9:40	-0.02	-0.03	In Compliance
SCLEW-07	9/23/2021 10:56	0.12	-2	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV003-0	9/9/2021 8:24	7.21	-0.28	Adjusted Valve, In Compliance
SCV003-0	10/28/2021 10:02	1.02	-0.24	Adjusted Valve, In Compliance
SCV003-0	11/5/2021 10:50	1	-0.04	Adjusted Valve, In Compliance
SCV044-A	8/26/2021 9:25	1.4	-0.09	Adjusted Valve, In Compliance
SCV045-A	12/14/2021 10:44	0.01	-0.06	Adjusted Valve, In Compliance
SCV045-A	12/22/2021 13:02	0.51	-0.31	Adjusted Valve, In Compliance
SCV048-A	12/13/2021 11:52	0.68	-0.07	Adjusted Valve, In Compliance
SCV052-A	10/6/2021 11:12	0.91	-0.05	Adjusted Valve, In Compliance
SCV052-A	12/22/2021 12:38	0.72	-0.04	Adjusted Valve, In Compliance
SCV057-0	9/10/2021 9:35	0.45	-1.65	Adjusted Valve, In Compliance
SCV057-0	10/6/2021 8:07	0.75	-0.47	Adjusted Valve, In Compliance
SCV064-0	9/17/2021 9:25	0.1	-0.61	Adjusted Valve, In Compliance
SCV065-0	9/7/2021 10:01	20.94	-0.13	Adjusted Valve, In Compliance
SCV066-5	8/3/2021 8:17	1.91	-0.5	Adjusted Valve, In Compliance
SCV066-5	12/22/2021 10:10	4.33	-0.4	Adjusted Valve, In Compliance
SCV067-5	12/22/2021 9:40	0.04	-0.01	Adjusted Valve, In Compliance
SCV074-A	12/14/2021 12:52	0.06	-0.06	Adjusted Valve, In Compliance
SCV075-A	11/16/2021 12:07	0.05	-0.09	Adjusted Valve, In Compliance
SCV076-1	9/21/2021 12:44	0.88	-0.47	Adjusted Valve, In Compliance
SCV076-1	10/8/2021 15:08	1.83	-0.27	Adjusted Valve, In Compliance
SCV076-1	11/4/2021 10:59	1.77	-0.12	Adjusted Valve, In Compliance
SCV077-1	9/14/2021 8:06	0.97	-0.12	Adjusted Valve, In Compliance
SCV077-1	9/21/2021 12:34	0.73	-0.09	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV077-1	10/7/2021 9:39	2.97	-0.59	Adjusted Valve, In Compliance
SCV077-1	10/8/2021 14:57	0.72	-0.45	Adjusted Valve, In Compliance
SCV077-1	12/13/2021 11:27	3.22	-0.55	Adjusted Valve, In Compliance
SCV078-1	10/1/2021 12:33	0.91	-0.04	Adjusted Valve, In Compliance
SCV078-1	11/1/2021 13:49	21.95	-0.51	Adjusted Valve, In Compliance
SCV079-1	8/13/2021 12:56	2.8	-1.26	Adjusted Valve, In Compliance
SCV079-1	8/27/2021 10:57	0.24	-0.12	Adjusted Valve, In Compliance
SCV079-1	9/14/2021 7:47	3.03	-0.61	Adjusted Valve, In Compliance
SCV079-1	9/21/2021 12:08	2.31	-1.54	Adjusted Valve, In Compliance
SCV079-1	10/8/2021 14:29	13.79	-0.14	Adjusted Valve, In Compliance
SCV079-1	11/29/2021 14:11	10.85	-0.8	Adjusted Valve, In Compliance
SCV080-0	8/23/2021 11:03	3.49	-0.15	Adjusted Valve, In Compliance
SCV080-0	8/23/2021 11:03	3.49	-0.15	Adjusted Valve, In Compliance
SCV080-0	10/8/2021 14:19	3.4	-0.28	Adjusted Valve, In Compliance
SCV080-0	11/19/2021 9:29	1.76	-0.59	Adjusted Valve, In Compliance
SCV080-0	12/13/2021 10:51	4.64	-0.19	Adjusted Valve, In Compliance
SCV081-1	9/14/2021 7:25	0.84	-0.14	Adjusted Valve, In Compliance
SCV081-1	10/8/2021 11:01	5.2	-0.49	Adjusted Valve, In Compliance
SCV081-1	11/30/2021 7:57	2.41	-0.13	Adjusted Valve, In Compliance
SCV082-1	8/4/2021 8:11	3.99	-0.79	(Initial Exceedance was on 7/22) Adjusted Valve, In Compliance
SCV082-1	9/21/2021 11:18	1.26	-0.55	Adjusted Valve, In Compliance
SCV091-B	9/16/2021 13:04	1.04	-4.01	Adjusted Valve, In Compliance
SCV092-A	11/17/2021 12:39	0.13	-0.17	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV093-A	11/17/2021 12:26	8.95	-0.53	Adjusted Valve, In Compliance
SCV098-0	9/3/2021 13:57	3.93	-0.42	Adjusted Valve, In Compliance
SCV098-0	9/23/2021 7:50	5.02	-0.23	Adjusted Valve, In Compliance
SCV098-0	10/19/2021 10:08	3.68	-0.13	Adjusted Valve, In Compliance
SCV098-0	11/16/2021 12:21	4.76	-0.83	Adjusted Valve, In Compliance
SCV100-3	9/14/2021 9:19	0.08	-0.03	Adjusted Valve, In Compliance
SCV100-3	9/16/2021 11:04	1.08	-0.04	Adjusted Valve, In Compliance
SCV100-5	9/16/2021 12:56	1.88	-5.25	Adjusted Valve, In Compliance
SCV101-0	8/6/2021 11:38	1.06	-1.51	Adjusted Valve, In Compliance
SCV101-0	10/19/2021 8:34	1.08	-0.32	Adjusted Valve, In Compliance
SCV102-A	12/20/2021 11:15	0.74	-0.02	Adjusted Valve, In Compliance
SCV107-0	8/2/2021 12:46	0.73	-0.64	Adjusted Valve, In Compliance
SCV107-0	9/16/2021 13:17	0.3	-0.36	Adjusted Valve, In Compliance
SCV107-0	10/19/2021 12:23	0.45	-0.91	Adjusted Valve, In Compliance
SCV107-0	11/16/2021 13:50	0.85	-0.63	Adjusted Valve, In Compliance
SCV112-0	12/20/2021 13:43	0.86	-0.06	Adjusted Valve, In Compliance
SCV113-0	11/10/2021 9:23	0.25	-0.7	Adjusted Valve, In Compliance
SCV113-0	12/20/2021 13:28	2.22	-0.14	Adjusted Valve, In Compliance
SCV113-0	1/13/2022 8:47	6.34	-0.84	Adjusted Valve, In Compliance
SCV114-0	12/20/2021 13:11	1.6	-0.41	Adjusted Valve, In Compliance
SCV114-0	1/13/2022 8:27	6.47	-0.48	Adjusted Valve, In Compliance
SCV115-0	8/5/2021 8:21	1.61	-0.17	Adjusted Valve, In Compliance
SCV115-0	12/20/2021 13:01	4.92	-0.35	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV116-A	9/16/2021 12:39	1.17	-0.07	Adjusted Valve, In Compliance
SCV124-0	9/23/2021 7:22	1.61	-7.45	Adjusted Valve, In Compliance
SCV125A0	9/16/2021 13:36	0.05	-0.07	Adjusted Valve, In Compliance
SCV125A0	12/2/2021 12:43	0.63	-0.15	Adjusted Valve, In Compliance
SCV126A0	9/16/2021 13:45	0.85	-0.03	Adjusted Valve, In Compliance
SCV126A0	12/1/2021 10:42	0.22	-0.04	Adjusted Valve, In Compliance
SCV128-A	9/9/2021 7:54	1.66	-0.06	Adjusted Valve, In Compliance
SCV128-A	12/7/2021 12:24	1.07	-0.18	Adjusted Valve, In Compliance
SCV132-0	12/20/2021 13:54	0.29	-0.02	Adjusted Valve, In Compliance
SCV133-0	9/16/2021 14:04	N/A	72.35	Adjusted Valve
SCV133-0	9/17/2021 7:23	-2.67	-2.67	In Compliance
SCV135-0	8/16/2021 13:15	1.05	-0.14	Adjusted Valve, In Compliance
SCV136-0	9/20/2021 11:52	1.84	-1.12	Adjusted Valve, In Compliance
SCV136-0	12/13/2021 14:00	0.32	-0.81	Adjusted Valve, In Compliance
SCV137-0	10/22/2021 11:11	0.02	-0.07	Adjusted Valve, In Compliance
SCV137-0	12/13/2021 13:48	0.14	-0.03	Adjusted Valve, In Compliance
SCV138-0	9/20/2021 12:13	2.87	-0.38	Adjusted Valve, In Compliance
SCV138-0	12/13/2021 13:38	1.94	-0.08	Adjusted Valve, In Compliance
SCV139-0	9/20/2021 12:25	6.06	-0.1	Adjusted Valve, In Compliance
SCV139-0	10/22/2021 10:20	0.3	-0.03	Adjusted Valve, In Compliance
SCV139-0	11/30/2021 9:02	7.93	-0.21	Adjusted Valve, In Compliance
SCV140-0	9/20/2021 12:38	0.1	-0.04	Adjusted Valve, In Compliance
SCV143-0	8/26/2021 8:28	0.02	-0.06	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV143-0	11/2/2021 13:34	0.4	-0.18	Adjusted Valve, In Compliance
SCV144-0	12/14/2021 10:15	0.81	-0.02	Adjusted Valve, In Compliance
SCV147-0	9/23/2021 13:02	10.51	-0.77	Adjusted Valve, In Compliance
SCV147-0	11/1/2021 12:02	1.38	-0.04	Adjusted Valve, In Compliance
SCV147-0	12/22/2021 12:17	1.52	-0.07	Adjusted Valve, In Compliance
SCV149-A	9/16/2021 10:46	0.06	-4.76	Adjusted Valve, In Compliance
SCV149-A	11/3/2021 13:27	0.24	-1.25	Adjusted Valve, In Compliance
SCV149-A	11/16/2021 12:45	0.04	-0.27	Adjusted Valve, In Compliance
SCV149-A	12/2/2021 9:39	0.09	-1.87	Adjusted Valve, In Compliance
SCV213-0	8/12/2021 12:44	0.8	-0.07	Adjusted Valve, In Compliance
SCV213-0	10/7/2021 13:17	0.06	-0.04	Adjusted Valve, In Compliance
SCV215-0	9/8/2021 9:37	0.24	-0.12	Adjusted Valve, In Compliance
SCV216-0	9/8/2021 9:45	0.09	-0.21	Adjusted Valve, In Compliance
SCV223-0	8/13/2021 10:05	0.76	-0.59	Adjusted Valve, In Compliance
SCV223-0	9/17/2021 13:02	0.11	-0.11	Adjusted Valve, In Compliance
SCV225-0	8/13/2021 10:29	0.34	-0.25	Adjusted Valve, In Compliance
SCV225-0	9/17/2021 12:04	0.79	-1.09	Adjusted Valve, In Compliance
SCV225-0	9/23/2021 11:13	13.66	-0.2	Adjusted Valve, In Compliance
SCV225-0	10/27/2021 12:12	2.08	-0.16	Adjusted Valve, In Compliance
SCV225-0	11/23/2021 13:18	2.01	-0.44	Adjusted Valve, In Compliance
SCV225-0	11/24/2021 12:49	2.48	-0.51	Adjusted Valve, In Compliance
SCV225-0	12/6/2021 13:15	5.92	-0.24	Adjusted Valve, In Compliance
SCV225-0	12/20/2021 10:06	6.03	-0.05	Adjusted Valve, In Compliance

Table 3. Wells with Positive Pressure
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Static Pressure ("H_2O)	Adjusted Static Pressure ("H_2O)	Comments
SCV226-0	8/13/2021 11:20	0.27	-0.1	Adjusted Valve, In Compliance
SCV228-0	11/8/2021 12:25	0.12	-0.09	Adjusted Valve, In Compliance
SCV234-0	8/12/2021 11:27	0.88	-0.09	Adjusted Valve, In Compliance
SCV234-0	11/8/2021 11:19	0.1	-0.06	Adjusted Valve, In Compliance
SCV235-0	8/6/2021 12:04	0.55	-0.07	Adjusted Valve, In Compliance
SCV235-0	12/21/2021 10:46	0.04	-0.02	Adjusted Valve, In Compliance
SCV49-1A	12/9/2021 11:20	1.09	-1.56	Adjusted Valve, In Compliance
SCV51-5A	9/16/2021 9:16	0.01	-0.5	Adjusted Valve, In Compliance
SCV52-5A	10/28/2021 14:09	5.93	-17.41	Adjusted Valve, In Compliance
SCV88-5A	11/3/2021 13:10	0.08	-0.19	Adjusted Valve, In Compliance
SCV89-5A	9/16/2021 12:18	1.38	-0.04	Adjusted Valve, In Compliance
SV101-5A	12/20/2021 11:28	1.68	-0.04	Adjusted Valve, In Compliance

Note: All required corrective action and remonitoring was completed in accordance with Rule 8-34 and NSPS timelines.
All pressure exceedance were corrected within 15 days.

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SC000H03	8/3/2021 11:16	14	(Initial Exceedance was on 6/11) Adjusted Valve
SC000H03	8/3/2021 11:18	13.7	Second Reading
SC000H03	8/17/2021 7:49	15.7	Adjusted Valve
SC000H03	8/17/2021 7:51	12.5	Second Reading
SC000H03	8/25/2021 12:02	13.7	Adjusted Valve
SC000H03	8/25/2021 12:05	11.5	Second Reading
SC000H03	9/7/2021 9:38	19.8	Adjusted Valve
SC000H03	9/7/2021 9:40	20	Second Reading
SC000H03	9/16/2021 9:41	20.5	Adjusted Valve
SC000H03	9/16/2021 9:42	20.7	Second Reading
SC000H03	9/23/2021 7:09	21.2	Adjusted Valve
SC000H03	9/23/2021 7:11	21.2	Second Reading
SC000H03	10/1/2021 10:39	19.8	Adjusted Valve
SC000H03	10/4/2021 13:36	20	Adjusted Valve
SC000H03	10/4/2021 13:38	19.9	Well Permanently Decommissioned Due to Poor Gas Quality
SC000H04	8/3/2021 11:28	2.7	(Initial Exceedance was on 7/27) In Compliance
SC000H04	8/25/2021 11:52	11.4	Adjusted Valve
SC000H04	8/25/2021 11:55	10.1	Second Reading
SC000H04	9/3/2021 15:05	8.1	Adjusted Valve
SC000H04	9/3/2021 15:07	9.3	Second Reading
SC000H04	9/7/2021 9:28	1.7	In Compliance
SC000H04	9/7/2021 9:31	11.5	Adjusted Valve
SC000H04	9/8/2021 9:01	0.8	In Compliance
SC000H04	9/8/2021 9:05	6.7	Adjusted Valve
SC000H04	9/16/2021 9:33	1.8	In Compliance
SC000H04	11/2/2021 12:10	9.2	Adjusted Valve
SC000H04	11/2/2021 12:12	11.5	Second Reading
SC000H04	11/16/2021 7:42	0.5	In Compliance
SC000H04	1/28/2022 10:02	16.7	Adjusted Valve
SC0V108A	9/23/2021 8:43	5.7	Adjusted Valve
SC0V108A	9/23/2021 8:44	4	In Compliance
SC0V110A	8/11/2021 11:54	11.2	Adjusted Valve
SC0V110A	8/11/2021 11:56	2.7	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SC0V110A	9/10/2021 8:53	5.6	Adjusted Valve
SC0V110A	9/10/2021 8:55	3.7	In Compliance
SCEC0010	8/17/2021 12:08	15.4	Adjusted Valve
SCEC0010	8/23/2021 11:23	3.1	In Compliance
SCEC0019	8/6/2021 13:06	18.9	(Initial Exceedance was on 6/18) Adjusted Valve
SCEC0019	8/6/2021 13:08	19.1	Second Reading
SCEC0019	8/17/2021 10:26	19.2	Adjusted Valve
SCEC0019	8/17/2021 10:27	19.5	Second Reading
SCEC0019	8/27/2021 8:20	20	Adjusted Valve
SCEC0019	8/27/2021 8:22	20.2	Second Reading
SCEC0019	9/3/2021 10:10	19.7	Adjusted Valve
SCEC0019	9/3/2021 10:12	20.4	Second Reading
SCEC0019	9/13/2021 10:22	20.6	Adjusted Valve
SCEC0019	9/13/2021 10:24	20.5	Second Reading
SCEC0019	9/22/2021 7:25	21	Adjusted Valve
SCEC0019	9/22/2021 7:31	21.3	Second Reading
SCEC0019	10/6/2021 7:53	21	Adjusted Valve
SCEC0019	10/6/2021 7:55	21.1	Second Reading
SCEC0019	10/13/2021 13:55	19.1	Adjusted Valve
SCEC0019	10/13/2021 13:57	19.3	Second Reading
SCEC0019	10/15/2021 7:17	20.5	Adjusted Valve
SCEC0019	10/15/2021 7:19	21.4	Second Reading
SCEC0019	10/15/2021 8:37	20.8	Third Reading
SCEC0019	10/15/2021 8:38	21	Well Permanently Decommissioned Due to Poor Gas Quality
SCEC0020	11/12/2021 9:20	12.6	Adjusted Valve
SCEC0020	11/12/2021 9:23	13.2	Second Reading
SCEC0020	11/23/2021 10:25	12.6	Adjusted Valve
SCEC0020	11/23/2021 10:27	13.9	Second Reading
SCEC0020	12/7/2021 9:57	12.1	Adjusted Valve
SCEC0020	12/7/2021 9:59	13.2	Second Reading
SCEC0020	12/20/2021 8:14	10.5	Adjusted Valve
SCEC0020	12/20/2021 8:18	5	In Compliance
SCEC0020	12/30/2021 11:08	15.6	Adjusted Valve
SCEC0020	12/30/2021 11:09	14.5	Second Reading
SCEC0020	1/4/2022 12:48	11.3	Adjusted Valve
SCEC0020	1/5/2022 7:49	9.8	Adjusted Valve
SCEC0020	1/5/2022 7:50	14.7	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCEC0020	1/17/2022 13:21	11.7	Adjusted Valve
SCEC0020	1/17/2022 13:22	13.7	Second Reading
SCEC0020	1/28/2022 9:07	13.7	Adjusted Valve
SCEC0020	1/28/2022 9:09	11.7	Second Reading
SCEC0022	12/21/2021 11:12	10.6	Adjusted Valve
SCEC0022	12/21/2021 11:14	8.4	Second Reading
SCEC0022	12/30/2021 11:03	6.3	Adjusted Valve
SCEC0022	12/30/2021 11:05	13.2	Second Reading
SCEC0022	1/4/2022 12:39	11.3	Adjusted Valve
SCEC0022	1/4/2022 12:41	9.5	Second Reading
SCEC0022	1/17/2022 12:59	9.6	Adjusted Valve
SCEC0022	1/17/2022 13:01	9	Second Reading
SCEC0022	1/28/2022 9:01	11.5	Adjusted Valve
SCEC0022	1/28/2022 9:03	18	Second Reading
SCEC0207	10/28/2021 13:30	19	Adjusted Valve
SCEC0207	10/28/2021 13:32	19.1	Second Reading
SCEC0207	11/10/2021 10:43	2.5	In Compliance
SCEW2001	8/16/2021 12:13	8.6	Adjusted Valve
SCEW2001	8/17/2021 7:29	0	In Compliance
SCEW2007	8/20/2021 10:45	6.5	Adjusted Valve
SCEW2007	8/23/2021 10:42	3.8	In Compliance
SCEW2103	8/20/2021 9:58	7.1	Adjusted Valve
SCEW2103	8/20/2021 10:01	8.5	Second Reading
SCEW2103	9/3/2021 14:26	1.5	In Compliance
SCHC2001	8/6/2021 8:06	10.6	(Initial Exceedance was on 6/21) Adjusted Valve
SCHC2001	8/6/2021 8:08	10.7	Second Reading
SCHC2001	8/18/2021 10:54	10.5	Adjusted Valve
SCHC2001	8/18/2021 10:56	11.8	Second Reading
SCHC2001	8/24/2021 12:30	14.3	Adjusted Valve
SCHC2001	8/24/2021 12:32	14.1	Second Reading
SCHC2001	9/7/2021 10:50	14.8	Adjusted Valve
SCHC2001	9/7/2021 10:51	15.2	Second Reading
SCHC2001	9/17/2021 10:24	14.7	Adjusted Valve
SCHC2001	9/17/2021 10:27	15.2	Second Reading
SCHC2001	9/23/2021 8:59	14.9	Adjusted Valve
SCHC2001	9/23/2021 9:01	15	Second Reading
SCHC2001	10/1/2021 13:57	13.3	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCHC2001	10/1/2021 13:59	13.6	Second Reading
SCHC2001	10/5/2021 12:26	13.8	Adjusted Valve
SCHC2001	10/5/2021 12:28	13.4	Second Reading
SCHC2001	10/18/2021 10:37	12.4	Adjusted Valve
SCHC2001	10/18/2021 10:40	13.2	Well was temporarily taken offline pursuant to PTO Condition 4044 Part 5c
SCHC2001	1/11/2022 9:36	9.1	Adjusted Valve
SCHC2001	1/11/2022 9:40	9	Second Reading
SCHC2001	1/27/2022 13:44	14.9	Adjusted Valve
SCHC2001	1/27/2022 13:46	13.5	Second Reading
SCLEW-05	8/5/2021 10:06	15.5	(Initial Exceedance was on 7/20) Adjusted Valve
SCLEW-05	8/5/2021 10:10	20.7	Second Reading
SCLEW-05	8/18/2021 10:03	19.9	Adjusted Valve
SCLEW-05	8/18/2021 10:06	18.9	Second Reading
SCLEW-05	8/31/2021 7:03	20.5	Adjusted Valve
SCLEW-05	8/31/2021 7:05	20.6	Second Reading
SCLEW-05	9/10/2021 10:26	20.5	Adjusted Valve
SCLEW-05	9/10/2021 10:28	20.5	Second Reading
SCLEW-05	9/21/2021 8:19	20.1	Adjusted Valve
SCLEW-05	9/21/2021 8:21	20.4	Second Reading
SCLEW-05	10/1/2021 11:13	19.1	Adjusted Valve
SCLEW-05	10/1/2021 11:15	19.6	Second Reading
SCLEW-05	10/14/2021 12:13	20.6	Adjusted Valve
SCLEW-05	10/14/2021 12:15	20.6	Second Reading
SCLEW-05	10/26/2021 13:41	19.9	Adjusted Valve
SCLEW-05	10/26/2021 13:43	20.7	Second Reading
SCLEW-05	11/2/2021 12:45	20.2	Adjusted Valve
SCLEW-05	11/2/2021 12:48	20.4	Second Reading
SCLEW-05	11/16/2021 8:19	19.8	Adjusted Valve
SCLEW-05	11/16/2021 8:20	20.7	Well Permanently Decommissioned Due to Poor Gas Quality
SCLEW-06	9/10/2021 9:59	5.4	Adjusted Valve
SCLEW-06	9/10/2021 10:01	5.9	Second Reading
SCLEW-06	9/21/2021 7:55	11.3	Adjusted Valve
SCLEW-06	9/21/2021 7:57	7.7	Second Reading
SCLEW-06	9/30/2021 9:23	6.3	Adjusted Valve
SCLEW-06	9/30/2021 9:25	8.8	Second Reading
SCLEW-06	10/6/2021 8:28	4.6	In Compliance
SCLEW-07	8/3/2021 10:14	5.4	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCLEW-07	8/3/2021 10:19	2.9	In Compliance
SCLEW-07	8/25/2021 10:20	11.4	Adjusted Valve
SCLEW-07	8/25/2021 10:22	9.1	Second Reading
SCLEW-07	9/7/2021 10:11	16.1	Adjusted Valve
SCLEW-07	9/7/2021 10:13	13.9	Second Reading
SCLEW-07	9/7/2021 10:32	2.4	In Compliance
SCLEW-07	9/17/2021 8:42	11	Adjusted Valve
SCLEW-07	9/17/2021 8:44	13.8	Second Reading
SCLEW-07	9/23/2021 10:56	20.4	Adjusted Valve
SCLEW-07	9/23/2021 10:58	20.4	Second Reading
SCLEW-07	10/1/2021 9:25	16.9	Adjusted Valve
SCLEW-07	10/1/2021 9:27	20.2	Second Reading
SCLEW-07	10/14/2021 11:06	20.3	Adjusted Valve
SCLEW-07	10/14/2021 11:07	20.3	Second Reading
SCLEW-07	10/21/2021 12:01	0.6	In Compliance
SCLEW-07	11/4/2021 8:41	20.1	Adjusted Valve
SCLEW-07	11/4/2021 8:42	18.5	Second Reading
SCLEW-07	11/19/2021 8:28	20.8	Adjusted Valve
SCLEW-07	11/19/2021 8:29	20.7	Second Reading
SCLEW-07	12/7/2021 9:00	2.1	In Compliance
SCV003-0	8/2/2021 11:46	8.2	(Initial Exceedance was on 7/19) Adjusted Valve
SCV003-0	8/2/2021 11:48	5.7	Second Reading
SCV003-0	8/13/2021 7:25	20.9	Adjusted Valve
SCV003-0	8/13/2021 7:27	20.9	Second Reading
SCV003-0	8/24/2021 11:10	11.2	Adjusted Valve
SCV003-0	8/24/2021 11:12	4.9	In Compliance
SCV003-0	9/30/2021 16:49	19.1	Adjusted Valve
SCV003-0	9/30/2021 16:51	20.1	Second Reading
SCV003-0	10/14/2021 12:37	20.3	Adjusted Valve
SCV003-0	10/14/2021 12:41	18	Second Reading
SCV003-0	10/14/2021 12:42	20.3	Third Reading
SCV003-0	10/14/2021 12:44	20.4	Fourth Reading
SCV003-0	10/22/2021 12:19	20.2	Adjusted Valve
SCV003-0	10/22/2021 12:21	14.1	Second Reading
SCV003-0	10/28/2021 10:02	0.5	In Compliance
SCV003-0	11/29/2021 9:56	19.7	Adjusted Valve
SCV003-0	11/29/2021 9:57	19.8	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV003-0	12/8/2021 9:06	6.4	Adjusted Valve
SCV003-0	12/8/2021 9:09	1.7	In Compliance
SCV04-2A	9/30/2021 16:55	6.3	Adjusted Valve
SCV04-2A	9/30/2021 16:58	3.3	In Compliance
SCV049-A	11/3/2021 9:35	5.8	Adjusted Valve
SCV049-A	11/3/2021 9:38	4.6	In Compliance
SCV049-A	11/24/2021 10:41	9.2	Adjusted Valve
SCV049-A	11/24/2021 10:44	4.3	In Compliance
SCV052-A	9/15/2021 12:03	8.2	Adjusted Valve
SCV052-A	9/15/2021 12:08	4.9	In Compliance
SCV052-A	10/6/2021 11:12	8.3	Adjusted Valve
SCV052-A	10/7/2021 9:14	5	In Compliance
SCV052-A	10/20/2021 9:13	5.5	Adjusted Valve
SCV052-A	10/20/2021 9:16	5.5	Second Reading
SCV052-A	10/20/2021 9:30	6.5	Adjusted Valve
SCV052-A	11/3/2021 8:56	0.9	In Compliance
SCV057-0	8/5/2021 9:03	12.6	Adjusted Valve
SCV057-0	8/5/2021 9:06	12.2	Second Reading
SCV057-0	8/18/2021 9:30	17.4	Adjusted Valve
SCV057-0	8/18/2021 9:34	20.3	Second Reading
SCV057-0	8/25/2021 12:23	5.8	Adjusted Valve
SCV057-0	8/25/2021 12:25	3.5	In Compliance
SCV057-0	9/10/2021 9:37	6	Adjusted Valve
SCV057-0	9/21/2021 7:46	1.4	In Compliance
SCV057-0	10/6/2021 8:09	6.4	Adjusted Valve
SCV057-0	10/18/2021 12:05	4.7	In Compliance
SCV057-0	11/2/2021 11:52	7.1	Adjusted Valve
SCV057-0	11/2/2021 11:54	4.1	In Compliance
SCV064-0	9/15/2021 9:10	20.6	Adjusted Valve
SCV064-0	9/15/2021 9:12	19	Second Reading
SCV064-0	9/17/2021 9:25	0.1	In Compliance
SCV064-0	10/1/2021 10:26	18.8	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV064-0	10/1/2021 10:28	18.8	Second Reading
SCV064-0	10/14/2021 11:28	13.2	Adjusted Valve
SCV064-0	10/14/2021 11:30	15.8	Second Reading
SCV064-0	10/22/2021 8:59	8.1	Adjusted Valve
SCV064-0	10/22/2021 9:03	2	In Compliance
SCV064-0	11/4/2021 9:26	18.2	Adjusted Valve
SCV064-0	11/4/2021 9:28	15.1	Second Reading
SCV064-0	11/19/2021 8:56	18.3	Adjusted Valve
SCV064-0	11/19/2021 8:58	13.1	Second Reading
SCV064-0	12/7/2021 8:41	8.6	Adjusted Valve
SCV064-0	12/7/2021 8:43	10.4	Second Reading
SCV064-0	12/22/2021 8:32	0.1	In Compliance
SCV064-5	9/15/2021 8:58	7.2	Adjusted Valve
SCV064-5	9/15/2021 9:03	1.8	In Compliance
SCV064-5	9/17/2021 8:58	14.6	Adjusted Valve
SCV064-5	9/17/2021 9:00	10.9	Second Reading
SCV064-5	10/1/2021 9:37	20.2	Adjusted Valve
SCV064-5	10/1/2021 9:38	14.1	Second Reading
SCV064-5	10/14/2021 11:15	20.1	Adjusted Valve
SCV064-5	10/14/2021 11:20	16.8	Second Reading
SCV064-5	10/21/2021 12:09	1.5	In Compliance
SCV064-5	11/4/2021 8:48	13.6	Adjusted Valve
SCV064-5	11/4/2021 8:51	16.5	Second Reading
SCV064-5	11/23/2021 8:22	13.7	Adjusted Valve
SCV064-5	11/23/2021 8:25	20.7	Second Reading
SCV064-5	12/6/2021 11:35	8.6	Adjusted Valve
SCV064-5	12/6/2021 11:37	6.4	Second Reading
SCV064-5	12/22/2021 8:57	0.3	In Compliance
SCV065-0	8/3/2021 10:27	20	(Initial Exceedance was on 5/28) Adjusted Valve
SCV065-0	8/3/2021 10:30	20.1	Second Reading
SCV065-0	8/18/2021 11:31	19.9	Adjusted Valve
SCV065-0	8/18/2021 11:37	19.8	Second Reading
SCV065-0	8/25/2021 10:29	19.1	Adjusted Valve
SCV065-0	8/25/2021 10:32	19.2	Second Reading
SCV065-0	9/7/2021 10:01	20.3	Adjusted Valve
SCV065-0	9/7/2021 10:04	19.9	Second Reading
SCV065-0	9/17/2021 8:51	20.7	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV065-0	9/17/2021 8:53	20.9	Well Permanently Decommissioned Due to Poor Gas Quality
SCV066-5	8/3/2021 8:17	0	(Initial Exceedance was on 7/20) In Compliance
SCV066-5	8/25/2021 9:06	7.1	Adjusted Valve
SCV066-5	8/25/2021 9:08	7	Second Reading
SCV066-5	9/8/2021 8:41	8.9	Adjusted Valve
SCV066-5	9/8/2021 8:42	8	Second Reading
SCV066-5	9/17/2021 8:20	6.5	Adjusted Valve
SCV066-5	9/17/2021 8:22	8.2	Second Reading
SCV066-5	10/1/2021 9:05	7.5	Adjusted Valve
SCV066-5	10/1/2021 9:07	7.7	Second Reading
SCV066-5	10/14/2021 10:30	4.4	In Compliance
SCV066-5	11/24/2021 13:37	13.1	Adjusted Valve
SCV066-5	11/24/2021 13:39	15.3	Second Reading
SCV066-5	12/6/2021 11:28	4	In Compliance
SCV067-A	8/3/2021 8:06	0.8	(Initial Exceedance was on 7/20) In Compliance
SCV067-A	8/25/2021 8:58	20.5	Adjusted Valve
SCV067-A	8/25/2021 9:00	20.8	Second Reading
SCV067-A	9/7/2021 11:53	19.9	Adjusted Valve
SCV067-A	9/7/2021 11:55	19.9	Second Reading
SCV067-A	9/17/2021 8:13	20.3	Adjusted Valve
SCV067-A	9/17/2021 8:15	20.9	Second Reading
SCV067-A	9/23/2021 6:57	19.3	Adjusted Valve
SCV067-A	9/23/2021 6:59	20.5	Second Reading
SCV067-A	10/1/2021 9:00	20.1	Adjusted Valve
SCV067-A	10/1/2021 9:01	20.2	Second Reading
SCV067-A	10/14/2021 10:43	20.2	Adjusted Valve
SCV067-A	10/14/2021 10:46	20.2	Second Reading
SCV067-A	10/21/2021 11:29	20.4	Adjusted Valve
SCV067-A	10/22/2021 8:33	20	Adjusted Valve
SCV067-A	10/22/2021 8:35	18.4	Second Reading
SCV067-A	11/4/2021 8:10	18.2	Adjusted Valve
SCV067-A	11/4/2021 8:12	20.6	Second Reading
SCV067-A	11/19/2021 9:12	20.9	Adjusted Valve
SCV067-A	11/19/2021 9:23	20.8	Second Reading
SCV067-A	11/24/2021 13:31	19.8	Adjusted Valve
SCV067-A	11/24/2021 13:32	20.1	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV067-A	12/6/2021 11:14	21.2	Adjusted Valve
SCV067-A	12/6/2021 11:15	21.4	Second Reading
SCV067-A	12/8/2021 8:31	13.5	Adjusted Valve
SCV067-A	12/8/2021 8:34	17	Second Reading
SCV067-A	12/22/2021 10:01	0	In Compliance
SCV068-5	8/3/2021 7:29	21	(Initial Exceedance was on 7/13) Adjusted Valve
SCV068-5	8/3/2021 7:31	21	Second Reading
SCV068-5	8/17/2021 8:56	20.6	Adjusted Valve
SCV068-5	8/17/2021 8:58	20.6	Second Reading
SCV068-5	8/25/2021 8:29	20.6	Adjusted Valve
SCV068-5	8/25/2021 8:33	20.9	Second Reading
SCV068-5	9/8/2021 8:30	11.8	Adjusted Valve
SCV068-5	9/8/2021 8:32	3.2	In Compliance
SCV068-5	9/17/2021 7:42	20.5	Adjusted Valve
SCV068-5	9/17/2021 7:58	20.5	Second Reading
SCV068-5	10/1/2021 8:32	19.9	Adjusted Valve
SCV068-5	10/1/2021 8:34	20.2	Second Reading
SCV068-5	10/18/2021 13:41	20.6	Adjusted Valve
SCV068-5	10/18/2021 13:45	20.8	Second Reading
SCV068-5	11/1/2021 12:18	20.9	Adjusted Valve
SCV068-5	11/1/2021 12:20	20.9	Second Reading
SCV068-5	11/15/2021 14:09	20	Adjusted Valve
SCV068-5	11/15/2021 14:11	20.4	Second Reading
SCV068-5	11/24/2021 13:16	19.8	Adjusted Valve
SCV068-5	11/24/2021 13:18	19.9	Second Reading
SCV068-5	12/8/2021 8:10	20.5	Adjusted Valve
SCV068-5	12/8/2021 8:12	20.9	Second Reading
SCV068-5	12/22/2021 9:29	20.9	Adjusted Valve
SCV068-5	12/22/2021 9:32	21	Second Reading
SCV068-5	12/30/2021 12:25	20.9	Adjusted Valve
SCV068-5	12/30/2021 12:26	21	Second Reading
SCV068-5	1/4/2022 10:57	15	Adjusted Valve
SCV068-5	1/4/2022 10:59	21.2	Second Reading
SCV068-5	1/14/2022 8:08	20.1	Adjusted Valve
SCV068-5	1/14/2022 8:10	20.5	Well Permanently Decommissioned Due to Poor Gas Quality
SCV069-0	11/24/2021 13:10	6.7	Adjusted Valve
SCV069-0	11/24/2021 13:12	10.1	Second Reading
SCV069-0	12/8/2021 8:01	2.7	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV074-A	9/10/2021 11:40	8.5	Adjusted Valve
SCV074-A	9/10/2021 11:43	4.9	In Compliance
SCV075-A	8/16/2021 13:33	9.2	Adjusted Valve
SCV075-A	8/16/2021 13:35	8.2	Second Reading
SCV075-A	8/31/2021 7:33	6.4	Adjusted Valve
SCV075-A	8/31/2021 7:35	9.4	Second Reading
SCV075-A	9/10/2021 11:32	9.6	Adjusted Valve
SCV075-A	9/10/2021 11:34	10.3	Second Reading
SCV075-A	9/20/2021 11:16	12.9	Adjusted Valve
SCV075-A	9/20/2021 11:18	8	Second Reading
SCV075-A	9/30/2021 9:38	2	In Compliance
SCV075-A	11/2/2021 9:56	15	Adjusted Valve
SCV075-A	11/2/2021 9:58	12.1	Second Reading
SCV075-A	11/16/2021 10:39	0.7	In Compliance
SCV075-A	11/17/2021 7:40	9.9	Adjusted Valve
SCV075-A	11/17/2021 7:43	18.5	Second Reading
SCV075-A	12/1/2021 11:27	18.7	Adjusted Valve
SCV075-A	12/1/2021 11:29	19.8	Second Reading
SCV075-A	12/15/2021 12:25	0.3	In Compliance
SCV076-1	8/13/2021 13:31	13.3	Adjusted Valve
SCV076-1	8/13/2021 13:33	13.3	Second Reading
SCV076-1	8/27/2021 10:02	3.9	In Compliance
SCV076-1	10/20/2021 11:14	11.6	Adjusted Valve
SCV076-1	10/20/2021 11:16	4.5	In Compliance
SCV076-1	11/29/2021 13:43	15.2	Adjusted Valve
SCV076-1	11/29/2021 13:45	12.2	Second Reading
SCV076-1	12/13/2021 11:37	0	In Compliance
SCV077-1	8/13/2021 13:20	7.7	Adjusted Valve
SCV077-1	8/13/2021 13:22	4.7	In Compliance
SCV077-1	9/21/2021 12:37	6.9	Adjusted Valve
SCV077-1	10/7/2021 9:39	0	In Compliance
SCV077-1	10/20/2021 11:04	17.9	Adjusted Valve
SCV077-1	10/20/2021 11:07	4.9	In Compliance
SCV077-1	11/29/2021 13:53	6.5	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV077-1	11/29/2021 13:55	1.5	In Compliance
SCV078-1	8/13/2021 13:08	11.1	Adjusted Valve
SCV078-1	8/13/2021 13:12	4.9	In Compliance
SCV078-1	9/14/2021 7:58	20.3	Adjusted Valve
SCV078-1	9/14/2021 8:00	20.6	Second Reading
SCV078-1	9/21/2021 12:24	19	Adjusted Valve
SCV078-1	9/21/2021 12:27	5.8	Second Reading
SCV078-1	10/1/2021 12:33	19.1	Adjusted Valve
SCV078-1	10/1/2021 12:35	1.9	In Compliance
SCV078-1	10/8/2021 14:40	20.3	Adjusted Valve
SCV078-1	10/8/2021 14:42	16.4	Second Reading
SCV078-1	10/8/2021 14:42	16.4	Third Reading
SCV078-1	10/8/2021 14:43	16.6	Fourth Reading
SCV078-1	10/8/2021 14:47	3.9	In Compliance
SCV078-1	10/20/2021 10:55	13.8	Adjusted Valve
SCV078-1	10/20/2021 10:57	9	Second Reading
SCV078-1	11/1/2021 13:49	0	In Compliance
SCV078-1	11/4/2021 10:39	20.1	Adjusted Valve
SCV078-1	11/4/2021 10:42	2.7	In Compliance
SCV079-1	8/4/2021 8:26	20.7	(Initial Exceedance was on 7/22) Adjusted Valve
SCV079-1	8/4/2021 8:28	15.5	Second Reading
SCV079-1	8/4/2021 9:02	0.5	In Compliance
SCV079-1	8/4/2021 9:29	16.2	Adjusted Valve
SCV079-1	8/4/2021 9:31	12.5	Second Reading
SCV079-1	8/13/2021 12:56	0	In Compliance
SCV079-1	9/14/2021 7:51	11.4	Adjusted Valve
SCV079-1	9/21/2021 12:08	0	In Compliance
SCV080-0	8/13/2021 12:45	7.9	Adjusted Valve
SCV080-0	8/23/2021 11:03	0	In Compliance
SCV080-0	9/14/2021 7:34	9.3	Adjusted Valve
SCV080-0	9/14/2021 7:36	11.7	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV080-0	9/21/2021 11:45	18.5	Adjusted Valve
SCV080-0	9/21/2021 11:47	13.8	Second Reading
SCV080-0	10/8/2021 14:19	0.2	In Compliance
SCV080-0	10/19/2021 9:45	5.7	Adjusted Valve
SCV080-0	10/20/2021 10:39	3.1	In Compliance
SCV080-0	11/4/2021 10:14	13.9	Adjusted Valve
SCV080-0	11/4/2021 10:17	10	Second Reading
SCV080-0	11/19/2021 9:29	0.8	In Compliance
SCV080-0	11/29/2021 14:21	8.9	Adjusted Valve
SCV080-0	11/29/2021 14:24	4.9	In Compliance
SCV081-1	8/13/2021 12:30	8.3	Adjusted Valve
SCV081-1	8/13/2021 12:33	4.1	In Compliance
SCV081-1	8/27/2021 11:33	5.7	Adjusted Valve
SCV081-1	8/27/2021 11:37	0.2	In Compliance
SCV081-1	9/21/2021 12:01	10.6	Adjusted Valve
SCV081-1	9/21/2021 12:03	3.2	In Compliance
SCV082-1	8/13/2021 12:04	6.2	Adjusted Valve
SCV082-1	8/13/2021 12:07	4.8	In Compliance
SCV082-1	9/21/2021 11:24	18	Adjusted Valve
SCV082-1	9/21/2021 11:31	18.2	Second Reading
SCV082-1	10/8/2021 10:37	7.6	Adjusted Valve
SCV082-1	10/8/2021 10:39	5.7	Second Reading
SCV082-1	10/19/2021 9:50	9.8	Adjusted Valve
SCV082-1	10/19/2021 9:52	6.1	Second Reading
SCV082-1	11/1/2021 13:33	0.6	In Compliance
SCV082-1	11/30/2021 8:11	6.7	Adjusted Valve
SCV082-1	11/30/2021 8:18	9.4	Second Reading
SCV082-1	12/13/2021 10:32	1.1	In Compliance
SCV083-A	8/13/2021 11:50	5.2	Adjusted Valve
SCV083-A	8/13/2021 11:52	3.1	In Compliance
SCV092-A	9/14/2021 12:04	6.5	Adjusted Valve
SCV092-A	9/14/2021 12:06	4	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV092-A	9/17/2021 10:05	5.3	Adjusted Valve
SCV092-A	9/17/2021 10:08	1.9	In Compliance
SCV092-A	12/2/2021 11:10	6.1	Adjusted Valve
SCV092-A	12/6/2021 14:10	4.9	In Compliance
SCV092-A	1/11/2022 9:14	6.9	Adjusted Valve
SCV092-A	1/11/2022 9:16	0.2	In Compliance
SCV093-A	11/3/2021 11:38	20.3	Adjusted Valve
SCV093-A	11/3/2021 11:40	18.8	Second Reading
SCV093-A	11/17/2021 12:26	0	In Compliance
SCV093-A	12/2/2021 11:23	10.2	Adjusted Valve
SCV093-A	12/2/2021 11:27	10.3	Second Reading
SCV093-A	12/15/2021 11:57	0.1	In Compliance
SCV098-0	8/23/2021 11:45	14.6	Adjusted Valve
SCV098-0	8/23/2021 11:47	12.9	Second Reading
SCV098-0	9/3/2021 13:57	0	In Compliance
SCV098-0	9/16/2021 10:07	19.7	Adjusted Valve
SCV098-0	9/16/2021 10:09	19.7	Second Reading
SCV098-0	9/23/2021 7:50	1.2	In Compliance
SCV098-0	10/6/2021 13:18	20.2	Adjusted Valve
SCV098-0	10/6/2021 13:20	20.4	Second Reading
SCV098-0	10/19/2021 10:08	0	In Compliance
SCV098-0	11/3/2021 12:56	19.8	Adjusted Valve
SCV098-0	11/3/2021 12:58	15.7	Second Reading
SCV098-0	11/16/2021 12:21	0	In Compliance
SCV098-0	12/2/2021 9:09	16.8	Adjusted Valve
SCV098-0	12/6/2021 11:20	1.1	In Compliance
SCV100-3	10/6/2021 14:01	5.9	Adjusted Valve
SCV100-3	10/7/2021 9:54	3	In Compliance
SCV100-5	8/23/2021 13:11	18.4	(Initial Exceedance was on 6/16)
SCV100-5	8/23/2021 13:13	10.1	Second Reading
SCV100-5	9/3/2021 13:35	16.8	Adjusted Valve
SCV100-5	9/3/2021 13:38	12.7	Second Reading
SCV100-5	9/13/2021 10:45	14.8	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV100-5	9/13/2021 10:46	15.1	Second Reading
SCV100-5	9/14/2021 9:54	5.5	Adjusted Valve
SCV100-5	9/14/2021 9:56	4.8	In Compliance
SCV100-5	9/16/2021 12:58	16.8	Adjusted Valve
SCV100-5	9/23/2021 8:25	13.8	Adjusted Valve
SCV100-5	9/23/2021 8:28	9.2	Second Reading
SCV100-5	10/8/2021 8:07	2	In Compliance
SCV100-5	11/10/2021 13:19	20.2	Adjusted Valve
SCV100-5	11/10/2021 13:21	20.2	Second Reading
SCV100-5	11/16/2021 13:36	19.7	Adjusted Valve
SCV100-5	11/16/2021 13:38	20.3	Second Reading
SCV100-5	12/1/2021 10:54	15.1	Adjusted Valve
SCV100-5	12/1/2021 10:58	5.6	Second Reading
SCV100-5	12/15/2021 8:58	2	In Compliance
SCV101-0	8/6/2021 11:14	5.3	Adjusted Valve
SCV101-0	8/6/2021 11:16	3.6	In Compliance
SCV101-0	9/15/2021 12:34	11	Adjusted Valve
SCV101-0	9/15/2021 12:37	5.9	Second Reading
SCV101-0	9/15/2021 12:39	7.4	Adjusted Valve
SCV101-0	9/21/2021 9:03	4.8	In Compliance
SCV101-0	10/6/2021 10:30	5.4	Adjusted Valve
SCV101-0	10/6/2021 10:32	7.2	Second Reading
SCV101-0	10/19/2021 8:34	0.3	In Compliance
SCV101-0	11/3/2021 8:25	7.7	Adjusted Valve
SCV101-0	11/3/2021 8:27	9.7	Second Reading
SCV101-0	11/16/2021 9:01	0	In Compliance
SCV10-1A	9/14/2021 13:33	12.2	Adjusted Valve
SCV10-1A	9/14/2021 13:35	5.6	Second Reading
SCV10-1A	9/21/2021 7:09	14.5	Adjusted Valve
SCV10-1A	9/21/2021 7:11	15.7	Second Reading
SCV10-1A	10/1/2021 11:46	1	In Compliance
SCV10-1A	11/5/2021 13:54	10	Adjusted Valve
SCV10-1A	11/5/2021 13:56	2.7	In Compliance
SCV10-1A	12/1/2021 10:25	20.3	Adjusted Valve
SCV10-1A	12/1/2021 10:27	20.4	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV10-1A	12/15/2021 8:31	3.9	In Compliance
SCV10-1A	12/17/2021 13:52	6.7	Adjusted Valve
SCV10-1A	12/20/2021 9:32	9.3	Adjusted Valve
SCV10-1A	12/20/2021 9:34	13.6	Second Reading
SCV10-1A	12/29/2021 8:43	10	Adjusted Valve
SCV10-1A	12/29/2021 8:45	12.7	Second Reading
SCV10-1A	1/11/2022 12:11	4.6	In Compliance
SCV10-1A	1/17/2022 14:57	7.5	Adjusted Valve
SCV10-1A	1/17/2022 14:59	4.9	In Compliance
SCV107-0	8/24/2021 9:22	16.4	Adjusted Valve
SCV107-0	8/24/2021 9:24	14.1	Second Reading
SCV107-0	9/3/2021 14:12	8.2	Adjusted Valve
SCV107-0	9/3/2021 14:15	12.7	Second Reading
SCV107-0	9/13/2021 10:51	5.3	Adjusted Valve
SCV107-0	9/13/2021 10:53	1	In Compliance
SCV107-0	9/16/2021 13:19	8.4	Adjusted Valve
SCV107-0	9/23/2021 8:34	20.3	Adjusted Valve
SCV107-0	9/23/2021 8:36	13.6	Second Reading
SCV107-0	10/8/2021 8:25	7.6	Adjusted Valve
SCV107-0	10/8/2021 8:27	2.9	In Compliance
SCV107-0	12/2/2021 12:24	7.8	Adjusted Valve
SCV107-0	12/2/2021 12:25	10.5	Second Reading
SCV107-0	12/15/2021 11:43	0.5	In Compliance
SCV109-A	12/2/2021 9:04	6	Adjusted Valve
SCV109-A	12/2/2021 9:06	3.8	In Compliance
SCV112-0	8/5/2021 7:55	3.6	(Initial Exceedance was on 7/22) In Compliance
SCV112-0	8/24/2021 13:23	8.2	Adjusted Valve
SCV112-0	8/24/2021 13:25	10.2	Second Reading
SCV112-0	9/3/2021 14:39	9.5	Adjusted Valve
SCV112-0	9/3/2021 14:41	8.3	Second Reading
SCV112-0	9/13/2021 11:03	8.8	Adjusted Valve
SCV112-0	9/13/2021 11:05	11	Second Reading
SCV112-0	9/20/2021 13:42	5.3	Adjusted Valve
SCV112-0	9/20/2021 13:43	4.5	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV112-0	10/1/2021 13:00	5.7	Adjusted Valve
SCV112-0	10/1/2021 13:02	4.1	In Compliance
SCV113-0	8/25/2021 7:22	7.6	Adjusted Valve
SCV113-0	8/25/2021 7:26	7.1	Second Reading
SCV113-0	9/7/2021 13:36	9.3	Adjusted Valve
SCV113-0	9/7/2021 13:38	7	Second Reading
SCV113-0	9/20/2021 11:00	5.2	Adjusted Valve
SCV113-0	9/20/2021 11:03	5.2	Second Reading
SCV113-0	10/1/2021 13:18	4.2	In Compliance
SCV114-0	9/14/2021 11:11	5.9	Adjusted Valve
SCV114-0	9/14/2021 11:13	1.6	In Compliance
SCV115-0	10/8/2021 10:04	6.1	Adjusted Valve
SCV115-0	10/8/2021 10:06	4.7	In Compliance
SCV115-0	10/13/2021 11:58	9.3	Adjusted Valve
SCV115-0	10/13/2021 12:01	0	In Compliance
SCV115-0	11/29/2021 12:53	5.1	Adjusted Valve
SCV115-0	12/1/2021 11:07	3.4	In Compliance
SCV117-A	8/20/2021 8:18	10.6	Adjusted Valve
SCV117-A	8/20/2021 8:21	4.9	In Compliance
SCV117-A	9/14/2021 13:18	7.8	Adjusted Valve
SCV117-A	9/14/2021 13:20	10.6	Second Reading
SCV117-A	9/21/2021 6:58	6.7	Adjusted Valve
SCV117-A	9/21/2021 7:01	5.2	Second Reading
SCV117-A	10/1/2021 11:53	6.5	Adjusted Valve
SCV117-A	10/1/2021 11:55	4.6	In Compliance
SCV117-A	11/5/2021 13:40	12.4	Adjusted Valve
SCV117-A	11/5/2021 13:43	10.4	Second Reading
SCV117-A	11/19/2021 9:59	17.3	Adjusted Valve
SCV117-A	11/19/2021 10:03	20.8	Second Reading
SCV117-A	12/1/2021 10:15	1.1	In Compliance
SCV117-A	12/1/2021 10:19	6.3	Adjusted Valve
SCV117-A	12/9/2021 9:45	0.1	In Compliance
SCV117-A	1/11/2022 12:20	14.9	Adjusted Valve
SCV117-A	1/11/2022 12:21	16.8	Second Reading

Table 4. Wells with Oxygen Exceedances
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Well ID	Date and Time	Oxygen (%)	Comments
SCV117-A	1/21/2022 10:09	17.4	Adjusted Valve
SCV117-A	1/21/2022 10:10	17.6	Second Reading
SCV120-0	9/15/2021 10:15	17.1	Adjusted Valve
SCV120-0	9/16/2021 8:22	2.6	In Compliance
SCV120-0	10/6/2021 9:16	11.5	Adjusted Valve
SCV120-0	10/6/2021 9:18	15.6	Second Reading
SCV120-0	10/18/2021 12:19	11.4	Adjusted Valve
SCV120-0	10/18/2021 12:23	11	Second Reading
SCV120-0	11/1/2021 12:47	7.6	Adjusted Valve
SCV120-0	11/1/2021 12:49	18.8	Second Reading
SCV120-0	11/15/2021 13:55	14	Adjusted Valve
SCV120-0	11/15/2021 13:57	15.1	Second Reading
SCV120-0	11/17/2021 8:03	6.1	Adjusted Valve
SCV120-0	11/17/2021 8:05	17	Second Reading
SCV120-0	12/1/2021 13:06	20.4	Adjusted Valve
SCV120-0	12/1/2021 13:08	20.4	Second Reading
SCV120-0	12/9/2021 13:08	4.8	In Compliance
SCV122-0	8/3/2021 11:40	19.6	Adjusted Valve
SCV122-0	8/3/2021 11:43	19.6	Second Reading
SCV122-0	8/17/2021 8:27	20.7	Adjusted Valve
SCV122-0	8/17/2021 8:28	20.7	Second Reading
SCV122-0	8/25/2021 11:30	14.1	Adjusted Valve
SCV122-0	8/25/2021 11:32	12.3	Second Reading
SCV122-0	9/7/2021 12:20	19.5	Adjusted Valve
SCV122-0	9/7/2021 12:22	19.5	Second Reading
SCV122-0	9/17/2021 9:42	20.9	Adjusted Valve
SCV122-0	9/17/2021 9:44	20.9	Second Reading
SCV122-0	9/23/2021 7:30	21	Adjusted Valve
SCV122-0	9/23/2021 7:32	21.2	Second Reading
SCV122-0	10/1/2021 10:08	19.8	Adjusted Valve
SCV122-0	10/1/2021 10:10	20	Second Reading
SCV122-0	10/14/2021 11:47	20.3	Adjusted Valve
SCV122-0	10/14/2021 11:49	20.3	Second Reading
SCV122-0	10/21/2021 12:43	19	Adjusted Valve
SCV122-0	10/22/2021 8:47	15	Adjusted Valve
SCV122-0	10/22/2021 8:49	19.5	Second Reading
SCV122-0	11/4/2021 9:07	20.8	Adjusted Valve
SCV122-0	11/4/2021 9:09	20.8	Second Reading
SCV122-0	11/19/2021 8:47	21	Adjusted Valve
SCV122-0	11/19/2021 8:49	21	Second Reading
SCV122-0	11/24/2021 11:46	19.8	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
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Well ID	Date and Time	Oxygen (%)	Comments
SCV122-0	11/24/2021 11:49	20.3	Well Permanently Decommissioned Due to Poor Gas Quality
SCV124-0	8/3/2021 11:54	19.8	(Initial Exceedance was on 6/29) Adjusted Valve
SCV124-0	8/3/2021 12:01	19.8	Second Reading
SCV124-0	8/17/2021 8:19	17.1	Adjusted Valve
SCV124-0	8/17/2021 8:22	20.7	Second Reading
SCV124-0	8/25/2021 11:15	17	Adjusted Valve
SCV124-0	8/25/2021 11:20	20	Second Reading
SCV124-0	9/7/2021 12:26	19.5	Adjusted Valve
SCV124-0	9/7/2021 12:29	19.6	Second Reading
SCV124-0	9/17/2021 9:32	20.5	Adjusted Valve
SCV124-0	9/17/2021 9:34	20.8	Second Reading
SCV124-0	9/23/2021 7:22	0	In Compliance
SCV124-0	9/23/2021 7:24	19.6	Adjusted Valve
SCV124-0	10/1/2021 10:17	20	Adjusted Valve
SCV124-0	10/1/2021 10:20	20	Second Reading
SCV124-0	10/14/2021 11:38	18.2	Adjusted Valve
SCV124-0	10/14/2021 11:40	20.4	Second Reading
SCV124-0	10/21/2021 12:49	9.8	Adjusted Valve
SCV124-0	10/22/2021 8:53	11.4	Adjusted Valve
SCV124-0	10/22/2021 8:54	15	Second Reading
SCV124-0	10/26/2021 12:48	21	Adjusted Valve
SCV124-0	10/26/2021 12:49	21	Well Permanently Decommissioned Due to Poor Gas Quality
SCV125A0	8/24/2021 9:44	9.5	Adjusted Valve
SCV125A0	8/24/2021 9:47	6.4	Second Reading
SCV125A0	9/3/2021 13:25	4.8	In Compliance
SCV125A0	10/8/2021 8:39	7	Adjusted Valve
SCV125A0	10/8/2021 8:42	4.9	In Compliance
SCV125A0	11/17/2021 9:21	8.3	Adjusted Valve
SCV125A0	11/17/2021 9:25	4.8	In Compliance
SCV126A0	10/8/2021 8:46	7.1	Adjusted Valve
SCV126A0	10/8/2021 8:49	4.7	In Compliance
SCV126A0	11/17/2021 9:30	6.1	Adjusted Valve
SCV126A0	11/17/2021 9:34	5	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV127A0	9/10/2021 8:46	5.3	Adjusted Valve
SCV127A0	9/10/2021 8:48	4.1	In Compliance
SCV128-A	8/3/2021 13:03	10.6	Adjusted Valve
SCV128-A	8/3/2021 13:06	7.2	Second Reading
SCV128-A	8/16/2021 12:18	8.3	Adjusted Valve
SCV128-A	8/16/2021 12:20	2.7	In Compliance
SCV133-0	9/16/2021 14:04	11	Adjusted Valve
SCV133-0	9/17/2021 7:23	4	In Compliance
SCV133-0	11/17/2021 9:38	6.1	Adjusted Valve
SCV133-0	11/17/2021 9:41	3.4	In Compliance
SCV133-0	12/2/2021 12:52	6.3	Adjusted Valve
SCV133-0	12/2/2021 12:54	2.8	In Compliance
SCV135-0	9/10/2021 11:59	5.6	Adjusted Valve
SCV135-0	9/10/2021 12:01	3.5	In Compliance
SCV136-0	11/30/2021 9:24	9.6	Adjusted Valve
SCV136-0	11/30/2021 9:26	10.5	Second Reading
SCV136-0	12/13/2021 14:00	0	In Compliance
SCV137-0	8/4/2021 9:49	11.2	(Initial Exceedance was on 7/22)
SCV137-0	8/4/2021 9:52	11.2	Second Reading
SCV137-0	8/16/2021 13:03	8.1	Adjusted Valve
SCV137-0	8/16/2021 13:05	13.6	Second Reading
SCV137-0	8/27/2021 9:20	15.1	Adjusted Valve
SCV137-0	8/27/2021 9:23	15.1	Second Reading
SCV137-0	9/7/2021 12:41	15.5	Adjusted Valve
SCV137-0	9/7/2021 12:43	15.1	Second Reading
SCV137-0	9/10/2021 12:18	9	Adjusted Valve
SCV137-0	9/10/2021 12:20	11.7	Second Reading
SCV137-0	9/20/2021 12:03	8.8	Adjusted Valve
SCV137-0	9/20/2021 12:05	4.5	In Compliance
SCV137-0	10/26/2021 12:22	7.2	Adjusted Valve
SCV137-0	10/26/2021 12:24	12.2	Second Reading
SCV137-0	11/2/2021 11:01	10.2	Adjusted Valve
SCV137-0	11/2/2021 11:03	10.4	Second Reading
SCV137-0	11/2/2021 11:49	1.7	In Compliance
SCV137-0	11/30/2021 9:20	7.3	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV137-0	12/1/2021 11:35	19.8	Adjusted Valve
SCV137-0	12/1/2021 11:37	5.9	Second Reading
SCV137-0	12/13/2021 13:48	1.3	In Compliance
SCV137-0	1/5/2022 13:28	7.4	Adjusted Valve
SCV137-0	1/5/2022 13:33	2.3	In Compliance
SCV138-0	9/10/2021 12:28	7.8	Adjusted Valve
SCV138-0	9/10/2021 12:31	5.9	Second Reading
SCV138-0	9/20/2021 12:13	0	In Compliance
SCV138-0	10/15/2021 14:50	12.4	Adjusted Valve
SCV138-0	10/15/2021 14:52	14.2	Second Reading
SCV138-0	10/22/2021 10:43	0.3	In Compliance
SCV138-0	11/2/2021 10:53	7.5	Adjusted Valve
SCV138-0	11/2/2021 10:56	6.1	Second Reading
SCV138-0	11/16/2021 10:23	2.2	In Compliance
SCV138-0	11/30/2021 9:11	7.4	Adjusted Valve
SCV138-0	11/30/2021 9:14	5.6	Second Reading
SCV138-0	12/13/2021 13:38	1.5	In Compliance
SCV138-0	1/19/2022 12:43	6.4	Adjusted Valve
SCV138-0	1/19/2022 12:45	7.2	Second Reading
SCV139-0	8/16/2021 12:47	1.3	In Compliance
SCV139-0	9/10/2021 12:39	20.2	Adjusted Valve
SCV139-0	9/10/2021 12:43	10.3	Second Reading
SCV139-0	9/20/2021 12:25	0	In Compliance
SCV139-0	10/15/2021 14:58	11.5	Adjusted Valve
SCV139-0	10/15/2021 15:00	13.6	Second Reading
SCV139-0	10/22/2021 10:20	0	In Compliance
SCV139-0	11/30/2021 9:02	15.2	Adjusted Valve
SCV139-0	11/30/2021 9:05	7.8	Second Reading
SCV139-0	12/13/2021 13:25	8.9	Adjusted Valve
SCV139-0	12/13/2021 13:27	9.5	Second Reading
SCV139-0	12/27/2021 9:54	13.4	Adjusted Valve
SCV139-0	12/27/2021 9:56	12.4	Second Reading
SCV139-0	1/5/2022 13:02	10.6	Adjusted Valve
SCV139-0	1/5/2022 13:03	11.1	Second Reading
SCV139-0	1/19/2022 12:35	11.7	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
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Well ID	Date and Time	Oxygen (%)	Comments
SCV139-0	1/19/2022 12:37	13.2	Second Reading
SCV140-0	9/10/2021 12:50	5.4	Adjusted Valve
SCV140-0	9/10/2021 12:53	2.6	In Compliance
SCV140-0	10/15/2021 15:06	6.2	Adjusted Valve
SCV140-0	10/15/2021 15:08	4.5	In Compliance
SCV141-0	9/10/2021 9:52	5.2	Adjusted Valve
SCV141-0	9/13/2021 11:18	3.8	In Compliance
SCV142-0	8/5/2021 9:43	6.1	Adjusted Valve
SCV142-0	8/5/2021 9:44	4	In Compliance
SCV142-0	9/10/2021 10:07	5.5	Adjusted Valve
SCV142-0	9/10/2021 10:09	4.6	In Compliance
SCV143-0	8/4/2021 7:37	1.9	(Initial Exceedance was on 7/20) In Compliance
SCV143-0	8/26/2021 8:28	7.1	Adjusted Valve
SCV143-0	8/26/2021 8:30	7.2	Second Reading
SCV143-0	9/7/2021 13:10	20.7	Adjusted Valve
SCV143-0	9/7/2021 13:13	10.3	Second Reading
SCV143-0	9/15/2021 10:39	3.6	In Compliance
SCV143-0	9/16/2021 8:56	9.2	Adjusted Valve
SCV143-0	9/16/2021 9:06	21	Second Reading
SCV143-0	9/17/2021 11:51	19.9	Adjusted Valve
SCV143-0	9/17/2021 11:53	19.2	Second Reading
SCV143-0	9/23/2021 11:51	20.1	Adjusted Valve
SCV143-0	9/23/2021 11:54	20.1	Second Reading
SCV143-0	10/6/2021 9:48	20.5	Adjusted Valve
SCV143-0	10/6/2021 9:51	20.7	Second Reading
SCV143-0	10/18/2021 12:54	4.9	In Compliance
SCV143-0	10/18/2021 13:05	15.4	Adjusted Valve
SCV143-0	10/20/2021 9:34	4	In Compliance
SCV143-0	11/2/2021 13:41	9	Adjusted Valve
SCV143-0	11/2/2021 13:42	8.2	Second Reading
SCV143-0	11/17/2021 8:29	4.6	In Compliance
SCV143-0	12/1/2021 13:42	9.1	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
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Well ID	Date and Time	Oxygen (%)	Comments
SCV143-0	12/1/2021 13:45	8.6	Second Reading
SCV143-0	12/9/2021 13:43	0	In Compliance
SCV144-0	8/5/2021 10:20	6.1	Adjusted Valve
SCV144-0	8/5/2021 10:23	6.2	Second Reading
SCV144-0	8/18/2021 9:48	3.8	In Compliance
SCV144-0	9/10/2021 10:34	5.3	Adjusted Valve
SCV144-0	9/10/2021 10:36	5.3	Second Reading
SCV144-0	9/20/2021 10:44	1.4	In Compliance
SCV144-0	10/6/2021 8:50	9.3	Adjusted Valve
SCV144-0	10/6/2021 8:53	9.4	Second Reading
SCV144-0	10/20/2021 9:03	1.4	In Compliance
SCV145-0	8/5/2021 9:55	5.4	Adjusted Valve
SCV145-0	8/5/2021 9:59	2.4	In Compliance
SCV145-0	9/21/2021 8:12	6.4	Adjusted Valve
SCV145-0	9/21/2021 8:14	7.6	Second Reading
SCV145-0	10/1/2021 11:05	8.1	Adjusted Valve
SCV145-0	10/1/2021 11:07	1.9	In Compliance
SCV147-0	8/4/2021 9:18	16.7	Adjusted Valve
SCV147-0	8/4/2021 9:20	10.2	Second Reading
SCV147-0	8/17/2021 8:02	3.6	In Compliance
SCV147-0	9/23/2021 13:02	12.1	Adjusted Valve
SCV147-0	9/23/2021 13:05	19.3	Second Reading
SCV147-0	10/6/2021 11:47	19.9	Adjusted Valve
SCV147-0	10/6/2021 11:49	20.2	Second Reading
SCV147-0	10/19/2021 8:00	21.4	Adjusted Valve
SCV147-0	10/19/2021 8:02	17.1	Second Reading
SCV147-0	11/1/2021 12:02	0.5	In Compliance
SCV147-0	11/30/2021 8:44	19.5	Adjusted Valve
SCV147-0	11/30/2021 8:46	19.5	Second Reading
SCV147-0	12/8/2021 13:54	2.7	In Compliance
SCV149-A	8/2/2021 9:50	18.6	(Initial Exceedance was on 7/23) Adjusted Valve
SCV149-A	8/2/2021 9:53	10.3	Second Reading
SCV149-A	8/13/2021 7:38	20.9	Adjusted Valve
SCV149-A	8/13/2021 7:40	14.2	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV149-A	8/23/2021 12:16	3.8	In Compliance
SCV149-A	9/15/2021 14:06	8.7	Adjusted Valve
SCV149-A	9/15/2021 14:08	7.7	Second Reading
SCV149-A	9/16/2021 10:46	0	In Compliance
SCV202-0	10/20/2021 7:48	5.6	Adjusted Valve
SCV202-0	10/20/2021 8:26	0	In Compliance
SCV217-0	10/7/2021 12:51	5.9	Adjusted Valve
SCV217-0	10/7/2021 12:53	3.3	In Compliance
SCV219-0	8/13/2021 9:15	10.5	Adjusted Valve
SCV219-0	8/13/2021 9:17	6.2	Second Reading
SCV219-0	8/18/2021 12:39	10.8	Adjusted Valve
SCV219-0	8/27/2021 8:34	10.7	Adjusted Valve
SCV219-0	8/27/2021 8:37	4.2	In Compliance
SCV222-0	8/4/2021 7:10	3.5	(Initial Exceedance was on 5/14) In Compliance
SCV225-0	9/17/2021 12:08	8.4	Adjusted Valve
SCV225-0	9/23/2021 11:13	8.4	Adjusted Valve
SCV225-0	9/23/2021 11:16	7	Second Reading
SCV225-0	10/7/2021 10:50	5.7	Adjusted Valve
SCV225-0	10/7/2021 10:54	5.9	Second Reading
SCV225-0	10/19/2021 9:02	8.3	Adjusted Valve
SCV225-0	10/19/2021 9:05	8.1	Second Reading
SCV225-0	10/27/2021 12:12	14.7	Adjusted Valve
SCV225-0	10/27/2021 12:16	15.6	Second Reading
SCV225-0	11/8/2021 12:40	3.3	In Compliance
SCV225-0	11/23/2021 13:18	11.6	Adjusted Valve
SCV225-0	11/24/2021 12:49	16.9	Adjusted Valve
SCV225-0	11/24/2021 12:51	17.3	Second Reading
SCV225-0	12/6/2021 13:15	17.8	Adjusted Valve
SCV225-0	12/6/2021 13:24	18.5	Second Reading
SCV225-0	12/20/2021 10:06	17.5	Adjusted Valve
SCV225-0	12/20/2021 10:08	18.3	Second Reading
SCV225-0	12/27/2021 9:14	14	Adjusted Valve
SCV225-0	12/27/2021 9:16	15.4	Second Reading
SCV225-0	1/7/2022 10:48	2	In Compliance
SCV225-0	1/20/2022 10:24	18.5	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV225-0	1/20/2022 10:26	18.4	Second Reading
SCV226-0	8/13/2021 10:39	7.3	Adjusted Valve
SCV226-0	8/13/2021 11:20	2	In Compliance
SCV226-0	8/24/2021 7:32	6.5	Adjusted Valve
SCV226-0	8/24/2021 7:34	6.7	Second Reading
SCV226-0	8/27/2021 8:56	5.8	Adjusted Valve
SCV226-0	8/27/2021 8:58	5.9	Second Reading
SCV226-0	9/8/2021 11:53	6.6	Adjusted Valve
SCV226-0	9/8/2021 11:55	8.6	Second Reading
SCV226-0	9/17/2021 12:14	8	Adjusted Valve
SCV226-0	9/20/2021 10:29	0.4	In Compliance
SCV226-0	10/7/2021 10:41	18.5	Adjusted Valve
SCV226-0	10/7/2021 10:43	18.9	Second Reading
SCV226-0	10/19/2021 8:53	18.8	Adjusted Valve
SCV226-0	10/19/2021 8:55	19.9	Second Reading
SCV226-0	10/27/2021 12:22	16	Adjusted Valve
SCV226-0	10/27/2021 12:25	17.9	Second Reading
SCV226-0	11/8/2021 12:32	14.5	Adjusted Valve
SCV226-0	11/8/2021 12:34	14.9	Second Reading
SCV226-0	11/23/2021 13:08	19.3	Adjusted Valve
SCV226-0	11/23/2021 13:10	20.1	Second Reading
SCV226-0	12/6/2021 13:01	20	Adjusted Valve
SCV226-0	12/6/2021 13:03	20.4	Second Reading
SCV226-0	12/14/2021 11:57	0	In Compliance
SCV226-0	12/27/2021 9:22	18.3	Adjusted Valve
SCV226-0	12/27/2021 9:23	19.5	Second Reading
SCV226-0	1/7/2022 10:19	7.3	Adjusted Valve
SCV226-0	1/7/2022 10:21	6.9	Second Reading
SCV226-0	1/20/2022 10:13	20	Adjusted Valve
SCV226-0	1/20/2022 10:14	20.3	Second Reading
SCV228-0	8/4/2021 13:17	0	In Compliance
SCV228-0	10/27/2021 12:29	11	Adjusted Valve
SCV228-0	10/27/2021 12:31	4.9	In Compliance
SCV230-0	12/14/2021 12:08	15.3	Adjusted Valve
SCV230-0	12/14/2021 12:10	15.7	Second Reading
SCV230-0	12/27/2021 8:24	19.5	Adjusted Valve
SCV230-0	12/27/2021 8:25	21.8	Second Reading
SCV230-0	1/7/2022 9:16	1.2	In Compliance

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
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Well ID	Date and Time	Oxygen (%)	Comments
SCV230-0	1/20/2022 13:39	20	Adjusted Valve
SCV230-0	1/20/2022 13:41	15.9	Second Reading
SCV232-0	12/10/2021 13:52	10	Adjusted Valve
SCV232-0	12/10/2021 13:54	10.2	Second Reading
SCV232-0	12/23/2021 14:29	11.6	Adjusted Valve
SCV232-0	12/23/2021 14:30	11.1	Second Reading
SCV232-0	1/7/2022 8:51	17.7	Adjusted Valve
SCV232-0	1/7/2022 8:53	19.1	Second Reading
SCV232-0	1/20/2022 13:26	8.5	Adjusted Valve
SCV232-0	1/20/2022 13:28	7.3	Second Reading
SCV234-0	8/24/2021 8:24	8.4	Adjusted Valve
SCV234-0	8/24/2021 8:27	8.1	Second Reading
SCV234-0	8/31/2021 8:13	3	In Compliance
SCV235-0	8/6/2021 12:09	8.6	Adjusted Valve
SCV235-0	8/17/2021 9:32	4.3	In Compliance
SCV235-0	9/1/2021 7:50	5.6	Adjusted Valve
SCV235-0	9/1/2021 7:53	4.4	In Compliance
SCV236-0	11/19/2021 12:18	20.6	Adjusted Valve
SCV236-0	11/23/2021 10:05	0.5	In Compliance
SCV242-0	11/4/2021 13:43	7.5	Adjusted Valve
SCV242-0	11/4/2021 13:46	4.5	In Compliance
SCV242-0	11/8/2021 13:15	5.5	Adjusted Valve
SCV242-0	11/8/2021 13:17	3.5	In Compliance
SCV243-0	8/13/2021 10:15	11.5	Adjusted Valve
SCV243-0	8/13/2021 10:17	11.3	Second Reading
SCV243-0	8/24/2021 7:11	16.7	Adjusted Valve
SCV243-0	8/24/2021 7:13	16.5	Second Reading
SCV243-0	9/7/2021 12:56	20.2	Adjusted Valve
SCV243-0	9/7/2021 12:57	20.2	Second Reading
SCV243-0	9/21/2021 10:23	20.1	Adjusted Valve
SCV243-0	9/21/2021 10:25	20.1	Second Reading
SCV243-0	10/7/2021 11:03	20.3	Adjusted Valve
SCV243-0	10/7/2021 11:07	20.7	Second Reading
SCV243-0	10/7/2021 11:09	20.6	Third Reading
SCV243-0	10/19/2021 9:12	12	Adjusted Valve
SCV243-0	10/19/2021 9:13	19.7	Second Reading

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV243-0	10/27/2021 12:04	18	Adjusted Valve
SCV243-0	10/27/2021 12:06	19.4	Second Reading
SCV243-0	11/8/2021 12:49	20.3	Adjusted Valve
SCV243-0	11/8/2021 12:51	20.9	Second Reading
SCV243-0	11/23/2021 13:23	20.3	Adjusted Valve
SCV243-0	11/23/2021 13:23	20.3	Second Reading
SCV243-0	11/23/2021 13:25	20.5	Third Reading
SCV243-0	12/6/2021 12:53	20.9	Adjusted Valve
SCV243-0	12/6/2021 12:56	20.9	Well Permanently Decommissioned Due to Poor Gas Quality
SCV49-1A	9/15/2021 13:08	5.1	Adjusted Valve
SCV49-1A	9/15/2021 13:10	1.4	In Compliance
SCV49-1A	10/27/2021 8:16	17.2	Adjusted Valve
SCV49-1A	10/27/2021 8:19	4	In Compliance
SCV49-1A	11/3/2021 9:48	6.3	Adjusted Valve
SCV49-1A	11/3/2021 9:51	3.1	In Compliance
SCV49-5A	8/5/2021 11:17	5.5	Adjusted Valve
SCV49-5A	8/5/2021 11:20	5.3	Second Reading
SCV49-5A	8/5/2021 11:22	7.9	Adjusted Valve
SCV49-5A	8/19/2021 12:26	2.7	In Compliance
SCV49-5A	11/17/2021 8:12	5.4	Adjusted Valve
SCV49-5A	11/17/2021 8:13	4.4	In Compliance
SCV49-5A	1/11/2022 8:14	6.3	Adjusted Valve
SCV49-5A	1/11/2022 8:16	6.5	Second Reading
SCV49-5A	1/21/2022 12:38	0	In Compliance
SCV51-5A	8/5/2021 11:54	5.1	Adjusted Valve
SCV51-5A	8/5/2021 11:56	4.9	In Compliance
SCV51-5A	9/15/2021 10:46	8.8	Adjusted Valve
SCV51-5A	9/15/2021 10:48	8.7	Second Reading
SCV51-5A	9/16/2021 9:16	2.4	In Compliance
SCV51-5A	10/6/2021 9:59	8.5	Adjusted Valve
SCV51-5A	10/6/2021 10:03	8.2	Second Reading
SCV51-5A	10/18/2021 13:13	4	In Compliance
SCV51-5A	11/17/2021 8:42	7.5	Adjusted Valve

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV51-5A	11/17/2021 8:44	4.9	In Compliance
SCV51-5A	12/1/2021 13:51	9.2	Adjusted Valve
SCV51-5A	12/1/2021 13:53	10.9	Second Reading
SCV51-5A	12/9/2021 13:51	1	In Compliance
SCV52-5A	8/6/2021 8:52	20	(Initial Exceedance was on 7/1) Adjusted Valve
SCV52-5A	8/6/2021 8:54	19.2	Second Reading
SCV52-5A	8/18/2021 11:05	6.8	Adjusted Valve
SCV52-5A	8/18/2021 11:08	5.6	Second Reading
SCV52-5A	8/26/2021 10:36	20	Adjusted Valve
SCV52-5A	8/26/2021 10:38	20.1	Second Reading
SCV52-5A	9/7/2021 13:27	20.4	Adjusted Valve
SCV52-5A	9/7/2021 13:29	20.5	Second Reading
SCV52-5A	9/17/2021 10:58	19.8	Adjusted Valve
SCV52-5A	9/17/2021 11:00	20.3	Second Reading
SCV52-5A	9/23/2021 9:26	20.1	Adjusted Valve
SCV52-5A	9/23/2021 9:28	20.8	Second Reading
SCV52-5A	10/5/2021 14:02	20.2	Adjusted Valve
SCV52-5A	10/5/2021 14:04	20.4	Second Reading
SCV52-5A	10/19/2021 9:33	21	Adjusted Valve
SCV52-5A	10/19/2021 9:35	21	Second Reading
SCV52-5A	10/26/2021 12:34	20.2	Adjusted Valve
SCV52-5A	10/26/2021 12:35	20.6	Second Reading
SCV52-5A	10/28/2021 14:09	2.1	In Compliance
SCV52-5A	10/28/2021 14:12	19.1	Adjusted Valve
SCV52-5A	10/29/2021 12:58	20.1	Adjusted Valve
SCV52-5A	10/29/2021 13:08	19.9	Second Reading
SCV52-5A	10/29/2021 13:10	19.9	Well Permanently Decommissioned Due to Poor Gas Quality
SCV68-1A	8/3/2021 7:41	18.7	(Initial Exceedance was on 5/11) Adjusted Valve
SCV68-1A	8/3/2021 7:46	20.2	Second Reading
SCV68-1A	8/17/2021 8:49	20.1	Adjusted Valve
SCV68-1A	8/17/2021 8:50	20	Second Reading
SCV68-1A	8/25/2021 8:41	20.2	Adjusted Valve
SCV68-1A	8/25/2021 8:43	20.1	Second Reading
SCV68-1A	9/7/2021 15:28	20	Second Reading
SCV68-1A	9/7/2021 15:29	20.3	Well Permanently Decommissioned Due to Poor Gas Quality

Table 4. Wells with Oxygen Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Oxygen (%)	Comments
SCV87-5B	1/10/2022 10:20	5.8	Adjusted Valve
SCV87-5B	1/10/2022 10:23	0.4	In Compliance
SCV88-5A	8/23/2021 12:00	5.8	Adjusted Valve
SCV88-5A	8/23/2021 12:02	5.7	Second Reading
SCV88-5A	9/3/2021 13:47	3	In Compliance
SCV89-5A	8/23/2021 12:41	9	Adjusted Valve
SCV89-5A	8/23/2021 12:45	9	Second Reading
SCV89-5A	9/3/2021 14:54	0.8	In Compliance
SCV89-5A	9/16/2021 12:18	8.5	Adjusted Valve
SCV89-5A	9/16/2021 12:21	6.6	Second Reading
SCV89-5A	9/23/2021 8:14	6.1	Adjusted Valve
SCV89-5A	9/23/2021 8:16	5.7	Second Reading
SCV89-5A	10/6/2021 14:12	5	In Compliance
SCV89-5A	12/2/2021 10:06	5.4	Adjusted Valve
SCV89-5A	12/2/2021 10:10	5.6	Second Reading
SCV89-5A	12/15/2021 8:50	2.6	In Compliance
SCV89-5A	1/10/2022 8:24	5.7	Adjusted Valve
SCV89-5A	1/10/2022 8:26	6.2	Second Reading
SCV89-5A	1/18/2022 12:18	4.8	In Compliance
SCV89-5A	1/18/2022 12:21	5.6	Adjusted Valve
SCV89-5A	1/18/2022 12:24	6	Second Reading
SCV89-5A	1/31/2022 10:09	4.2	In Compliance
SV101-5A	9/15/2021 13:28	5.1	Adjusted Valve
SV101-5A	9/15/2021 13:30	5.4	Second Reading
SV101-5A	9/23/2021 10:12	6.2	Adjusted Valve
SV101-5A	9/23/2021 10:15	5	In Compliance

Note: All required corrective action and monitoring was completed in accordance with Rule 8-34 and NSPS timelines

Table 5. Wells with Temperature Exceedances
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Well ID	Date and Time	Initial Temp [°F]	Adjusted Temp [°F]	Comments
SC0V110A	9/20/2021 13:14	130.9	131	Adjusted Valve
SC0V110A	9/21/2021 7:26	126.9	127.1	In Compliance
SCLEW-07	9/7/2021 10:32	133.9	134	Adjusted Valve
SCLEW-07	9/17/2021 8:42	59.1	59	In Compliance
SCV125A0	12/2/2021 12:43	131	135.8	Adjusted Valve
SCV125A0	12/2/2021 12:45	135.6	135.6	Second Reading
SCV125A0	12/15/2021 9:59	127.4	127.4	In Compliance
SCV234-0	8/12/2021 11:27	119.7	136.9	Adjusted Valve
SCV234-0	8/12/2021 11:29	138.5	138.6	Second Reading
SCV234-0	8/24/2021 8:24	135.2	131.5	Adjusted Valve
SCV234-0	8/24/2021 8:27	128.4	128.2	In Compliance

Note: All required corrective action and remonitoring was completed in accordance with Rule 8-34 and NSPS timelines.
All temperature exceedance were corrected within 15 days.

Appendix A – Responsible Official Certification Form

Certification of Truth and Accuracy and Completeness:

I certify the following:

Based on the information and belief formed after reasonable inquiry, the information in this document are true, accurate, and complete:

Rob Sherman

Signature of Responsible Official

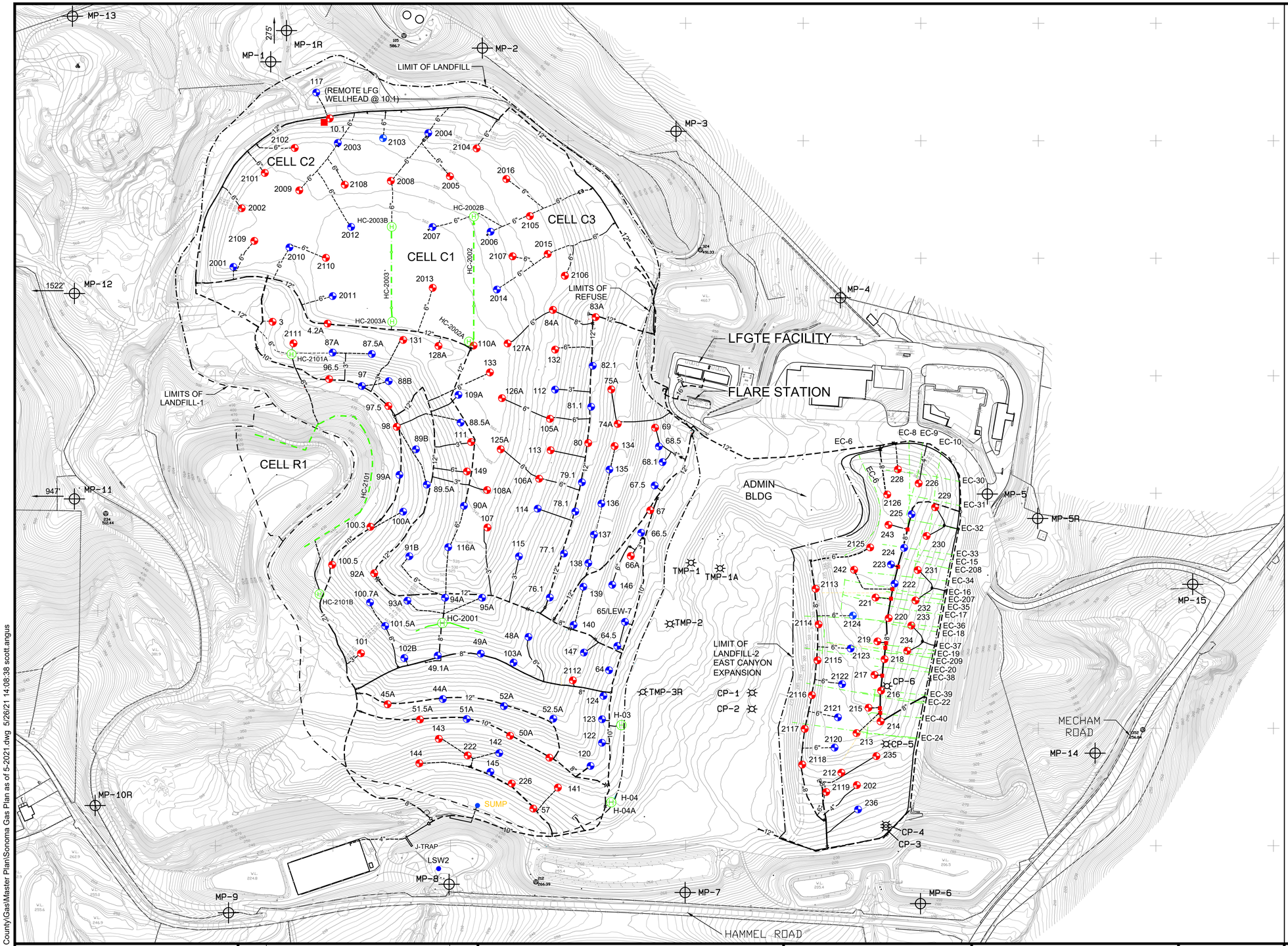
2-25-22

Date

Rob Sherman

Name of Responsible Official

Appendix B – Existing GCCS Layout



GRAPHIC SCALE

200 100 0 200 400

(IN FEET)

LEGEND

- GAS HEADER LINE ABOVE GRADE (8" & LARGER)
- GAS HEADER LINE BELOW GRADE (8" & LARGER)
- GAS LATERAL LINE (6" & SMALLER)
- GAS LINE BELOW GRADE (6" & SMALLER)
- HORIZONTAL GAS COLLECTOR
- 126 — VERTICAL GAS EXTRACTION WELL
- 1 — HORIZONTAL WELLHEAD LOCATION
- 126 — VERTICAL GAS WELL WITH PUMP
- REMOTE WELLHEAD LOCATION
- CP/TMP/MP-6 — LFG MONITORING PROBE

NO.	REVISION DESCRIPTION	BY:

REPUBLIC SERVICES, INC.

WASTE COLLECTION•RECYCLING•TRANSFER•DISPOSAL

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

SONOMA CENTRAL LANDFILL

LANDFILL GAS COLLECTION AND CONTROL SYSTEM

DESIGNED BY :	S. ANGUS	SCALE : AS SHOWN	
DRAWN BY :	S. ANGUS	DATE : 5/2021	SCALE: AS NOTED
CHECKED BY :		DATE :	SHEET 1 OF 1
APPROVED BY :		DATE :	

I:\dwg\Republic\Sonoma County\Gas\Master Plan\Sonoma Gas Plan as of 5-2021.dwg 5/26/21 14:08:38 scott.angus

Appendix C – LFGTE Facility Downtime Logs

Appendix C. LFGTE Facility Downtime Logs
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
8/2/2021 8:20	8/5/2021 9:54	73.57	1 (S-4)	PG&E outage
8/1/2021 0:00	9/1/2021 0:00	744.00	2 (S-5)	Out of service pending overhaul
8/1/2021 0:00	8/5/2021 9:46	105.77	3 (S-6)	PG&E outage
8/17/2021 11:00	8/17/2021 11:18	0.30	3 (S-6)	Troubleshooting control voltage
8/17/2021 11:56	8/17/2021 14:00	2.07	3 (S-6)	Troubleshooting control voltage
8/18/2021 5:44	8/19/2021 11:22	29.63	3 (S-6)	Service
8/19/2021 11:42	8/19/2021 11:50	0.13	3 (S-6)	detonation
8/28/2021 13:24	8/30/2021 7:36	42.20	3 (S-6)	Troubleshooting control voltage
8/31/2021 11:20	8/31/2021 11:34	0.23	3 (S-6)	Detonation
8/31/2021 11:44	8/31/2021 11:56	0.20	3 (S-6)	Voltage trip
8/31/2021 12:26	8/31/2021 12:40	0.23	3 (S-6)	Voltage trip
8/31/2021 13:10	8/31/2021 13:30	0.33	3 (S-6)	Voltage trip
8/2/2021 8:20	8/5/2021 9:44	73.40	4 (S-7)	PG&E Outage and service
8/31/2021 13:32	8/31/2021 13:38	0.10	4 (S-7)	Detonation
8/2/2021 7:24	8/4/2021 9:04	49.67	5 (S-9)	PG&E Outage and service
8/18/2021 7:40	8/18/2021 7:52	0.20	5 (S-9)	Tuning
8/18/2021 8:00	8/18/2021 8:06	0.10	5 (S-9)	Tuning
8/2/2021 8:14	8/2/2021 14:28	6.23	6 (S-10)	PG&E outage
8/13/2021 4:10	8/13/2021 10:50	6.67	6 (S-10)	Low water shutdown
8/16/2021 6:32	9/1/2021 0:00	377.47	6 (S-10)	Cracked exhaust manifold
8/2/2021 8:14	8/2/2021 14:36	6.37	7 (S-11)	PG&E outage
8/2/2021 8:14	8/2/2021 14:34	6.33	8 (S-12)	PG&E outage
8/4/2021 5:08	8/4/2021 9:58	4.83	8 (S-12)	Detonation
8/16/2021 6:18	8/16/2021 6:22	0.07	8 (S-12)	Detonation
8/16/2021 9:44	8/16/2021 9:54	0.17	8 (S-12)	Detonation
8/17/2021 6:54	8/17/2021 7:00	0.10	8 (S-12)	Detonation
8/17/2021 22:06	8/18/2021 6:46	8.67	8 (S-12)	Detonation
8/18/2021 11:04	8/18/2021 11:14	0.17	8 (S-12)	Tuning
8/18/2021 11:20	8/18/2021 11:24	0.07	8 (S-12)	Tuning
8/18/2021 20:54	8/19/2021 7:06	10.20	8 (S-12)	Detonation
8/19/2021 8:08	8/19/2021 8:38	0.50	8 (S-12)	Tuning
8/29/2021 2:12	8/30/2021 10:14	32.03	8 (S-12)	Detonation and service
8/31/2021 9:44	8/31/2021 9:52	0.13	8 (S-12)	Detonation
8/1/2021 0:00	9/1/2021 0:00	744.00	9 (S-13)	Out of service pending overhaul
8/1/2021 0:00	9/1/2021 0:00	744.00	10 (S-14)	Long-Term Standby
9/18/2021 12:06	9/20/2021 11:48	47.70	1 (S-4)	PG&E outage and service
9/24/2021 17:36	9/28/2021 9:44	88.13	1 (S-4)	Switchgear failure
9/1/2021 0:00	10/1/2021 0:00	720.00	2 (S-5)	Out of service pending overhaul
9/1/2021 13:46	9/1/2021 13:58	0.20	3 (S-6)	Detonation
9/1/2021 14:16	9/1/2021 14:42	0.43	3 (S-6)	Detonation
9/1/2021 15:06	9/2/2021 10:38	19.53	3 (S-6)	Relay issue
9/2/2021 11:00	9/2/2021 11:04	0.07	3 (S-6)	Detonation
9/4/2021 11:12	9/7/2021 11:52	72.67	3 (S-6)	Troubleshooting
9/18/2021 12:06	9/20/2021 11:26	47.33	3 (S-6)	PG&E outage
9/22/2021 8:54	9/22/2021 12:02	3.13	3 (S-6)	High temp shutdown
9/22/2021 12:26	9/22/2021 13:02	0.60	3 (S-6)	Detonation
9/24/2021 17:36	9/28/2021 9:24	87.80	3 (S-6)	Switchgear failure
9/18/2021 12:06	9/20/2021 11:26	47.33	4 (S-7)	PG&E outage
9/21/2021 14:26	9/21/2021 14:36	0.17	4 (S-7)	Detonation
9/23/2021 13:00	9/23/2021 15:06	2.10	4 (S-7)	tuning
9/24/2021 6:38	9/24/2021 12:42	6.07	4 (S-7)	Service
9/24/2021 13:18	9/24/2021 13:32	0.23	4 (S-7)	Detonation

Appendix C. LFGTE Facility Downtime Logs
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
9/24/2021 17:36	9/28/2021 9:48	88.20	4 (S-7)	Switchgear failure
9/28/2021 10:08	9/28/2021 10:14	0.10	4 (S-7)	Detonation
9/30/2021 22:32	10/1/2021 0:00	1.47	4 (S-7)	Detonation
9/7/2021 14:40	9/7/2021 14:48	0.13	5 (S-9)	High temp shutdown
9/14/2021 9:48	9/14/2021 9:56	0.13	5 (S-9)	High temp shutdown
9/14/2021 12:30	9/14/2021 12:42	0.20	5 (S-9)	Detonation
9/18/2021 12:06	9/18/2021 14:38	2.53	5 (S-9)	PG&E outage
9/18/2021 21:36	9/20/2021 10:46	37.17	5 (S-9)	PG&E outage and service
9/23/2021 11:36	9/23/2021 12:44	1.13	5 (S-9)	Tuning
9/1/2021 0:00	9/23/2021 14:52	542.87	6 (S-10)	Out of service exhaust replacement
9/18/2021 12:06	9/18/2021 14:36	2.50	7 (S-11)	PG&E outage
9/18/2021 21:36	9/20/2021 10:26	36.83	7 (S-11)	PG&E outage and service
9/21/2021 19:26	9/22/2021 7:08	11.70	7 (S-11)	Reverse power shutdown
9/4/2021 10:00	9/5/2021 9:04	23.07	8 (S-12)	Service
9/10/2021 10:46	9/10/2021 10:54	0.13	8 (S-12)	Detonation
9/18/2021 12:06	9/18/2021 14:20	2.23	8 (S-12)	PG&E Outage
9/18/2021 21:36	9/20/2021 10:04	36.47	8 (S-12)	PG&E Outage
9/24/2021 8:04	9/24/2021 8:10	0.10	8 (S-12)	Tuning
9/27/2021 11:48	9/27/2021 11:56	0.13	8 (S-12)	Tuning
9/30/2021 8:38	9/30/2021 8:50	0.20	8 (S-12)	Tuning
9/1/2021 0:00	10/1/2021 0:00	720.00	9 (S-13)	Out of service pending overhaul
9/1/2021 0:00	10/1/2021 0:00	720.00	10 (S-14)	Long-Term Standby
10/14/2021 4:24	10/14/2021 9:30	5.10	1 (S-4)	Outage to install switchgear
10/27/2021 15:28	10/27/2021 16:58	1.50	1 (S-4)	Tuning
10/30/2021 22:44	11/1/2021 0:00	25.27	1 (S-4)	Radiator repairs
10/1/2021 0:00	10/25/2021 10:50	586.83	2 (S-5)	Out of service pending overhaul
10/25/2021 10:56	10/25/2021 11:10	0.23	2 (S-5)	Startup troubleshooting
10/25/2021 11:14	10/25/2021 12:50	1.60	2 (S-5)	Startup troubleshooting
10/25/2021 13:30	10/26/2021 11:26	21.93	2 (S-5)	Startup troubleshooting
10/26/2021 11:44	10/26/2021 11:58	0.23	2 (S-5)	Test and Tune
10/26/2021 12:06	10/26/2021 13:28	1.37	2 (S-5)	Test and Tune
10/26/2021 13:40	10/26/2021 13:58	0.30	2 (S-5)	Test and Tune
10/26/2021 14:36	10/27/2021 8:38	18.03	2 (S-5)	Test and Tune
10/27/2021 9:02	10/27/2021 9:16	0.23	2 (S-5)	Test and Tune
10/27/2021 11:30	10/27/2021 11:52	0.37	2 (S-5)	Test and tune
10/13/2021 9:32	11/1/2021 0:00	446.47	3 (S-6)	Out of service pending overhaul
10/1/2021 0:00	10/1/2021 8:00	8.00	4 (S-7)	Detonation
10/1/2021 8:26	10/1/2021 8:42	0.27	4 (S-7)	Tuning
10/1/2021 12:30	10/1/2021 12:42	0.20	4 (S-7)	Tuning
10/9/2021 11:20	10/11/2021 7:56	44.60	4 (S-7)	Tuning adjustment repairs
10/11/2021 8:04	10/11/2021 8:22	0.30	4 (S-7)	Tuning
10/11/2021 13:30	10/11/2021 13:52	0.37	4 (S-7)	Tuning
10/14/2021 4:22	10/14/2021 9:08	4.77	4 (S-7)	Outage to install switchgear
10/14/2021 9:12	10/14/2021 9:38	0.43	4 (S-7)	Tuning
10/14/2021 11:50	10/14/2021 11:56	0.10	4 (S-7)	Tuning
10/14/2021 12:04	10/14/2021 12:30	0.43	4 (S-7)	Tuning
10/20/2021 14:56	11/1/2021 0:00	273.07	4 (S-7)	Down for top end repairs
10/9/2021 15:24	10/11/2021 7:30	40.10	5 (S-9)	Radiator repairs
10/11/2021 12:06	10/11/2021 12:18	0.20	5 (S-9)	Tuning
10/11/2021 12:50	10/11/2021 12:58	0.13	5 (S-9)	Tuning
10/14/2021 5:18	10/14/2021 9:46	4.47	5 (S-9)	Outage to install switchgear
10/14/2021 10:10	10/14/2021 10:16	0.10	5 (S-9)	Tuning

Appendix C. LFGTE Facility Downtime Logs
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
10/15/2021 19:56	10/18/2021 10:20	62.40	5 (S-9)	Variable frequency drive (VFD) issues
10/24/2021 4:36	10/25/2021 7:58	27.37	5 (S-9)	Detonation and tuning
10/27/2021 14:30	10/28/2021 13:40	23.17	5 (S-9)	Tuning
10/14/2021 5:18	10/14/2021 9:46	4.47	6 (S-10)	Outage to install switchgear
10/15/2021 19:56	10/18/2021 10:20	62.40	6 (S-10)	VFD issues and service
10/14/2021 5:18	10/14/2021 9:26	4.13	7 (S-11)	Outage to install switchgear
10/14/2021 9:34	10/14/2021 9:46	0.20	7 (S-11)	Tuning
10/15/2021 19:56	10/18/2021 10:22	62.43	7 (S-11)	VFD issues
10/28/2021 6:46	10/28/2021 7:00	0.23	7 (S-11)	Tuning
10/3/2021 11:42	10/4/2021 6:52	19.17	8 (S-12)	Turbo repairs
10/14/2021 5:18	10/14/2021 9:22	4.07	8 (S-12)	Outage to install switchgear
10/14/2021 9:34	10/14/2021 9:54	0.33	8 (S-12)	Tuning
10/15/2021 19:56	10/18/2021 10:32	62.60	8 (S-12)	VFD issues and service
10/1/2021 0:00	11/1/2021 0:00	744.00	9 (S-13)	Out of service pending overhaul
10/1/2021 0:00	11/1/2021 0:00	744.00	10 (S-14)	Long-Term Standby
11/1/2021 0:00	11/1/2021 11:32	11.53	1 (S-4)	Detonation
11/15/2021 7:50	11/15/2021 13:26	5.60	1 (S-4)	Switchgear outage and service
11/23/2021 19:52	11/24/2021 6:54	11.03	1 (S-4)	Detonation
11/15/2021 7:48	11/15/2021 13:26	5.63	2 (S-5)	Switchgear outage
11/1/2021 0:00	12/1/2021 0:00	721.00	3 (S-6)	Out of service pending overhaul
11/1/2021 0:00	12/1/2021 0:00	721.00	4 (S-7)	Out of service pending topend
11/3/2021 8:54	11/3/2021 9:42	0.80	5 (S-9)	Tuning
11/3/2021 11:20	11/3/2021 11:56	0.60	5 (S-9)	Tuning
11/3/2021 12:02	11/3/2021 12:16	0.23	5 (S-9)	Tuning
11/3/2021 14:16	11/3/2021 14:34	0.30	5 (S-9)	Tuning
11/4/2021 8:58	11/4/2021 10:08	1.17	5 (S-9)	Service
11/15/2021 7:42	11/15/2021 13:30	5.80	5 (S-9)	Switchgear outage
11/15/2021 13:42	11/15/2021 14:14	0.53	5 (S-9)	Tuning
11/18/2021 12:26	11/18/2021 12:48	0.37	5 (S-9)	Tuning
11/19/2021 10:32	11/19/2021 10:36	0.07	5 (S-9)	Detonation
11/19/2021 17:00	11/20/2021 8:28	15.47	5 (S-9)	Detonation
11/24/2021 6:54	11/24/2021 11:28	4.57	5 (S-9)	Service
11/9/2021 7:44	11/9/2021 10:08	2.40	6 (S-10)	Service
11/15/2021 7:44	11/15/2021 13:32	5.80	6 (S-10)	Switchgear outage
11/15/2021 13:42	11/15/2021 14:10	0.47	6 (S-10)	Tuning
11/18/2021 12:24	11/18/2021 12:48	0.40	6 (S-10)	Tuning
11/10/2021 9:54	11/10/2021 10:26	0.53	7 (S-11)	Tuning
11/15/2021 7:44	11/15/2021 14:16	6.53	7 (S-11)	Switchgear outage
11/18/2021 12:26	11/18/2021 13:10	0.73	7 (S-11)	Tuning
11/18/2021 13:14	11/18/2021 13:20	0.10	7 (S-11)	Detonation
11/19/2021 15:30	11/20/2021 9:00	17.50	7 (S-11)	Detonation
11/24/2021 7:08	11/24/2021 7:42	0.57	7 (S-11)	Tuning
11/24/2021 8:18	11/24/2021 10:28	2.17	7 (S-11)	Service
11/14/2021 5:02	11/18/2021 12:46	103.73	8 (S-12)	Service
11/18/2021 12:56	11/18/2021 12:58	0.03	8 (S-12)	Detonation
11/18/2021 13:02	11/18/2021 13:30	0.47	8 (S-12)	Tuning
11/30/2021 1:24	11/30/2021 7:40	6.27	8 (S-12)	Detonation
11/1/2021 0:00	12/1/2021 0:00	720.00	9 (S-13)	Out of service pending overhaul
11/1/2021 0:00	12/1/2021 0:00	720.00	10 (S-14)	Long-Term Standby
12/2/2021 20:12	12/3/2021 10:22	14.17	1 (S-4)	Detonation
12/6/2021 11:46	12/6/2021 12:00	0.23	1 (S-4)	Tuning
12/6/2021 12:40	12/6/2021 12:46	0.10	1 (S-4)	Tuning

Appendix C. LFGTE Facility Downtime Logs
Sonoma County Central Landfill, Petaluma, California
(August 1, 2021 through January 31, 2022)

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
12/7/2021 5:10	12/7/2021 13:24	8.23	1 (S-4)	Detonation
12/7/2021 22:06	12/8/2021 8:56	10.83	1 (S-4)	Detonation
12/8/2021 10:44	12/8/2021 11:30	0.77	1 (S-4)	Tuning
12/12/2021 22:38	12/27/2021 11:28	348.83	1 (S-4)	Relay Outage
12/27/2021 11:52	12/27/2021 12:52	1.00	1 (S-4)	Tuning
12/28/2021 0:46	12/28/2021 6:46	6.00	1 (S-4)	Detonation
12/2/2021 7:22	12/2/2021 11:42	4.33	2 (S-5)	Tuning
12/2/2021 13:32	12/3/2021 10:22	20.83	2 (S-5)	Detonation
12/7/2021 5:10	12/7/2021 13:26	8.27	2 (S-5)	Detonation
12/10/2021 8:04	12/10/2021 8:08	0.07	2 (S-5)	Tuning
12/13/2021 7:14	12/27/2021 11:30	340.27	2 (S-5)	Relay outage and service
12/1/2021 0:00	1/1/2022 0:00	744.00	3 (S-6)	Out of service pending overhaul
12/1/2021 0:00	1/1/2022 0:00	744.00	4 (S-7)	Down for top end repairs
12/7/2021 4:48	12/8/2021 9:06	28.30	5 (S-9)	Detonation
12/13/2021 7:40	12/22/2021 11:54	220.23	5 (S-9)	Relay outage
12/2/2021 10:14	12/2/2021 10:26	0.20	6 (S-10)	Tuning
12/7/2021 4:50	12/8/2021 9:02	28.20	6 (S-10)	Detonation
12/13/2021 7:40	12/22/2021 11:28	219.80	6 (S-10)	Relay outage
12/7/2021 4:50	12/8/2021 9:08	28.30	7 (S-11)	Detonation
12/12/2021 19:24	1/1/2022 0:00	460.60	7 (S-11)	Troubleshooting
12/6/2021 10:44	12/6/2021 10:52	0.13	8 (S-12)	Tuning
12/6/2021 12:00	12/6/2021 14:20	2.33	8 (S-12)	Tuning
12/6/2021 14:24	12/6/2021 14:40	0.27	8 (S-12)	Tuning
12/6/2021 15:20	12/8/2021 10:18	42.97	8 (S-12)	Detonation
12/13/2021 7:40	12/22/2021 11:24	219.73	8 (S-12)	Relay outage
12/25/2021 14:36	12/27/2021 9:24	42.80	8 (S-12)	Detonation
12/1/2021 0:00	1/1/2022 0:00	744.00	9 (S-13)	Out of service pending overhaul
12/1/2021 0:00	1/1/2022 0:00	744.00	10 (S-14)	Long-Term Standby
1/1/2022 1:56	1/14/2022 9:10	319.23	1 (S-4)	Schweitzer relay repairs
1/17/2022 6:50	1/17/2022 10:50	4.00	1 (S-4)	Tuning
1/27/2022 8:06	1/27/2022 9:32	1.43	1 (S-4)	Service
1/1/2022 12:48	1/14/2022 9:12	308.40	2 (S-5)	Schweitzer relay repairs
1/17/2022 6:48	1/17/2022 10:50	4.03	2 (S-5)	Tuning
1/1/2022 0:00	2/1/2022 0:00	744.00	3 (S-6)	Out of service for overhaul
1/1/2022 0:00	2/1/2022 0:00	744.00	4 (S-7)	Out of service
1/3/2022 8:26	1/3/2022 9:16	0.83	5 (S-9)	Detonation
1/3/2022 9:44	1/3/2022 9:52	0.13	5 (S-9)	Detonation
1/3/2022 11:58	1/17/2022 13:40	337.70	5 (S-9)	Schweitzer relay repairs
1/29/2022 18:58	2/1/2022 0:00	53.03	5 (S-9)	Blown water line
1/3/2022 11:58	1/17/2022 13:40	337.70	6 (S-10)	Schweitzer relay repairs and service
1/1/2022 0:00	2/1/2022 0:00	744.00	7 (S-11)	Troubleshooting
1/3/2022 11:58	1/18/2022 9:30	357.53	8 (S-12)	Schweitzer relay repairs
1/18/2022 13:22	1/18/2022 13:40	0.30	8 (S-12)	Tuning
1/19/2022 10:42	1/20/2022 13:28	26.77	8 (S-12)	detonation and Service
1/24/2022 12:22	1/24/2022 12:24	0.03	8 (S-12)	Tuning
1/1/2022 0:00	2/1/2022 0:00	744.00	9 (S-13)	Out of service pending overhaul
1/1/2022 0:00	2/1/2022 0:00	744.00	10 (S-14)	Long-Term Standby
TOTAL DOWNTIME[1]		**547.66**		

[1]Downtime is calculated when all engines (1, 2, 3, 4, 5, 6, 7, 8, 9, and 10) are offline concurrently.

Appendix D – Surface Emission and GCCS Component Leak Monitoring Results

October 29, 2021
File No. 07221077.00

Mr. Derek Cheney
Republic Services – Sonoma Central Landfill
500 Mecham Road
Petaluma, California 95492

Subject: Sonoma Central Landfill - Petaluma, California

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring for Third Quarter 2021.

Dear Mr. Cheney:

SCS Field Services (SCS) is pleased to provide the Republic Services, with the enclosed report summarizing the surface emissions monitoring services provided at the Sonoma Central Landfill (Site) during the Third Quarter 2021. This report includes the results of surface scan, component emissions and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Michael Flanagan at (510) 363-7796 or Whitney Stackhouse at (209) 338-7990 if you have any questions or comments.

Sincerely,

Whitney Stackhouse
Project Manager
SCS Field Services

Michael Flanagan
Project Manager
SCS Field Services

Encl.

Sean Bass, SCS Field Services
Art Jones, SCS Field Services

Sonoma Central Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring

Third Quarter 2021

Presented to:

Mr. Derek Cheney
Republic Services – Sonoma Central
500 Mecham Road
Petaluma, California 94952

SCS FIELD SERVICES

File No. 07221078.00 Task 01 | October 29, 2021

SCS FIELD SERVICES
4730 Enterprise Way Suite A
Modesto, CA 95356

Sonoma Central Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring Third Quarter 2021

INTRODUCTION

This letter provides results of the July 26, 27, 28 and August 6, 16 and 27, 2021, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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

SUMMARY AND CONCLUSIONS

As stipulated in LMR, 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. Therefore, based on the previous monitoring events, in which exceedances were observed, the monitoring at the Sonoma Central Landfill was performed on 25-foot pathways in accordance with the LMR.

On July 26, 27, 28 and August 6, 16 and 27, 2021, SCS performed third quarter 2021 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that eighteen (18) locations exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required 10 and 20-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that all areas had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments and installation of new bentonite plugs) by SCS personnel. Based on these monitoring results no additional follow up testing was required.

Also, during the instantaneous monitoring event, SCS performed concurrent integrated monitoring of the landfill surface. As required by the LMR, the landfill was divided into 50,000 square foot areas. The Sonoma Central Landfill surface area was therefore divided into 163 grids, as shown on Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, in accordance with

the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place prior to the monitoring event.

During the monitoring event, there were one grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). The required 10-day (LMR) follow-up monitoring indicated that the area had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments) by SCS personnel. Based on these monitoring results, no additional follow up monitoring is 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) that are under positive pressure must be performed. Results of the testing of the landfill gas (LFG) Blower Flare Station (BFS) pressurized piping and components indicated that all test locations were in compliance with the 500 ppmv requirement.

Further, as required under the LMR, any location on the landfill that has an observed instantaneous methane concentration above 200 ppmv, must be stake-marked and Global Positioning System (GPS) located on a site figure. During this reporting period, three (3) location were observed to exceed the 200 ppmv, reporting threshold. When these readings are observed, the locations are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report. Please see the figure in Attachment 3 for location details.

Finally, to help prevent potential future exceedances, SCS recommends that the landfill surface be routinely inspected and any observed surface erosion be routinely repaired.

SURFACE EMISSIONS MONITORING

On July 26, 27, 28 and August 6, 16 and 27, 2021, 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 LMR 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 LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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 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 United States Environmental Protection Agency (US EPA) Method 21.

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

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 LMR and NSPS requirements. Monitoring was performed with the FID inlet held within 3-inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 -feet apart over the surface of the landfill. 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 in exceedance of the 200 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 had occurred within 72 hours of the monitoring events. Therefore, site meteorological conditions were within the alternatives of the LMR 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 LMR and NSPS. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR 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 (LMR).

On July 26, 27, and 28, 2021, SCS performed third quarter 2021 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that eighteen (18) locations exceeded the 500 ppmv maximum concentration. The required 10 and 20-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on August 6, 16 and 27, 2021, respectively, indicated that all areas had returned to compliance following system adjustments and remediation (wellfield adjustment and borehole repairs using bentonite and soil) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, calculated integrated grid monitoring indicated one (1) area exceeded the 25-ppmv requirement during this monitoring event. The required 10-day (LMR) follow-up monitoring performed on August 6, 2021, indicated that the area had returned to compliance following system adjustments and remediation (wellfield adjustment) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachment 4 (Table 2). Calibration logs for the monitoring equipment are provided in Attachment 5.

During this monitoring event, several grids were not monitored, in accordance with the LMR, due to active landfilling activities, unsafe conditions or no waste in place. SCS will continue to monitor all accessible locations during the fourth quarter 2021.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On July 28, 2021, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and PGF Facility. Monitoring was performed with the detector inlet held one-half of an inch from pressurized pipe and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 51.5 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS and PGF were in compliance at the time of our testing.

PROJECT SCHEDULE

According to the LMR and NSPS, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the fourth quarter 2021 (October through December) surface emissions testing event is scheduled to be performed by the end of December 2021 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

STANDARD PROVISIONS

This report addresses 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

LEGEND

- APPROXIMATE LINER BOUNDARY
- EXISTING 10' CONTOUR
- EXISTING GAS PIPE, ABOVE GRADE
- EXISTING GAS PIPE, BELOW GRADE
- EXISTING HORIZONTAL GAS COLLECTOR
- EXISTING AIR FORCE MAIN, ABOVE GRADE
- EXISTING AIR FORCE MAIN, BELOW GRADE
- EXISTING AIR LEACHATE LINE
- EW-170 — EXISTING GAS/LEACHATE EXTRACTION WELL
- EW-165 — EXISTING VERTICAL GAS EXTRACTION WELL
- 88.5 — EXISTING VERTICAL GAS EXTRACTION WELL WITH PUMP ADDED
- EXISTING REMOTE WELLHEAD
- EXISTING CONTROL VALVE
- EXISTING BLIND FLANGE
- EXISTING FLANGE CONNECTION
- EXISTING REDUCER FITTING
- EXISTING END CAP
- SUMP — EXISTING CONDENSATE PUMP STATION
- 120 — SURFACE EMISSIONS MONITORING GRID

N

0 200 400

SCALE IN FEET

NOTES:

1. THE 2020 TOPOGRAPHIC MAP WAS PREPARED BY COOPER AERIAL SURVEYS CO. DATE OF PHOTOGRAPHY: JANUARY 31, 2020. HORIZONTAL DATUM: NAD27, ZONE 2 VERTICAL DATUM: NGVD29.
2. THE 2018 GCCS AS-BUILT GCCS IMPROVEMENTS PROVIDED BY REPUBLIC SERVICES INC. ON SEPTEMBER 20, 2018.

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 11/11/2020 — DRAWN BY GVP — DESIGNED BY KK — CHECKED BY HLV — APPROVED BY

TETRA TECH

SONOMA COUNTY CENTRAL LANDFILL
PETALUMA, CALIFORNIA

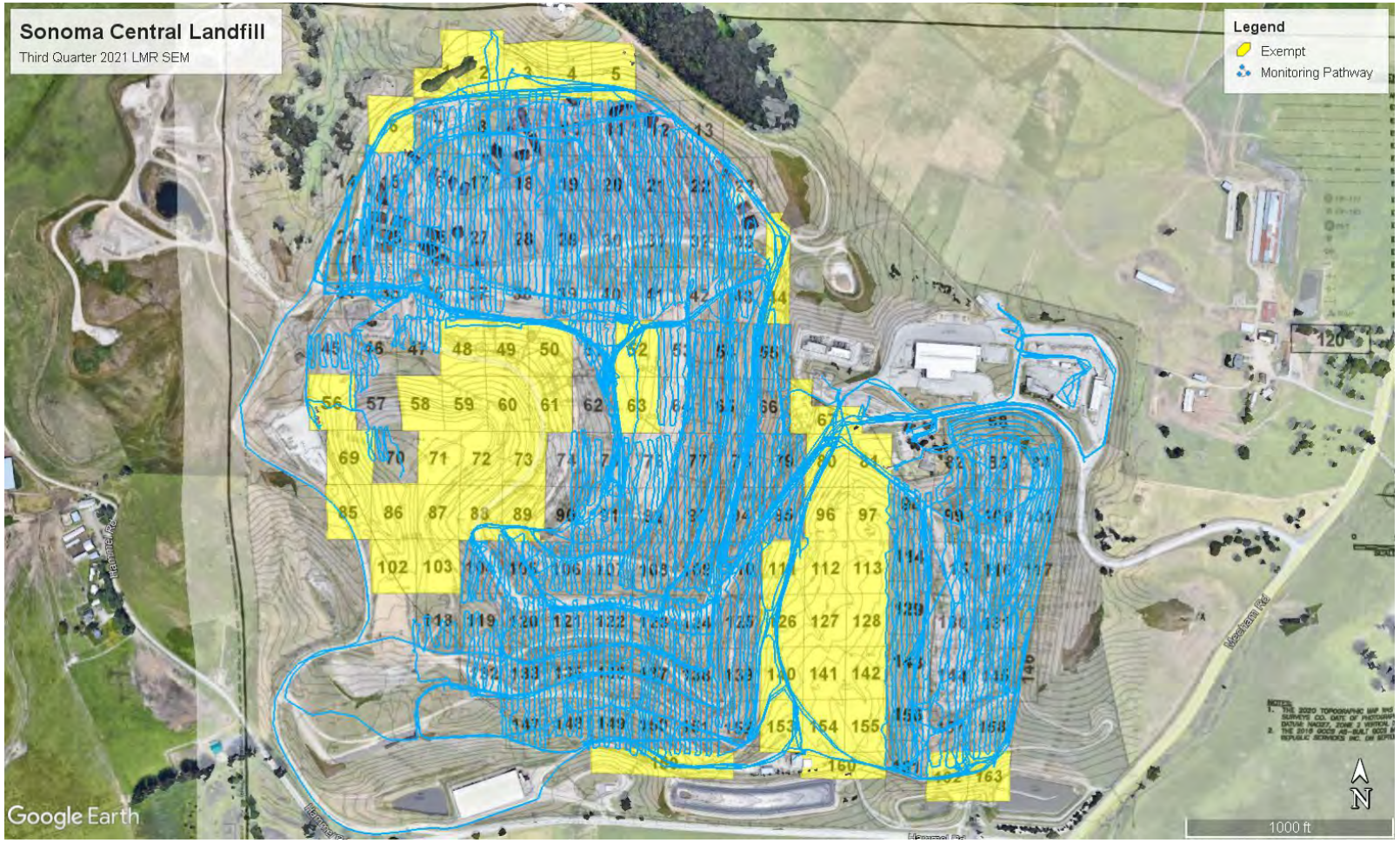
SURFACE EMISSIONS MONITORING
GRID MAP

SHEET NO. 1

PROJECT NO. 197-200019

Attachment 2

Surface Pathway



Third Quarter 2021
LMR Surface Emissions Monitoring Pathway
Sonoma Central Landfill, Petaluma, California

Attachment 3

Instantaneous and Component Emissions Monitoring Results

Third Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Instantaneous Data Report for July 26, 27, 28, and August 6, 16 and 27, 2021

Highest Component Reading

Location	Initial Monitoring (ppmv) July 28, 2021	10-Day Follow Up Monitoring (ppmv) August 6, 2021	20-Day Follow Up Monitoring (ppmv) August 16, 2021	30-Day Follow Up Monitoring (ppmv) August 27, 2021	GPS Position
RBBO2	2,000	9,700	120	250	N38° 17.935' W122° 45.144'
RebarB1	1,000	1,000	52	28	N38° 17.873' W122° 44.992'
SCEW2103	900	3,000	10	36	N38° 18.255' W122° 45.153'
SCV048-A	700	3	NA	30	N38° 17.905' W122° 45.019'
SCV057-0	3,000	4	NA	180	N38° 17.787' W122° 45.015'
SCEW2005	1,000	5,800	70	300	N38° 18.228' W122° 45.095'
SCV49-1A	1,700	1,000	12	24	N38° 17.892' W122° 45.100'
SCW88-5A	4,000	1,000	50	200	N38° 18.055' W122° 45.082'
SCEW2108	1,400	1,000	97	10	N38° 18.221' W122° 45.188'

Third Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Location	Initial Monitoring (ppmv) July 28, 2021	10-Day Follow Up Monitoring (ppmv) August 6, 2021	20-Day Follow Up Monitoring (ppmv) August 16, 2021	30-Day Follow Up Monitoring (ppmv) August 27, 2021	GPS Position
SCV84A	800	70	NA	40	N38° 18.136' W122° 45.000'
SCV044-A	1,000	31,100	150	280	N38° 17.861' W122° 45.095'
LF2-LCRS	9,500	800	8	48	N38° 17.766' W122° 44.720'
SCLEW-05	1,100	5,000	240	75	N38° 17.822' W122° 45.072'
SCV103-A	1,000	5	NA	9.5	N38° 17.887' W122° 45.032'
SCLEW-06	5,500	1,900	260	100	N38° 17.805' W122° 45.031'
SCV113-0	2,500	700	6	150	N38° 18.037' W122° 45.001'
SCV1007A	1,800	338	NA	60	N38° 17.929' W122° 45.161'
SCV092-A	1,500	1,500	52	29	N38° 17.950' W122° 45.158'
SCEW2003	300	NA	NA	NA	N38° 18.251' W122° 45.194'
SCEW2008	300	NA	NA	NA	N38° 18.225' W122° 45.146'

Third Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Highest Pressurized Pipe Reading

Location	Date	Concentration (ppmv)
Flare	7/28/2021	4.8
PGF Facility	7/28/2021	51.5

No additional exceedances of the 500 ppm threshold were observed during the monitoring performed during the third quarter 2021.

Third Quarter 2021

Emissions Monitoring Locations Greater Than 200 ppmv and 500 ppmv

Sonoma Central Landfill, Petaluma, California

Attachment 4

Integrated Monitoring Results

Third Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC001	--	--	Exempted
SC002	--	--	Exempted
SC003	--	--	Exempted
SC004	--	--	Exempted
SC005	--	--	Exempted
SC006	--	--	Exempted
SC007	7/26/2021 09:40	4.98	
SC008	7/25/2021 22:35	7.00	
SC009	7/26/2021 10:43	6.61	
SC010	7/26/2021 10:37	7.28	
SC011	7/26/2021 10:45	6.53	
SC012	7/25/2021 23:34	4.39	
SC013	7/26/2021 11:48	2.69	
SC014	7/26/2021 09:45	2.47	
SC015	7/26/2021 09:47	4.64	
SC016	7/26/2021 09:39	3.59	
SC017	7/25/2021 22:40	4.83	
SC018	7/26/2021 10:46	7.60	
SC019	7/26/2021 10:36	14.51	
SC020	7/26/2021 10:41	7.10	
SC021	7/25/2021 23:37	3.16	
SC022	7/26/2021 11:50	4.21	
SC023	7/26/2021 11:20	3.52	
SC024	7/26/2021 09:53	2.47	
SC025	7/26/2021 09:47	2.89	
SC026	7/26/2021 09:41	3.76	
SC027	7/25/2021 22:40	4.54	
SC028	7/26/2021 10:48	3.51	
SC029	7/26/2021 10:38	4.18	
SC030	7/26/2021 10:41	2.91	
SC031	7/25/2021 23:38	1.96	
SC032	7/26/2021 11:51	2.92	
SC033	7/26/2021 11:30	5.07	
SC034	7/26/2021 09:52	2.26	
SC035	7/26/2021 09:47	3.22	
SC036	7/26/2021 09:38	6.82	
SC037	7/25/2021 22:39	7.32	
SC038	7/26/2021 10:47	3.28	
SC039	7/26/2021 10:36	5.44	
SC040	7/26/2021 10:39	6.06	
SC041	7/25/2021 23:34	5.17	
SC042	7/26/2021 11:52	5.73	
SC043	7/26/2021 11:23	8.55	

Third Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

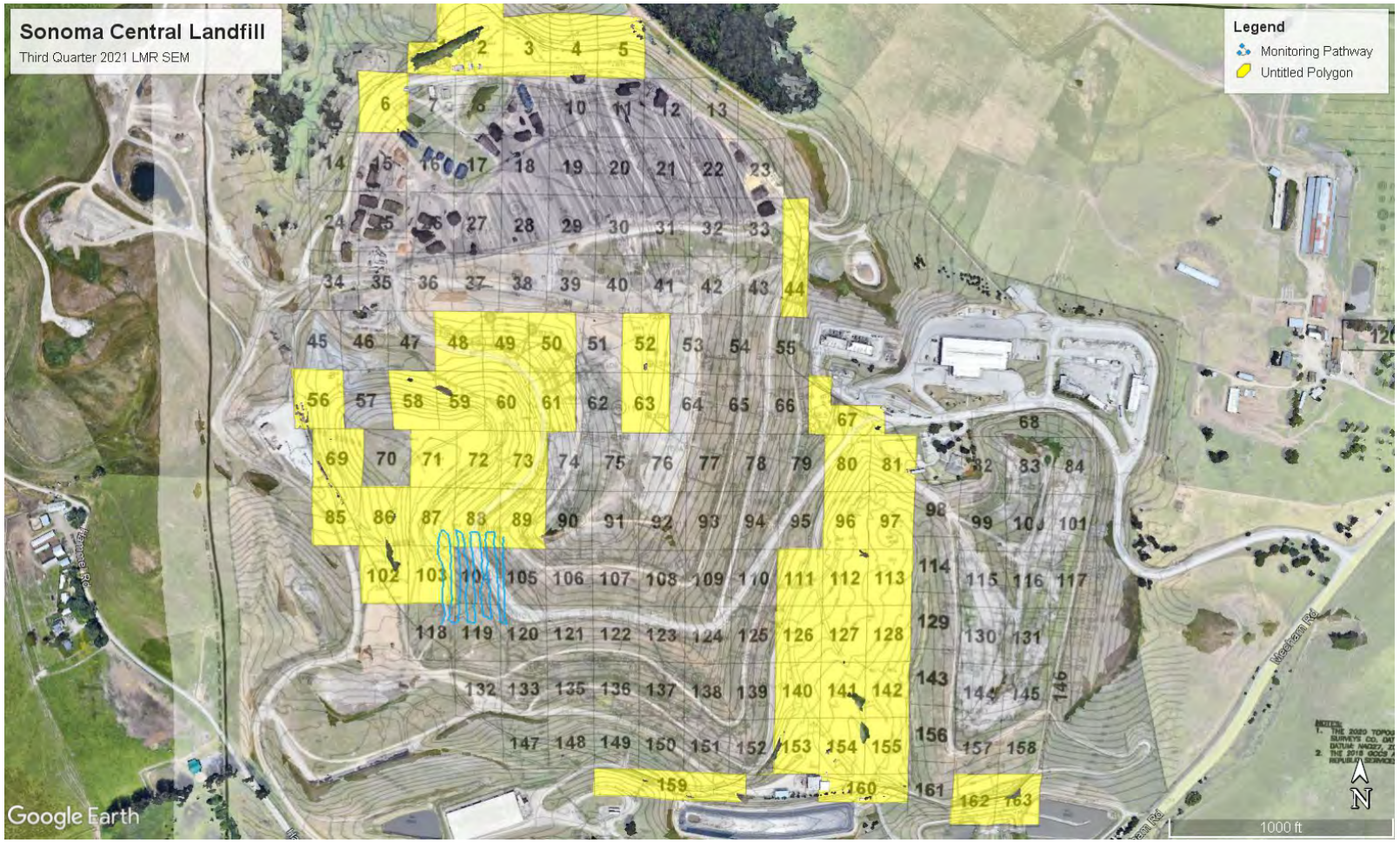
Point Name	Record Date	FID Concentration (ppm)	Comments
SC044	--	--	Exempted
SC045	7/26/2021 12:43	1.01	
SC046	7/26/2021 12:10	1.53	
SC047	7/26/2021 08:57	4.87	
SC048	--	--	Exempted
SC049	--	--	Exempted
SC050	--	--	Exempted
SC051	7/26/2021 11:22	12.27	
SC052	--	--	Exempted
SC053	7/26/2021 00:23	9.51	
SC054	7/27/2021 08:59	5.97	
SC055	7/26/2021 12:00	4.28	
SC056	--	--	Exempted
SC057	7/26/2021 12:08	1.50	
SC058	--	--	Exempted
SC059	--	--	Exempted
SC060	--	--	Exempted
SC061	--	--	Exempted
SC062	7/26/2021 11:16	10.87	
SC063	--	--	Exempted
SC064	7/26/2021 00:19	7.99	
SC065	7/27/2021 08:58	5.24	
SC066	7/26/2021 11:57	6.10	
SC067	--	--	Exempted
SC068	7/27/2021 08:11	3.90	
SC069	--	--	Exempted
SC070	7/27/2021 03:15	1.11	
SC071	--	--	Exempted
SC072	--	--	Exempted
SC073	--	--	Exempted
SC074	7/27/2021 01:58	2.31	
SC075	7/27/2021 13:54	3.93	
SC076	7/27/2021 01:22	3.71	
SC077	7/27/2021 12:17	3.40	
SC078	7/27/2021 10:26	3.11	
SC079	7/27/2021 09:51	3.35	
SC080	--	--	Exempted
SC081	--	--	Exempted
SC082	7/27/2021 10:51	3.63	
SC083	7/27/2021 10:37	4.28	
SC084	7/27/2021 09:07	5.86	
SC085	--	--	Exempted
SC086	--	--	Exempted

Third Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC087	--	--	Exempted
SC088	--	--	Exempted
SC089	--	--	Exempted
SC090	7/27/2021 02:01	3.78	
SC091	7/27/2021 13:47	6.80	
SC092	7/27/2021 01:28	13.29	
SC093	7/27/2021 12:20	8.34	
SC094	7/27/2021 10:26	3.04	
SC095	7/27/2021 09:50	3.41	
SC096	--	--	Exempted
SC097	--	--	Exempted
SC098	7/27/2021 08:13	14.54	
SC099	7/27/2021 11:16	5.95	
SC100	7/27/2021 10:31	8.43	
SC101	7/27/2021 09:07	5.85	
SC102	--	--	Exempted
SC103	--	--	Exempted
SC104	7/27/2021 15:22	68.74	Initial
SC104	8/6/2021 10:56	6.58	First 10-Day
SC105	7/27/2021 14:47	4.48	
SC106	7/27/2021 02:10	12.66	
SC107	7/27/2021 13:52	13.34	
SC108	7/27/2021 01:25	15.70	
SC109	7/27/2021 12:15	4.17	
SC110	7/27/2021 13:42	12.80	
SC111	--	--	Exempted
SC112	--	--	Exempted
SC113	--	--	Exempted
SC114	7/27/2021 08:20	5.09	
SC115	7/27/2021 11:10	4.60	
SC116	7/27/2021 10:31	6.72	
SC117	7/27/2021 09:00	4.88	
SC118	7/28/2021 08:48	5.04	
SC119	7/28/2021 09:07	11.17	
SC120	7/28/2021 08:13	7.14	
SC121	7/28/2021 08:38	10.09	
SC122	7/27/2021 14:24	10.47	
SC123	7/28/2021 08:28	12.59	
SC124	7/27/2021 12:52	8.78	
SC125	7/27/2021 13:39	13.11	
SC126	--	--	Exempted
SC127	--	--	Exempted
SC128	--	--	Exempted

Third Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC129	7/27/2021 08:23	4.69	
SC130	7/27/2021 11:13	4.29	
SC131	7/27/2021 10:39	8.72	
SC132	7/28/2021 09:08	8.04	
SC133	7/28/2021 08:08	7.75	
SC134	--	--	Not on Grid Map
SC135	7/28/2021 08:40	4.73	
SC136	7/27/2021 14:20	2.66	
SC137	7/28/2021 08:31	3.45	
SC138	7/27/2021 12:49	9.26	
SC139	7/27/2021 13:48	17.35	
SC140	--	--	Exempted
SC141	--	--	Exempted
SC142	--	--	Exempted
SC143	7/27/2021 08:31	15.75	
SC144	7/27/2021 11:09	4.11	
SC145	7/27/2021 10:32	7.82	
SC146	7/27/2021 09:55	9.05	
SC147	7/28/2021 08:02	2.24	
SC148	7/28/2021 08:36	4.62	
SC149	7/27/2021 14:19	1.67	
SC150	7/28/2021 08:31	3.15	
SC151	7/27/2021 12:49	1.81	
SC152	7/27/2021 13:33	10.64	
SC153	--	--	Exempted
SC154	--	--	Exempted
SC155	--	--	Exempted
SC156	7/27/2021 08:23	10.79	
SC157	7/27/2021 11:13	3.89	
SC158	7/27/2021 10:37	3.14	
SC159	--	--	Exempted
SC160	--	--	Exempted
SC161	7/27/2021 08:22	3.76	
SC162	--	--	Exempted
SC163	--	--	Exempted



Third Quarter 2021
LMR 10-Day Follow Up Surface Emissions Monitoring Pathway
Sonoma Central Landfill, Petaluma, California

Attachment 5

Calibration Logs

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-26-21 Site Name: Sonoma

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 95 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1153 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	499	1	3
2	3	500	0	4
3	2	501	1	5

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 156928
Counters Observed for the Zero= 3392

Trial 2:
Counts Observed for the Span= 157484
Counters Observed for the Zero= 3364

Trial 3:
Counts Observed for the Span= 158620
Counters Observed for the Zero= 3376

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.3 ppm

Downwind Location Description: GI50 Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Pre

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-26-21 Site Name: Sonoma

Inspector(s): Don G Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 64 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.0	502	2	3
2	.1	500	0	4
3	.1	498	2	5

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 139420
Counters Observed for the Zero= 3988

Trial 2:
Counts Observed for the Span= 144164
Counters Observed for the Zero= 3954

Trial 3:
Counts Observed for the Span= 140925
Counters Observed for the Zero= 3928

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm

Downwind Location Description: 7159 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-26-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 64 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	502	2	3
2	.0	500	0	4
3	.1	502	2	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 127528
Counters Observed for the Zero= 3263

Trial 2:
Counts Observed for the Span= 130736
Counters Observed for the Zero= 3123

Trial 3:
Counts Observed for the Span= 129988
Counters Observed for the Zero= 3049

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.3 ppm

Downwind Location Description: 4159 Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-26-21 Site Name: Sonoma

Inspector(s): Pong Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 86 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	3
2	0	502	2	5
3	.2	501	1	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 138293
Counters Observed for the Zero= 3894

Trial 2:
Counts Observed for the Span= 138466
Counters Observed for the Zero= 3917

Trial 3:
Counts Observed for the Span= 138699
Counters Observed for the Zero= 3912

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm

Downwind Location Description: G159 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-26-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: N Barometric Pressure: 30 "Hg

Air Temperature: 86 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.0	498	2	3
2	.2	499	1	4
3	.1	501	1	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 126693
Counters Observed for the Zero= 2945

Trial 2:
Counts Observed for the Span= 126842
Counters Observed for the Zero= 2975

Trial 3:
Counts Observed for the Span= 126975
Counters Observed for the Zero= 2993

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm

Downwind Location Description: G159 Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 12-26-21 Site Name: Sonoma

Inspector(s): LidM Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 95 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1777 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	3	500	497	3
2	2	501	499	4
3	1	502	501	2

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 28560
Counters Observed for the Zero= 3173

Trial 2:
Counts Observed for the Span=
Counters Observed for the Zero= 3113

Trial 3:
Counts Observed for the Span=
Counters Observed for the Zero= 3135

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.3 ppm

Downwind Location Description: Grid Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 1-26-21 Site Name: Sonoma

Inspector(s): Micheal Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 64 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1153 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.3	500	0	3
2	.4	501	1	5
3	.2	500	0	3

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 154748
Counters Observed for the Zero= 3183

Trial 2:
Counts Observed for the Span= 154384
Counters Observed for the Zero= 3402

Trial 3:
Counts Observed for the Span= 156940
Counters Observed for the Zero= 3460

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm

Downwind Location Description: G15d Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Pre

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-26-21 Site Name: Sonoma

Inspector(s): Liam Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 64 °F General Weather Conditions: sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	498	2	5
2	3	499	1	5
3	2	500	0	5

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 127368
Counters Observed for the Zero= 3179

Trial 2:
Counts Observed for the Span= 127600
Counters Observed for the Zero= 3146

Trial 3:
Counts Observed for the Span= 127852
Counters Observed for the Zero= 3087

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm

Downwind Location Description: 4159 Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 1-22-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 77 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	4
2	.0	497	3	5
3	.1	501	1	5

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

=99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 123584
Counters Observed for the Zero= 2856

Trial 2:
Counts Observed for the Span= 123704
Counters Observed for the Zero= 2894

Trial 3:
Counts Observed for the Span= 124056
Counters Observed for the Zero= 2930

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Glen Reading: 1.2 ppm

Downwind Location Description: Tulare Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Pre

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-27-21 Site Name: Sonoma

Inspector(s): ~~7-27-21~~ DonG Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 77 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 3120 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1.0	501	1	2
2	1.6	502	2	4
3	.8	501	1	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 134892
Counters Observed for the Zero= 3874

Trial 2:
Counts Observed for the Span= 134 978
Counters Observed for the Zero= 3902

Trial 3:
Counts Observed for the Span= 135084
Counters Observed for the Zero= 3939

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Cyclone Reading: 1.3 ppm

Downwind Location Description: Plant Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

PVC

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 4-27-21 Site Name: Sonora

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 60 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	502	2	4
2	-2	501	1	4
3	-1	501	1	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 133624
Counters Observed for the Zero= 2846

Trial 2:
Counts Observed for the Span= 133 892
Counters Observed for the Zero= 28 67

Trial 3:
Counts Observed for the Span= 133955
Counters Observed for the Zero= 2805

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Gate Reading: 1.3 ppm

Downwind Location Description: Gate Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-27-21 Site Name: Donora

Inspector(s): Dung Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: > Barometric Pressure: 30 "Hg

Air Temperature: 85 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.0	502	2	4
2	.1	500	0	5
3	.1	501	1	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 133046
Counters Observed for the Zero= 3975

Trial 2:
Counts Observed for the Span= 133195
Counters Observed for the Zero= 3906

Trial 3:
Counts Observed for the Span= 133307
Counters Observed for the Zero= 3941

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 560 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: G159 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

POST

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-27-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: S Barometric Pressure: 30 "Hg

Air Temperature: 85 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-1	500	6	4
2	0	502	2	3
3	-1	498	2	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 131384
Counters Observed for the Zero= 2894

Trial 2:
Counts Observed for the Span= 124574
Counters Observed for the Zero= 2921

Trial 3:
Counts Observed for the Span= 121896
Counters Observed for the Zero= 2954

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Park Reading: 1.2 ppm

Downwind Location Description: GI59 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-27-21 Site Name: Sonoma

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 63 °F General Weather Conditions: foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1153 Cal Gas Concentration: 500ppm

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

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 143707
Counters Observed for the Zero= 4085

Trial 2:
Counts Observed for the Span= 144980
Counters Observed for the Zero= 4062

Trial 3:
Counts Observed for the Span= 142643
Counters Observed for the Zero= 4045

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 6/59 Reading: 1.7 ppm

Downwind Location Description: Field Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-27-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 87 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 0223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	4	501	1	3
2	1	501	1	3
3	2	499	1	3

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 136579
Counters Observed for the Zero= 2869

Trial 2:
Counts Observed for the Span= 137891
Counters Observed for the Zero= 2853

Trial 3:
Counts Observed for the Span= 137029
Counters Observed for the Zero= 2842

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 6154 Reading: 1.4 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 02-27-21 Site Name: Sonama

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 87 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1153 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	4
2	0	502	2	3
3	0	500	0	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 145676
Counters Observed for the Zero= 3987

Trial 2:
Counts Observed for the Span= 146816
Counters Observed for the Zero= 3974

Trial 3:
Counts Observed for the Span= 147092
Counters Observed for the Zero= 3997

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 508 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid Reading: 1-2 ppm

Downwind Location Description: Flare Reading: 16 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-27-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 78 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 135828
Counters Observed for the Zero= 2960

Trial 2:
Counts Observed for the Span= 136342
Counters Observed for the Zero= 2988

Trial 3:
Counts Observed for the Span= 135941
Counters Observed for the Zero= 2931

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 2159 Reading: .3 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

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SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-28-21 Site Name: Sonoma

Inspector(s): Don Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

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

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 134796
Counters Observed for the Zero= 3894

Trial 2:
Counts Observed for the Span= 135823
Counters Observed for the Zero= 3862

Trial 3:
Counts Observed for the Span= 133742
Counters Observed for the Zero= 3922

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: C7159 Reading: 1.3 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-28-21 Site Name: Sonoma

Inspector(s): Bryan Ochoa Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	499	1	1
2	5	501	1	3
3	5	502	2	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 121648
Counters Observed for the Zero= 3142

Trial 2:
Counts Observed for the Span= 122749
Counters Observed for the Zero= 3107

Trial 3:
Counts Observed for the Span= 120961
Counters Observed for the Zero= 3155

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G159 Reading: 1.4 ppm

Downwind Location Description: Flare Reading: 1.5 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-28-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 51 °F General Weather Conditions: foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1 5[illegible] Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.5	502	2	4
2	.0	500	0	3
3	.0	502	2	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 120137
Counters Observed for the Zero= 3146

Trial 2:
Counts Observed for the Span= 120346
Counters Observed for the Zero= 3124

Trial 3:
Counts Observed for the Span= 120595
Counters Observed for the Zero= 3189

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G159 Reading: 1.2 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

POST

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-28-21 Site Name: Sonoma

Inspector(s): Pablo R Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 77 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	4
2	.0	502	2	2
3	.1	500	0	5

Average Difference: .6

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 157862
Counters Observed for the Zero= 5714

Trial 2:
Counts Observed for the Span= 157992
Counters Observed for the Zero= 5752

Trial 3:
Counts Observed for the Span= 158145
Counters Observed for the Zero= 5786

Post Monitoring Calibration Check

Zero Air Reading: 6 ppm Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grass Reading: 1.2 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-28-21 Site Name: Donoma

Inspector(s): Dony Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	4
2	.0	502	2	5
3	.2	498	2	5

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 133146
Counters Observed for the Zero= 3809

Trial 2:
Counts Observed for the Span= 133385
Counters Observed for the Zero= 3917

Trial 3:
Counts Observed for the Span= 133625
Counters Observed for the Zero= 3951

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: CMSW Reading: 1.7 ppm

Downwind Location Description: Flare Reading: 1.9 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Pre

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 12-28-21 Site Name: Sonoma

Inspector(s): Pablo Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	0	3
2	0	501	1	4
3	0	499	1	2

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 158848
Counters Observed for the Zero= 5701

Trial 2:
Counts Observed for the Span= 157821
Counters Observed for the Zero= 5687

Trial 3:
Counts Observed for the Span= 156653
Counters Observed for the Zero= 5729

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 0159 Reading: 1.1 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07/28-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 89 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	4
2	0	500	0	3
3	0	500	0	3

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

=99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 125976
Counters Observed for the Zero= 1763

Trial 2:
Counts Observed for the Span= 126203
Counters Observed for the Zero= 1743

Trial 3:
Counts Observed for the Span= 126342
Counters Observed for the Zero= 1750

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G159 Reading: 1.2 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Post

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-28-21 Site Name: Sonoma

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: SW Barometric Pressure: 30 "Hg

Air Temperature: 89 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 2357 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	495	5	3
2	01	500	0	4
3		500	0	3

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 146984
Counters Observed for the Zero= 3977

Trial 3:
Counts Observed for the Span= 147863
Counters Observed for the Zero= 3887

Trial 2:
Counts Observed for the Span= 147252
Counters Observed for the Zero= 3903

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 6199 Reading: 1.2 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-28-21 Site Name: Soland

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 124180
Counters Observed for the Zero= 1853

Trial 2:
Counts Observed for the Span= 125074
Counters Observed for the Zero= 1823

Trial 3:
Counts Observed for the Span= 123989
Counters Observed for the Zero= 1679

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Gate Reading: .3 ppm

Downwind Location Description: Fence Reading: .6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 07-28-21 Site Name: Sonoma

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: [redacted]2367 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 145848
Counters Observed for the Zero= 4029

Trial 2:
Counts Observed for the Span= 144944
Counters Observed for the Zero= 4065

Trial 3:
Counts Observed for the Span= 146693
Counters Observed for the Zero= 3987

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: 6159 Reading: 1.3 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 05-06-21 Site Name: Sonoma

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: WNW Barometric Pressure: 30 "Hg

Air Temperature: 51 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	10	498	2	3
2	11	499	1	3
3	12	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 106850
Counters Observed for the Zero= 5160

Trial 2:
Counts Observed for the Span= 107921
Counters Observed for the Zero= 5168

Trial 3:
Counts Observed for the Span= 106049
Counters Observed for the Zero= 5174

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.3 ppm

Downwind Location Description: Grid 62 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 08-06-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: WNW Barometric Pressure: 30 "Hg

Air Temperature: 59 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1273 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.0	499	1	3
2	.0	500	0	2
3	.0	500	0	4

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 128696
Counters Observed for the Zero= 3027

Trial 2:
Counts Observed for the Span= 129480
Counters Observed for the Zero= 3039

Trial 3:
Counts Observed for the Span= 130011
Counters Observed for the Zero= 3030

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.3 ppm

Downwind Location Description: Grid 62 Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 08-06-24 Site Name: SONOMA

Inspector(s): Michael Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: WNW Barometric Pressure: 30 "Hg

Air Temperature: 84 °F General Weather Conditions: CLEAR

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5416 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 1089924
Counters Observed for the Zero= 5069

Trial 2:
Counts Observed for the Span= 1092772
Counters Observed for the Zero= 5075

Trial 3:
Counts Observed for the Span= 1098773
Counters Observed for the Zero= 5068

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Fence Reading: 1.2 ppm

Downwind Location Description: Gate Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 08-06-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: WNW Barometric Pressure: 30 "Hg

Air Temperature: 64 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 132091
Counters Observed for the Zero= 3002

Trial 2:
Counts Observed for the Span= 133427
Counters Observed for the Zero= 2992

Trial 3:
Counts Observed for the Span= 134863
Counters Observed for the Zero= 2987

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

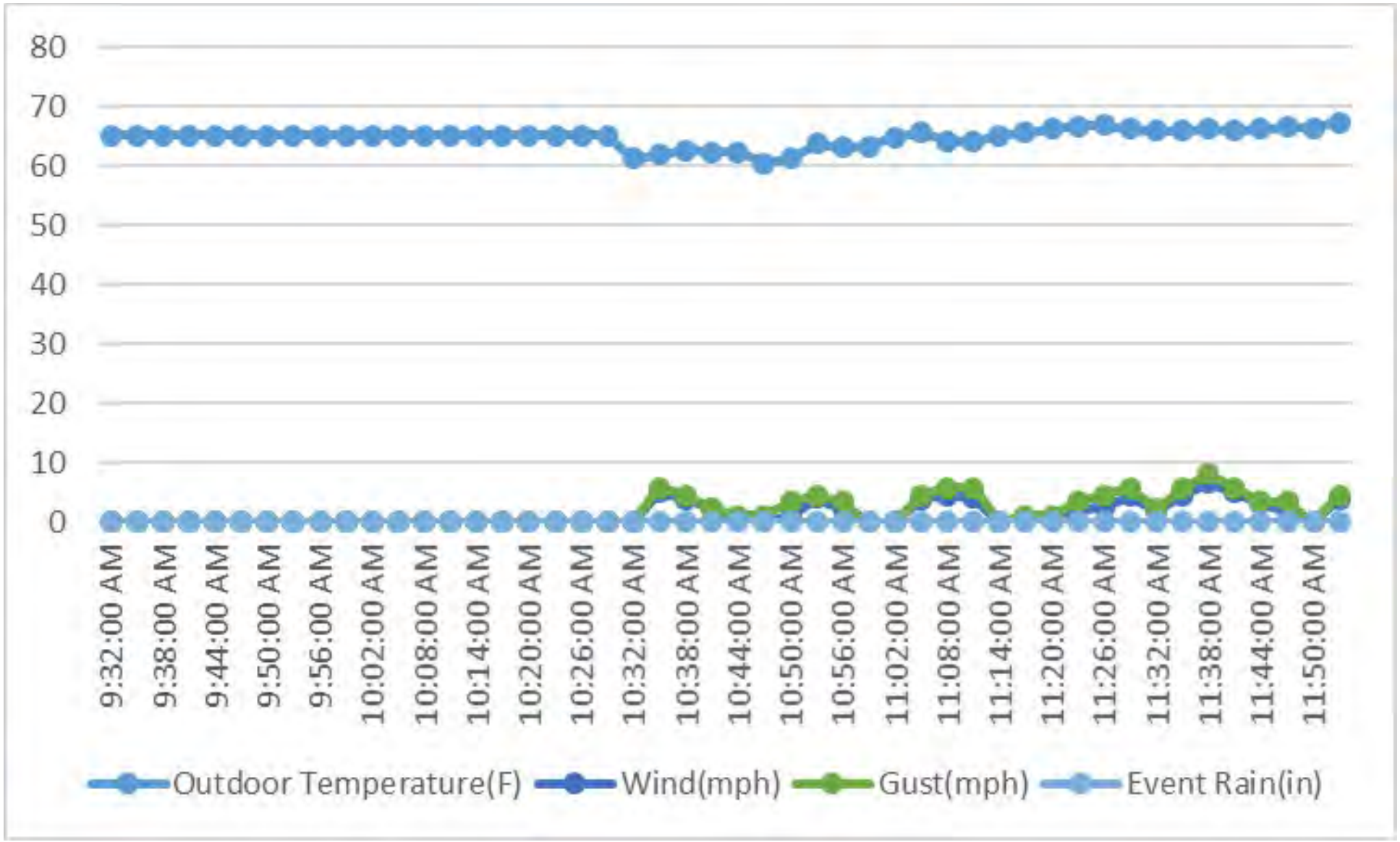
Upwind Location Description: Front 3rd 62 Reading: 1.2 ppm

Downwind Location Description: Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Attachment 6

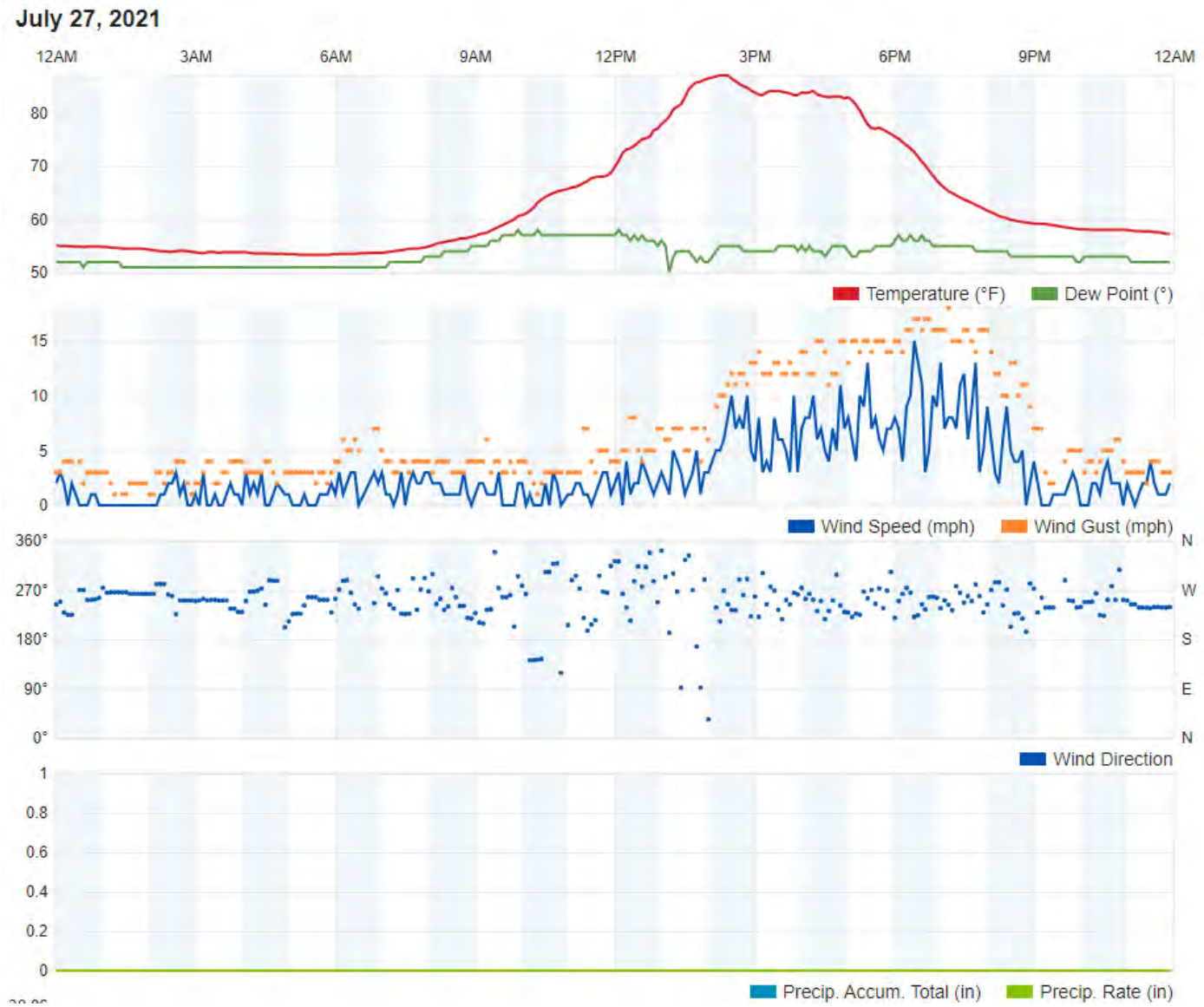
Weather Data



Third Quarter 2021

LMR Instantaneous Weather Data for July 26, 2021

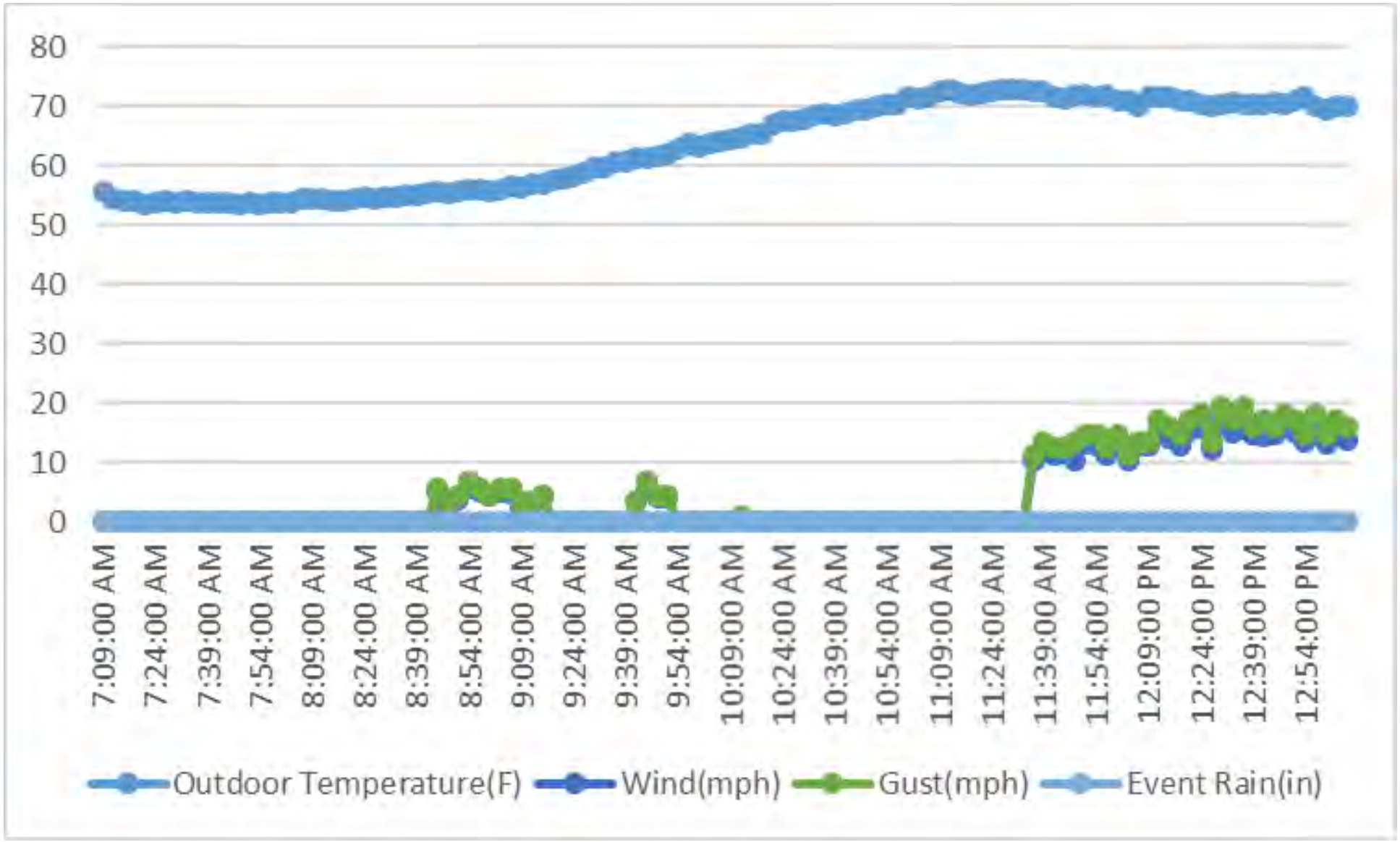
Sonoma Central Landfill, Petaluma, California



Third Quarter 2021

LMR Instantaneous Weather Data for July 27, 2021

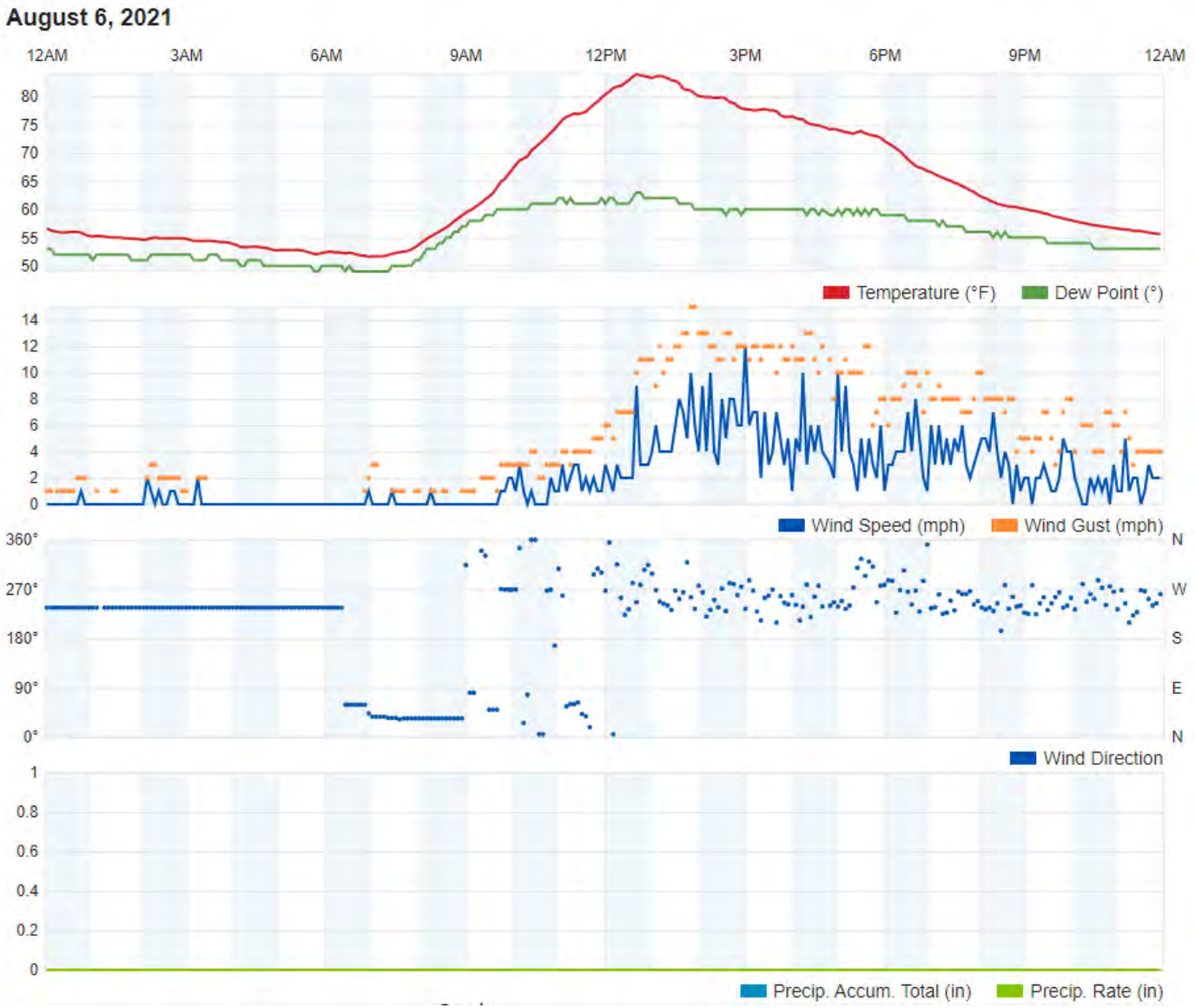
Sonoma Central Landfill, Petaluma, California



Third Quarter 2021

LMR Instantaneous Weather Data for July 28, 2021

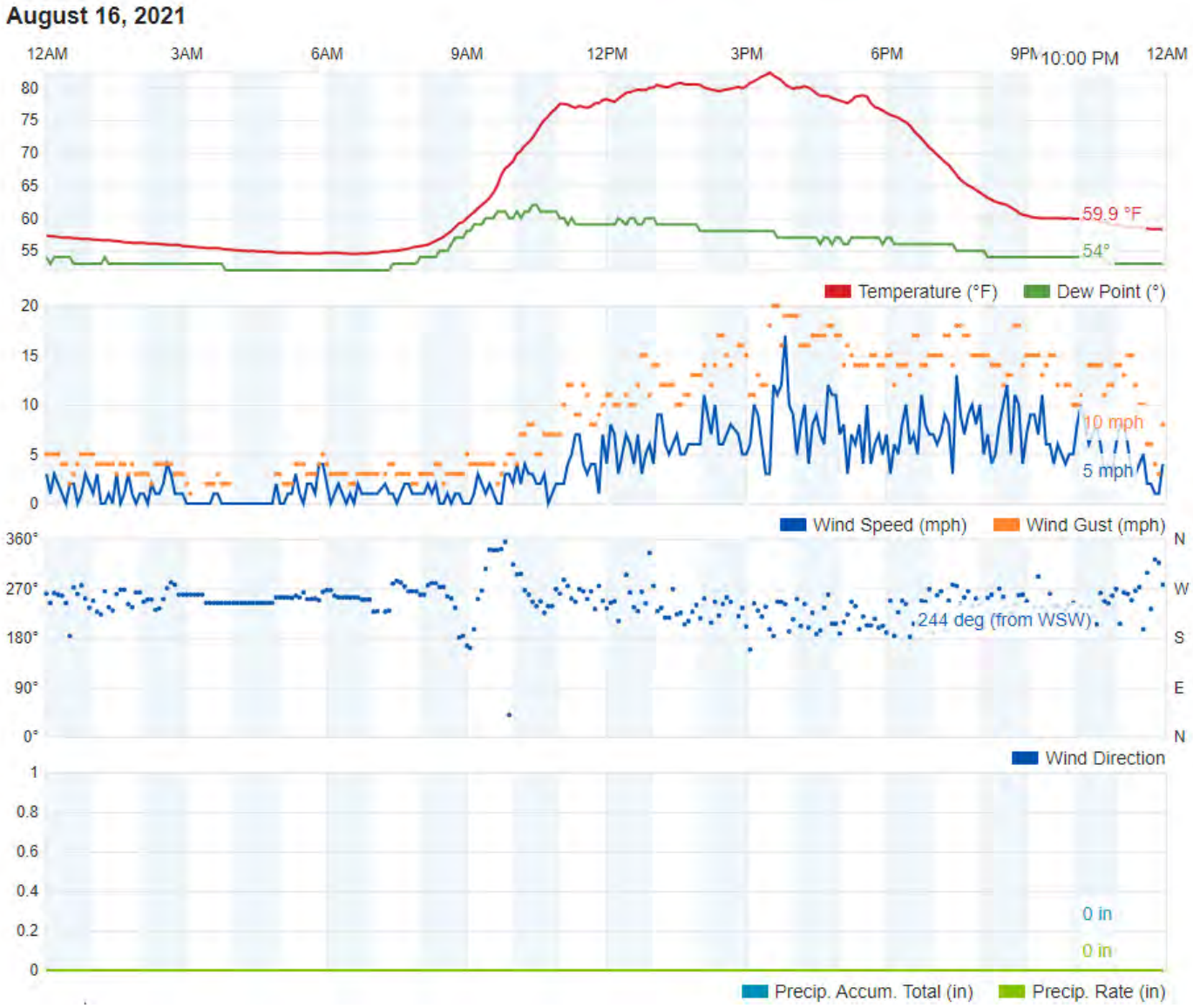
Sonoma Central Landfill, Petaluma, California



Third Quarter 2021

LMR Instantaneous Weather Data for August 6, 2021

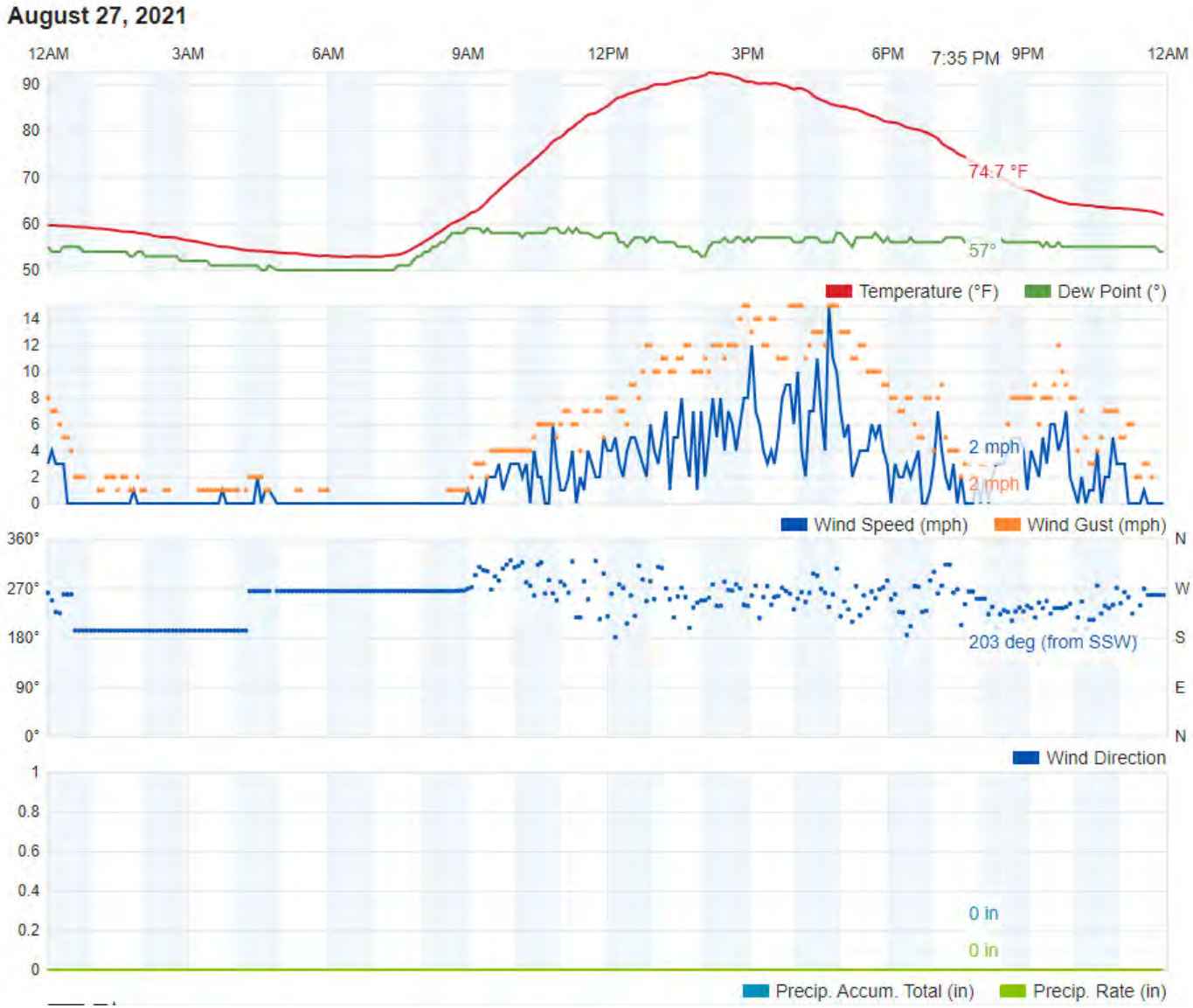
Sonoma Central Landfill, Petaluma, California



Third Quarter 2021

LMR Instantaneous Weather Data for August 16, 2021

Sonoma Central Landfill, Petaluma, California



Third Quarter 2021

LMR Instantaneous Weather Data for August 27, 2021

Sonoma Central Landfill, Petaluma, California

February 24, 2022
File No. 07221077.00

Mr. Derek Cheney
Republic Services – Sonoma Central Landfill
500 Mecham Road
Petaluma, California 95492

Subject: Sonoma Central Landfill - Petaluma, California

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS)
Surface Emissions Monitoring for Fourth Quarter 2021.

Dear Mr. Cheney:

SCS Field Services (SCS) is pleased to provide the Republic Services, with the enclosed report summarizing the surface emissions monitoring services provided at the Sonoma Central Landfill (Site) during the Fourth Quarter 2021. This report includes the results of surface scan, component emissions and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Michael Flanagan at (510) 363-7796 or Whitney Stackhouse at (209) 338-7990 if you have any questions or comments.

Sincerely,

Whitney Stackhouse
Project Manager
SCS Field Services

Michael Flanagan
Project Manager
SCS Field Services

Encl.

Sean Bass, SCS Field Services
Art Jones, SCS Field Services

Sonoma Central Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring

Fourth Quarter 2021

Presented to:

Mr. Derek Cheney
Republic Services – Sonoma Central
500 Mecham Road
Petaluma, California 94952

SCS FIELD SERVICES

File No. 07221078.00 Task 01 | February 24, 2022

SCS FIELD SERVICES
4730 Enterprise Way Suite A
Modesto, CA 95356

Sonoma Central Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring Fourth Quarter 2021

INTRODUCTION

This letter provides results of the November 1, 2, 4, 5, 8, 12, and 22, 2021, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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

SUMMARY AND CONCLUSIONS

As stipulated in LMR, 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. Therefore, based on the previous monitoring events, in which exceedances were observed, the monitoring at the Sonoma Central Landfill was performed on 25-foot pathways in accordance with the LMR.

On November 1, 2, 4, 5, 8, 12, and 22, 2021, SCS performed fourth quarter 2021 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that eight (8) locations exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required first and second 10-day (LMR/NSPS) follow-up monitoring indicated that all areas had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments and installation of new bentonite plugs) by SCS personnel. Based on these monitoring results no additional follow up testing was required.

Also, during the instantaneous monitoring event, SCS performed concurrent integrated monitoring of the landfill surface. As required by the LMR, the landfill was divided into 50,000 square foot areas. The Sonoma Central Landfill surface area was therefore divided into 163 grids, as shown on Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, in accordance with

the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place prior to the monitoring event.

During the monitoring event, there were three 3) grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). The required 10-day (LMR) follow-up monitoring indicated that the areas had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments) by SCS personnel. Based on these monitoring results, no additional follow up monitoring is 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) that are under positive pressure must be performed. Results of the testing of the landfill gas (LFG) Blower Flare Station (BFS) pressurized piping and components indicated that all test locations were in compliance with the 500 ppmv requirement. However, results of the testing of the Power Generation Facility (PGF) pressurized piping and components indicated that one location tested, the ENGINE S10 6, was not in compliance with the 500 ppmv requirement. The required follow up monitoring indicated compliance with the rule and no further testing is required.

Further, as required under the LMR, any location on the landfill that has an observed instantaneous methane concentration above 200 ppmv, must be stake-marked and Global Positioning System (GPS) located on a site figure. During this reporting period, ten (10) location were observed to exceed the 200 ppmv, reporting threshold. When these readings are observed, the locations are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report. Please see the figure in Attachment 3 for location details.

Finally, to help prevent potential future exceedances, SCS recommends that the landfill surface be routinely inspected and any observed surface erosion be routinely repaired.

SURFACE EMISSIONS MONITORING

On November 1, 2, 4, 5, 8, 12, and 22, 2021, 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 LMR 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 LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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 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 United States Environmental Protection Agency (US EPA) Method 21.

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

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 LMR and NSPS requirements. Monitoring was performed with the FID inlet held within 3-inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 -feet apart over the surface of the landfill. 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 in exceedance of the 200 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 had occurred within 72 hours of the monitoring events. Therefore, site meteorological conditions were within the alternatives of the LMR 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 LMR and NSPS. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR 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 (LMR).

On November 1, 2, 4, 5, and 8, 2021, SCS performed fourth quarter 2021 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that eight (8) locations exceeded the 500 ppmv maximum concentration. The required first and second 10-day (LMR/NSPS) follow-up monitoring performed on November 12, and 22, 2021, respectively, indicated that all areas had returned to compliance following system adjustments and remediation (wellfield adjustment and borehole repairs using bentonite and soil) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, calculated integrated grid monitoring indicated three (3) areas exceeded the 25-ppmv requirement during this monitoring event. The required 10-day (LMR) follow-up monitoring performed on November 12, 2021, indicated that the areas had returned to compliance following system adjustments and remediation (wellfield adjustment) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachment 4 (Table 2). Calibration logs for the monitoring equipment are provided in Attachment 5.

During this monitoring event, several grids were not monitored, in accordance with the LMR, due to active landfilling activities, unsafe conditions or no waste in place. SCS will continue to monitor all accessible locations during the first quarter 2022.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On November 1, 2021, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and PGF Facility. Monitoring was performed with the detector inlet held one-half of an inch from pressurized pipe and associated components. One location exceeding the 500 ppmv threshold was observed during our monitoring event. The required 8-34 and LMR follow up monitoring results indicated the location had returned to below compliance limits and no further monitoring is required at this time, (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS and PGF were in compliance at the time of our testing.

PROJECT SCHEDULE

According to the LMR and NSPS, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the first quarter 2022 (January through March) surface emissions testing event is scheduled to be performed by the end of February 2022 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

STANDARD PROVISIONS

This report addresses 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

LEGEND

— — —	APPROXIMATE LINER BOUNDARY
—500—	EXISTING 10' CONTOUR
———	EXISTING GAS PIPE, ABOVE GRADE
- - -	EXISTING GAS PIPE, BELOW GRADE
—·—·—	EXISTING HORIZONTAL GAS COLLECTOR
—AAG—	EXISTING AIR FORCE MAIN, ABOVE GRADE
—ABG—	EXISTING AIR FORCE MAIN, BELOW GRADE
—·—·—	EXISTING AIR LEACHATE LINE
EW-170	EXISTING GAS/LEACHATE EXTRACTION WELL
EW-165	EXISTING VERTICAL GAS EXTRACTION WELL
88.5	EXISTING VERTICAL GAS EXTRACTION WELL WITH PUMP ADDED
	EXISTING REMOTE WELLHEAD
	EXISTING CONTROL VALVE
	EXISTING BLIND FLANGE
	EXISTING FLANGE CONNECTION
	EXISTING REDUCER FITTING
	EXISTING END CAP
SUMP	EXISTING CONDENSATE PUMP STATION
120	SURFACE EMISSIONS MONITORING GRID

N

0 200 400

SCALE IN FEET

NOTES:

1. THE 2020 TOPOGRAPHIC MAP WAS PREPARED BY COOPER AERIAL SURVEYS CO. DATE OF PHOTOGRAPHY: JANUARY 31, 2020. HORIZONTAL DATUM: NAD27, ZONE 2 VERTICAL DATUM: NGVD29.
2. THE 2018 GCCS AS-BUILT GCCS IMPROVEMENTS PROVIDED BY REPUBLIC SERVICES INC. ON SEPTEMBER 20, 2018.

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 11/11/2020 — DRAWN BY GVP — DESIGNED BY KK — CHECKED BY HLV — APPROVED BY

TETRA TECH

SONOMA COUNTY CENTRAL LANDFILL
PETALUMA, CALIFORNIA

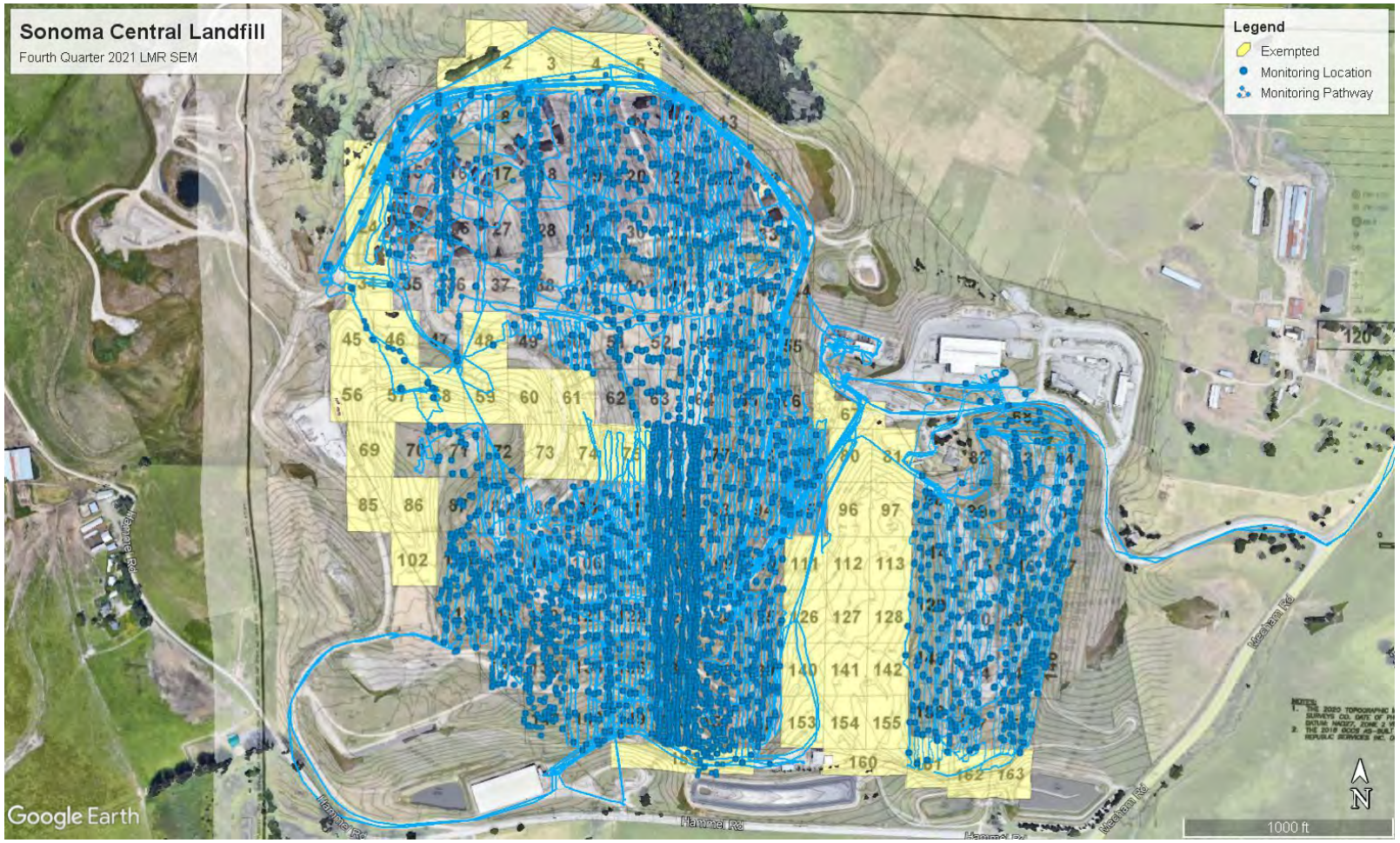
SURFACE EMISSIONS MONITORING
GRID MAP

SHEET NO. 1

PROJECT NO. 197-200019

Attachment 2

Surface Pathway



Fourth Quarter 2021
LMR Surface Emissions Monitoring Pathway
Sonoma Central Landfill, Petaluma, California

Attachment 3

Instantaneous and Component Emissions Monitoring Results

Fourth Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Instantaneous Data Report for November 1, 2, 4, 5, 8, 12, and 22, 2021

Highest Component Reading

Location	Initial Monitoring (ppmv) 11/1/2021	Initial Monitoring (ppmv) 11/2/2021	Initial Monitoring (ppmv) 11/4/2021	Initial Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/22/2021	GPS Position
SCV143-0	--	2,500	--	--	--	20,000	--	375	N38° 17.833' W122° 45.099'
SCV145-0	--	3,000	--	--	--	30,000	--	117	N38° 17.811' W122° 45.052'
SCV222-0	--	500	--	--	--	3,800	--	304	N38° 17.942' W122° 44.698'
SCV51-5A	--	600	--	--	--	13.5	--	NA	N38° 17.846' W122° 45.116'
SCV092-A	--	500	--	--	--	3,800	--	354	N38° 17.951' W122° 45.158'

Fourth Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Location	Initial Monitoring (ppmv) 11/1/2021	Initial Monitoring (ppmv) 11/2/2021	Initial Monitoring (ppmv) 11/4/2021	Initial Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/22/2021	GPS Position
SCV052-A	--	30,000	--	--	--	10,000	--	18	N38° 17.858' W122° 45.042'
SCV094-A	--	2,000	--	--	--	90,000	--	389	N38° 17.933' W122° 45.095'
SCV112-0	--	--	1,800	--	--	34	--	NA	N38° 18.080' W122° 45.000'
SCEW2004	--	264	--	--	--	NA	--	NA	N38° 18.259' W122° 45.114'
SCEW2005	--	387	--	--	--	NA	--	NA	N38° 18.229' W122° 45.094'
SCEW2104	--	400	--	--	--	NA	--	NA	N38° 18.248' W122° 45.071'
SCW88-5A	--	305	--	--	--	NA	--	NA	N38° 18.055' W122° 45.081'

Fourth Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Location	Initial Monitoring (ppmv) 11/1/2021	Initial Monitoring (ppmv) 11/2/2021	Initial Monitoring (ppmv) 11/4/2021	Initial Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/5/2021	First 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/12/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/22/2021	GPS Position
SCEW89-B	--	400	--	--	--	NA	--	NA	N38° 18.046' W122° 45.078'
Surface Reading Grid 137	--	--	--	321	--	NA	--	NA	N38° 17.862' W122° 45.039'
Surface Reading Grid 120	--	--	--	225	--	NA	--	NA	N38° 17.894' W122° 45.139'
Surface Reading Grid 148	--	--	--	225	--	NA	--	NA	N38° 17.792' W122° 45.127'
Surface Reading Grid 121	--	--	--	350	--	NA	--	NA	N38° 17.899' W122° 45.112'
Surface Reading Grid 106	--	--	--	350	--	NA	--	NA	N38° 17.923' W122° 45.103'

Fourth Quarter 2021

Table 1. Instantaneous Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Highest Pressurized Pipe Reading

Location	Initial Monitoring (ppmv) 11/1/2021	7-Day/First 10-Day Follow Up Monitoring (ppmv) 11/5/2021	Second 10-Day Follow Up Monitoring (ppmv) 11/12/2021	GPS Position
Flare	3.7	NA	NA	N38° 18.097' W122° 44.895'
ENGINE S10 6	4,000	684	32	N38° 18.114' W122° 44.907'

No additional exceedances of the 500 ppm threshold were observed during the monitoring performed during the fourth quarter 2021.

Fourth Quarter 2021

Emissions Monitoring Locations Greater Than 200 ppmv and 500 ppmv

Sonoma Central Landfill, Petaluma, California

Attachment 4

Integrated Monitoring Results

Fourth Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC001	--	--	Exempted
SC002	--	--	Exempted
SC003	--	--	Exempted
SC004	--	--	Exempted
SC005	--	--	Exempted
SC006	11/1/2021	3.12	
SC007	11/1/2021	4.59	
SC008	11/1/2021	14.68	
SC009	11/1/2021	20.15	
SC010	11/4/2021	10.23	
SC011	11/4/2021	9.61	
SC012	11/4/2021	6.04	
SC013	11/4/2021	6.19	
SC014	--	--	Exempted
SC015	11/1/2021	5.43	
SC016	11/1/2021	3.15	
SC017	11/1/2021	7.85	
SC018	11/1/2021	11.29	
SC019	11/4/2021	7.36	
SC020	11/4/2021	4.77	
SC021	11/4/2021	2.47	
SC022	11/4/2021	7.46	
SC023	11/4/2021	3.68	
SC024	--	--	Exempted
SC025	11/1/2021	4.77	
SC026	11/1/2021	3.42	
SC027	11/1/2021	8.96	
SC028	11/1/2021	5.88	
SC029	11/4/2021	2.89	
SC030	11/4/2021	2.30	
SC031	11/4/2021	1.07	
SC032	11/4/2021	3.58	
SC033	11/4/2021	4.70	
SC034	--	--	Exempted
SC035	11/1/2021	2.78	
SC036	11/1/2021	9.87	
SC037	11/1/2021	14.26	
SC038	11/1/2021	6.38	
SC039	11/4/2021	4.56	
SC040	11/4/2021	7.29	
SC041	11/4/2021	5.31	
SC042	11/4/2021	8.13	
SC043	11/4/2021	5.00	

Fourth Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC044	11/4/2021	4.91	
SC045	--	--	Exempted
SC046	--	--	Exempted
SC047	11/4/2021	4.70	
SC048	--	--	Exempted
SC049	11/4/2021	8.40	
SC050	11/4/2021	9.58	
SC051	11/4/2021	9.64	
SC052	11/4/2021	6.18	
SC053	11/4/2021	2.77	
SC054	11/4/2021	4.89	
SC055	11/4/2021	4.00	
SC056	--	--	Exempted
SC057	--	--	Exempted
SC058	--	--	Exempted
SC059	--	--	Exempted
SC060	--	--	Exempted
SC061	--	--	Exempted
SC062	11/4/2021	9.99	
SC063	11/4/2021	4.78	
SC064	11/4/2021	2.69	
SC065	11/4/2021	7.67	
SC066	11/4/2021	7.72	
SC067	--	--	Exempted
SC068	11/4/2021	3.86	
SC069	--	--	Exempted
SC070	11/4/2021	1.82	
SC071	11/4/2021	4.59	
SC072	11/4/2021	5.42	
SC073	--	--	Exempted
SC074	--	--	Exempted
SC075	--	--	Exempted
SC076	11/5/2021	5.56	
SC077	11/8/2021	5.17	
SC078	11/8/2021	10.62	
SC079	11/4/2021	3.89	
SC080	--	--	Exempted
SC081	--	--	Exempted
SC082	11/4/2021	5.70	
SC083	11/4/2021	6.78	
SC084	11/4/2021	4.43	
SC085	--	--	Exempted
SC086	--	--	Exempted

Fourth Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC087	11/4/2021	6.69	
SC088	11/4/2021	10.89	
SC089	11/4/2021	9.25	
SC090	11/5/2021	5.84	
SC091	11/5/2021	7.20	
SC092	11/5/2021	22.91	
SC093	11/8/2021	3.02	
SC094	11/8/2021	4.14	
SC095	11/4/2021	3.23	
SC096	--	--	Exempted
SC097	--	--	Exempted
SC098	11/4/2021	8.12	
SC099	11/4/2021	7.03	
SC100	11/4/2021	7.67	
SC101	11/4/2021	5.91	
SC102	--	--	Exempted
SC103	11/5/2021	31.40	Initial Monitoring
SC103	11/12/2021	15.93	First 10-Day Follow Up Monitoring
SC104	11/5/2021	15.93	
SC105	11/4/2021	20.45	
SC106	11/5/2021	27.19	Initial Monitoring
SC106	11/12/2021	22.55	First 10-Day Follow Up Monitoring
SC107	11/5/2021	11.42	
SC108	11/5/2021	17.93	
SC109	11/8/2021	4.93	
SC110	11/5/2021	8.30	
SC111	--	--	Exempted
SC112	--	--	Exempted
SC113	--	--	Exempted
SC114	11/4/2021	2.93	
SC115	11/4/2021	3.17	
SC116	11/4/2021	5.60	
SC117	11/4/2021	3.89	
SC118	11/5/2021	11.05	
SC119	11/5/2021	8.18	
SC120	11/8/2021	20.36	
SC121	11/5/2021	133.72	Initial Monitoring
SC121	11/12/2021	20.48	First 10-Day Follow Up Monitoring
SC122	11/5/2021	16.82	
SC123	11/5/2021	15.21	
SC124	11/8/2021	10.66	
SC125	11/5/2021	8.95	
SC126	--	--	Exempted

Fourth Quarter 2021
Table 2. Integrated Surface Emissions Monitoring Results
Sonoma Central Landfill, Sonoma, California

Point Name	Record Date	FID Concentration (ppm)	Comments
SC127	--	--	Exempted
SC128	--	--	Exempted
SC129	11/4/2021	2.64	
SC130	11/4/2021	2.82	
SC131	11/4/2021	3.47	
SC132	11/5/2021	7.72	
SC133	11/8/2021	13.84	
SC134	--	--	Grid Not On Map
SC135	11/5/2021	17.22	
SC136	11/5/2021	8.24	
SC137	11/5/2021	24.98	
SC138	11/8/2021	20.79	
SC139	11/5/2021	17.07	
SC140	--	--	Exempted
SC141	--	--	Exempted
SC142	--	--	Exempted
SC143	11/4/2021	1.93	
SC144	11/4/2021	2.66	
SC145	11/4/2021	3.15	
SC146	11/4/2021	2.70	
SC147	11/8/2021	6.29	
SC148	11/5/2021	11.30	
SC149	11/5/2021	3.67	
SC150	11/5/2021	7.24	
SC151	11/8/2021	5.45	
SC152	11/5/2021	2.52	
SC153	--	--	Exempted
SC154	--	--	Exempted
SC155	--	--	Exempted
SC156	11/4/2021	1.45	
SC157	11/4/2021	2.70	
SC158	11/4/2021	2.04	
SC159	--	--	Exempted
SC160	--	--	Exempted
SC161	--	--	Exempted
SC162	--	--	Exempted
SC163	--	--	Exempted

Fourth Quarter 2021
LMR 10-Day Follow Up Surface Emissions Monitoring Pathway
Sonoma Central Landfill, Petaluma, California

Attachment 5

Calibration Logs

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-04-21 Site Name: Sanoma

Inspector(s): Brian O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 60 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 125 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	499	1	3
2	1	500	2	3
3	1	502	2	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 122960
Counters Observed for the Zero= 3342

Trial 2:
Counts Observed for the Span= 123070
Counters Observed for the Zero= 3332

Trial 3:
Counts Observed for the Span= 124678
Counters Observed for the Zero= 3321

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Don G Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 166727
Counters Observed for the Zero= 4103

Trial 2:
Counts Observed for the Span= 150637
Counters Observed for the Zero= 4095

Trial 3:
Counts Observed for the Span= 151962
Counters Observed for the Zero= 4084

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 60 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	0	2
2	0	500	0	2
3	0	500	0	2

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 124637
Counters Observed for the Zero= 2742

Trial 2:
Counts Observed for the Span= 125498
Counters Observed for the Zero= 2733

Trial 3:
Counts Observed for the Span= 126730
Counters Observed for the Zero= 2721

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.1 ppm

Downwind Location Description: Flare Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 60 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	501	1	4
2	1	501	1	4
3	1	501	1	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 120137
Counters Observed for the Zero= 4887

Trial 2:
Counts Observed for the Span= 121630
Counters Observed for the Zero= 4874

Trial 3:
Counts Observed for the Span= 122941
Counters Observed for the Zero= 4862

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	3
2	.2	501	1	
3	.1	502	2	

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 110044
Counters Observed for the Zero= 3484

Trial 2:
Counts Observed for the Span= 120969
Counters Observed for the Zero= 3471

Trial 3:
Counts Observed for the Span= 121470
Counters Observed for the Zero= 3465

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Don G Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	498	2	3
2	2	499	1	3
3	2	500	0	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 0.18%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 146654
Counters Observed for the Zero= 4226

Trial 2:
Counts Observed for the Span= 145126
Counters Observed for the Zero= 4213

Trial 3:
Counts Observed for the Span= 145611
Counters Observed for the Zero= 4202

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	3
2	.2	501	1	3
3	.1	502	2	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 117400
Counters Observed for the Zero= 5044

Trial 2:
Counts Observed for the Span= 118421
Counters Observed for the Zero= 5033

Trial 3:
Counts Observed for the Span= 119617
Counters Observed for the Zero= 5027

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-01-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Raining

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	0	3
2	0	501	1	3
3	1	502	2	4
		Average Difference:	1	

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 121500
Counters Observed for the Zero= 2856

Trial 2:
Counts Observed for the Span= 122816
Counters Observed for the Zero= 2842

Trial 3:
Counts Observed for the Span= 123411
Counters Observed for the Zero= 2835

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): Michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30 "Hg

Air Temperature: 53 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	503	3	2
2	.1	501	1	3
3	.1	500	0	2

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 106680
Counters Observed for the Zero= 4921

Trial 2:
Counts Observed for the Span= 107967
Counters Observed for the Zero= 4911

Trial 3:
Counts Observed for the Span= 108414
Counters Observed for the Zero= 4902

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30 "Hg

Air Temperature: 53 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.4	503	3	4
2	.2	501	1	4
3	.1	500	0	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 122720
Counters Observed for the Zero= 2895

Trial 2:
Counts Observed for the Span= 123880
Counters Observed for the Zero= 2882

Trial 3:
Counts Observed for the Span= 124741
Counters Observed for the Zero= 2874

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): Bryano Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30 "Hg

Air Temperature: 53 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1219 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	502	2	3
2	.2	501	1	3
3	.1	500	0	2

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 127724
Counters Observed for the Zero= 3394

Trial 2:
Counts Observed for the Span= 128462
Counters Observed for the Zero= 3388

Trial 3:
Counts Observed for the Span= 129421
Counters Observed for the Zero= 3373

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): Dan G Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30 "Hg

Air Temperature: 53 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.6	499	1	3
2	.2	500	0	3
3	.1	501	1	2

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 138964
Counters Observed for the Zero= 4066

Trial 2:
Counts Observed for the Span= 134722
Counters Observed for the Zero= 4052

Trial 3:
Counts Observed for the Span= 140823
Counters Observed for the Zero= 4044

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): Michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: NE Barometric Pressure: 30 "Hg

Air Temperature: 65 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5446 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	500	0	3
2	0	501	1	3
3	0	502	2	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 10011
Counters Observed for the Zero= 4816

Trial 2:
Counts Observed for the Span= 10082
Counters Observed for the Zero= 4809

Trial 3:
Counts Observed for the Span= 11714
Counters Observed for the Zero= 4800

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-02-21 Site Name: Sonoma

Inspector(s): LSalm M Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 65 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	4
2	1	502	2	4
3	1	500	0	4
		Average Difference:	1	

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

=99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 12561
Counters Observed for the Zero= 2742

Trial 2:
Counts Observed for the Span= 12601
Counters Observed for the Zero= 2733

Trial 3:
Counts Observed for the Span= 12026
Counters Observed for the Zero= 2721

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.5 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 4-20-21 Site Name: Sonoma

Inspector(s): Don G Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 65 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	500	0	4
2	1	501	1	4
3	0	503	3	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 143962
Counters Observed for the Zero= 3866

Trial 2:
Counts Observed for the Span= 142911
Counters Observed for the Zero= 3852

Trial 3:
Counts Observed for the Span= 143723
Counters Observed for the Zero= 3841

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-07-21 Site Name: Sonoma

Inspector(s): Brian O Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 65 °F General Weather Conditions: Foggy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	501	1	3
2	.1	502	2	3
3	.0	501	1	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 130613
Counters Observed for the Zero= 31447

Trial 2:
Counts Observed for the Span= 131916
Counters Observed for the Zero= 31734

Trial 3:
Counts Observed for the Span= 132701
Counters Observed for the Zero= 31925

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Don Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	.1	500	0	3
2	.1	499	1	3
3	.1	498	2	2

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 137913
Counters Observed for the Zero= 3901

Trial 2:
Counts Observed for the Span= 138413
Counters Observed for the Zero= 3892

Trial 3:
Counts Observed for the Span= 139732
Counters Observed for the Zero= 3884

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

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SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30.13 "Hg

Air Temperature: 57 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	499	1	3
2	0	502	2	3
3	-1	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 125292
Counters Observed for the Zero= 3126

Trial 2:
Counts Observed for the Span= 126792
Counters Observed for the Zero= 3019

Trial 3:
Counts Observed for the Span= 126841
Counters Observed for the Zero= 3084

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

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SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Micheal M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30.13 "Hg

Air Temperature: 57 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	2
2	1	500	0	4
3	1	501	1	3

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.9%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 107324
Counters Observed for the Zero= 4854

Trial 2:
Counts Observed for the Span= 108961
Counters Observed for the Zero= 4872

Trial 3:
Counts Observed for the Span= 107872
Counters Observed for the Zero= 4931

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

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SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30.13 "Hg

Air Temperature: 67 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	504	1	3
2	.1	499	1	3
3	.1	501	1	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 118832
Counters Observed for the Zero= 3427

Trial 2:
Counts Observed for the Span= 124640
Counters Observed for the Zero= 3361

Trial 3:
Counts Observed for the Span= 119211
Counters Observed for the Zero= 3411

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Robert M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 57 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1220 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	499	1	3
2	0	498	2	3
3	0	500	0	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 129708
Counters Observed for the Zero= 4055

Trial 2:
Counts Observed for the Span= 128710
Counters Observed for the Zero= 4012

Trial 3:
Counts Observed for the Span= 131012
Counters Observed for the Zero= 4030

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-04-21 Site Name: Sonoma

Inspector(s): Don Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 67 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	499	1	3
2	1	500	0	3
3	2	502	2	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 14041
Counters Observed for the Zero= 3742

Trial 2:
Counts Observed for the Span= 14027
Counters Observed for the Zero= 3733

Trial 3:
Counts Observed for the Span= 14036
Counters Observed for the Zero= 3748

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-04-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 67 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	498	2	3
2	1	499	1	4
3	1	501	1	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 126178
Counters Observed for the Zero= 2976

Trial 2:
Counts Observed for the Span= 126399
Counters Observed for the Zero= 2964

Trial 3:
Counts Observed for the Span= 126408
Counters Observed for the Zero= 2971

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Micheal Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30.13 "Hg

Air Temperature: 67 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	502	2	
2	0	501	1	
3	1	501	1	

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 110263
Counters Observed for the Zero= 4638

Trial 2:
Counts Observed for the Span= 116317
Counters Observed for the Zero= 4627

Trial 3:
Counts Observed for the Span= 110346
Counters Observed for the Zero= 4643

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 67 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	502	2	3
2	0	501	1	3
3	1	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 121078
Counters Observed for the Zero= 3386

Trial 2:
Counts Observed for the Span= 123669
Counters Observed for the Zero= 3291

Trial 3:
Counts Observed for the Span= 123572
Counters Observed for the Zero= 3

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: entrance Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-4-21 Site Name: Sonoma

Inspector(s): Robert M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 67 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1720 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	497	3	3
2	2	499	1	3
3	0	500	0	3

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 131126
Counters Observed for the Zero= 3912

Trial 2:
Counts Observed for the Span= 131147
Counters Observed for the Zero= 3896

Trial 3:
Counts Observed for the Span= 131152
Counters Observed for the Zero= 3890

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 12 ppm

Downwind Location Description: Entrance Reading: 16 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 56 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	502	2	3
2	1	499	1	3
3	1	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 120642
Counters Observed for the Zero= 3227

Trial 2:
Counts Observed for the Span= 120673
Counters Observed for the Zero= 3242

Trial 3:
Counts Observed for the Span= 12712
Counters Observed for the Zero= 3258

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Micheal M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 56 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	501	1	4
2	0	500	0	3
3	2	499	1	3

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 109795
Counters Observed for the Zero= 4576

Trial 2:
Counts Observed for the Span= 109811
Counters Observed for the Zero= 4551

Trial 3:
Counts Observed for the Span= 109820
Counters Observed for the Zero= 4563

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Robert M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 56 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1720 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	3
2	6	500	0	3
3	1	501	1	3

Average Difference: -.7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- -.7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 127970
Counters Observed for the Zero= 3964

Trial 2:
Counts Observed for the Span= 128010
Counters Observed for the Zero= 4006

Trial 3:
Counts Observed for the Span= 128026
Counters Observed for the Zero= 3987

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

POST

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 65 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	500	0	
2	1	500	0	
3	0	498	2	

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 126276
Counters Observed for the Zero= 2644

Trial 2:
Counts Observed for the Span= 126290
Counters Observed for the Zero= 2648

Trial 3:
Counts Observed for the Span= 126286
Counters Observed for the Zero= 2632

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.1 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Bryan O Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 65 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 122306
Counters Observed for the Zero= 3078

Trial 2:
Counts Observed for the Span= 122328
Counters Observed for the Zero= 3063

Trial 3:
Counts Observed for the Span= 122363
Counters Observed for the Zero= 3071

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.7 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-5-21 Site Name: Sonoma

Inspector(s): michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 9 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 65 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	500	0	3
2	0	503	3	3
3	2	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 111236
Counters Observed for the Zero= 4441

Trial 2:
Counts Observed for the Span= 111241
Counters Observed for the Zero= 4420

Trial 3:
Counts Observed for the Span= 111256
Counters Observed for the Zero= 4429

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Robert M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 65 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1220 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	499	1	
2	2	499	1	
3	0	502	2	

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 128552
Counters Observed for the Zero= 3796

Trial 2:
Counts Observed for the Span= 128494
Counters Observed for the Zero= 3813

Trial 3:
Counts Observed for the Span= 128536
Counters Observed for the Zero= 3821

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-5-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 30 "Hg

Air Temperature: 56 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	501	1	3
2	0	500	0	3
3	0	500	0	4

Average Difference: .3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .3 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 125781
Counters Observed for the Zero= 2746

Trial 2:
Counts Observed for the Span= 125806
Counters Observed for the Zero= 2739

Trial 3:
Counts Observed for the Span= 125811
Counters Observed for the Zero= 2751

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.1 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-8-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: E Barometric Pressure: 30 "Hg

Air Temperature: 42 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	0	3
2	0	502	2	3
3	0	502	2	4

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 124781
Counters Observed for the Zero= 2829

Trial 2:
Counts Observed for the Span= 124426
Counters Observed for the Zero= 2835

Trial 3:
Counts Observed for the Span= 124435
Counters Observed for the Zero= 2840

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-8-21 Site Name: Sonoma

Inspector(s): Liam M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: E Barometric Pressure: 30 "Hg

Air Temperature: 42 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- .7 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 126511
Counters Observed for the Zero= 2710

Trial 2:
Counts Observed for the Span= 126500
Counters Observed for the Zero= 2701

Trial 3:
Counts Observed for the Span= 126523
Counters Observed for the Zero= 2722

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Plaza Reading: 1.2 ppm

Downwind Location Description: Entrance Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-08-21 Site Name: Sonoma

Inspector(s): Michael M Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: E Barometric Pressure: 30 "Hg

Air Temperature: 42 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	501	1	2
2	1	500	0	4
3	1	501	1	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 114917
Counters Observed for the Zero= 4817

Trial 2:
Counts Observed for the Span= 115870
Counters Observed for the Zero= 4687

Trial 3:
Counts Observed for the Span= 116790
Counters Observed for the Zero= 4670

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Entrance Reading: 1.2 ppm

Downwind Location Description: Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Post

Date: 11-8-21 Site Name: Sonoma

Inspector(s): Micheal Morris Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: W Barometric Pressure: 30 "Hg

Air Temperature: 67 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5415 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	0	3
2	0	501	1	3
3	0	502	2	2

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 178497
Counters Observed for the Zero= 4386

Trial 2:
Counts Observed for the Span= 178921
Counters Observed for the Zero= 4371

Trial 3:
Counts Observed for the Span= 179823
Counters Observed for the Zero= 4360

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Elgin Entrance Reading: 1.2 ppm

Downwind Location Description: Reading: 1.4 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 11-22-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: E Barometric Pressure: 30 "Hg

Air Temperature: 46 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	502	2	
2	0	500	0	
3	0	499	1	

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 998 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 103620
Counters Observed for the Zero= 3031

Trial 2:
Counts Observed for the Span= 106068
Counters Observed for the Zero= 2984

Trial 3:
Counts Observed for the Span= 119868
Counters Observed for the Zero=

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: entrance Reading: 1-2 ppm

Downwind Location Description: Flare Reading: 1-6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

POST

Date: 11-22-21 Site Name: Sonoma

Inspector(s): Liam McGinn Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 6.2 MPH Wind Direction: SE Barometric Pressure: 30 "Hg

Air Temperature: ~~4660~~ °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	1	498	2	3
2	0	501	1	3
3	0	500	0	4

Average Difference: 1

*Perform recalibration if average difference is greater than 10

Calibration Precision= Average Difference/Cal Gas Conc. X 100%

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 128008
Counters Observed for the Zero= 0899

Trial 2:
Counts Observed for the Span= 127372
Counters Observed for the Zero= 2714

Trial 3:
Counts Observed for the Span= 127068
Counters Observed for the Zero= 2733

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

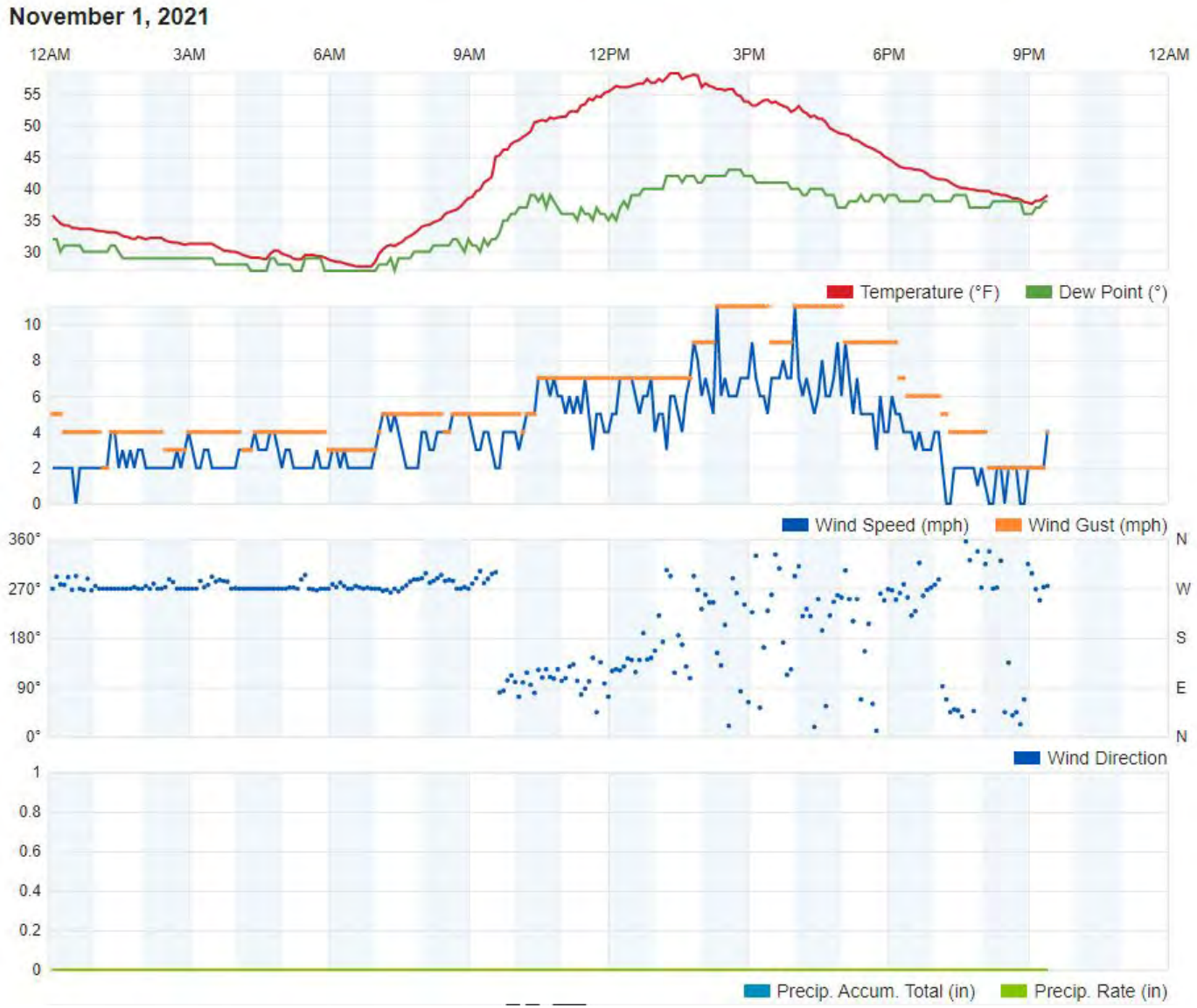
Upwind Location Description: entrance Reading: 1.2 ppm

Downwind Location Description: Flare Reading: 1.6 ppm

Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Attachment 6

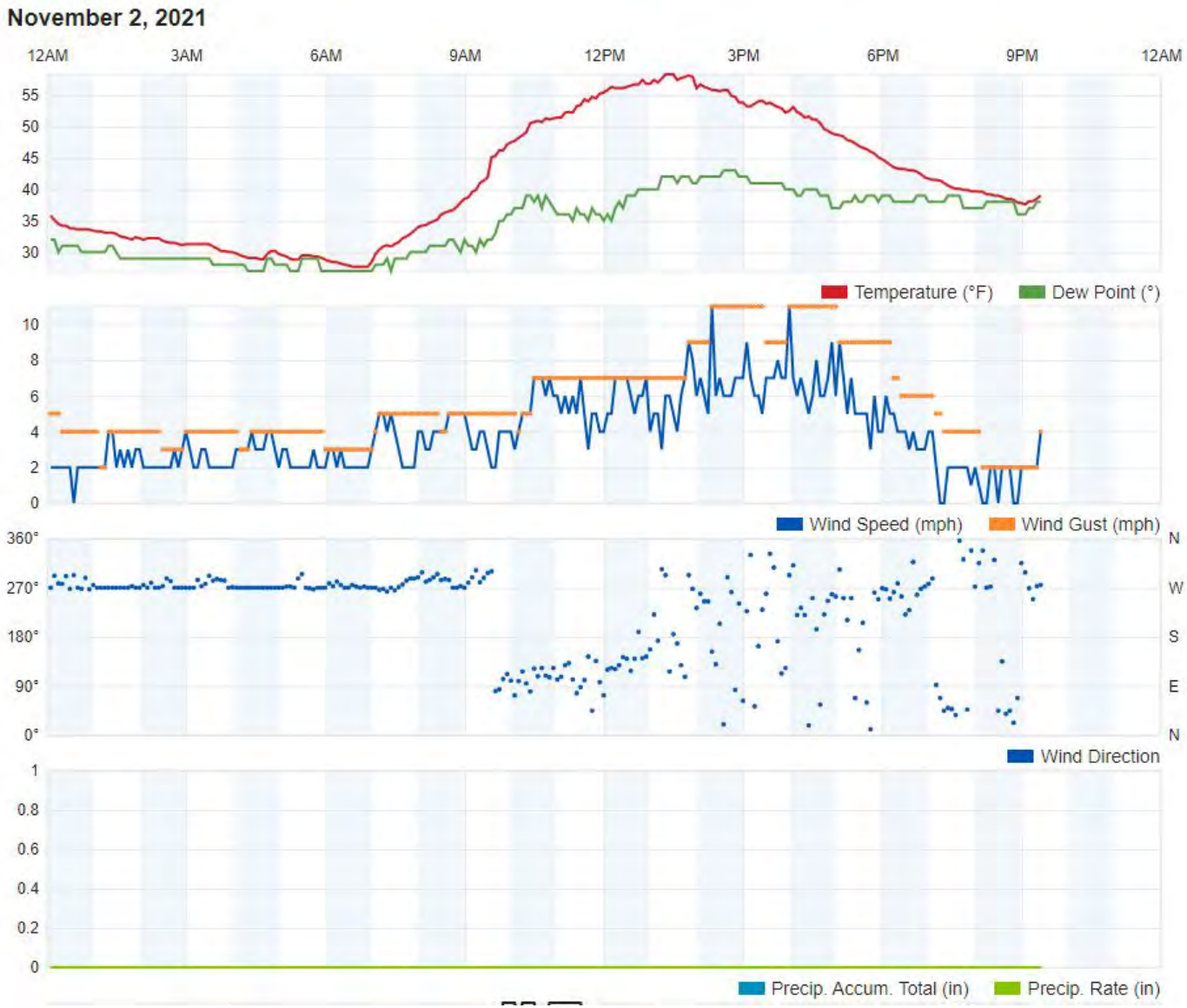
Weather Data



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 1, 2021

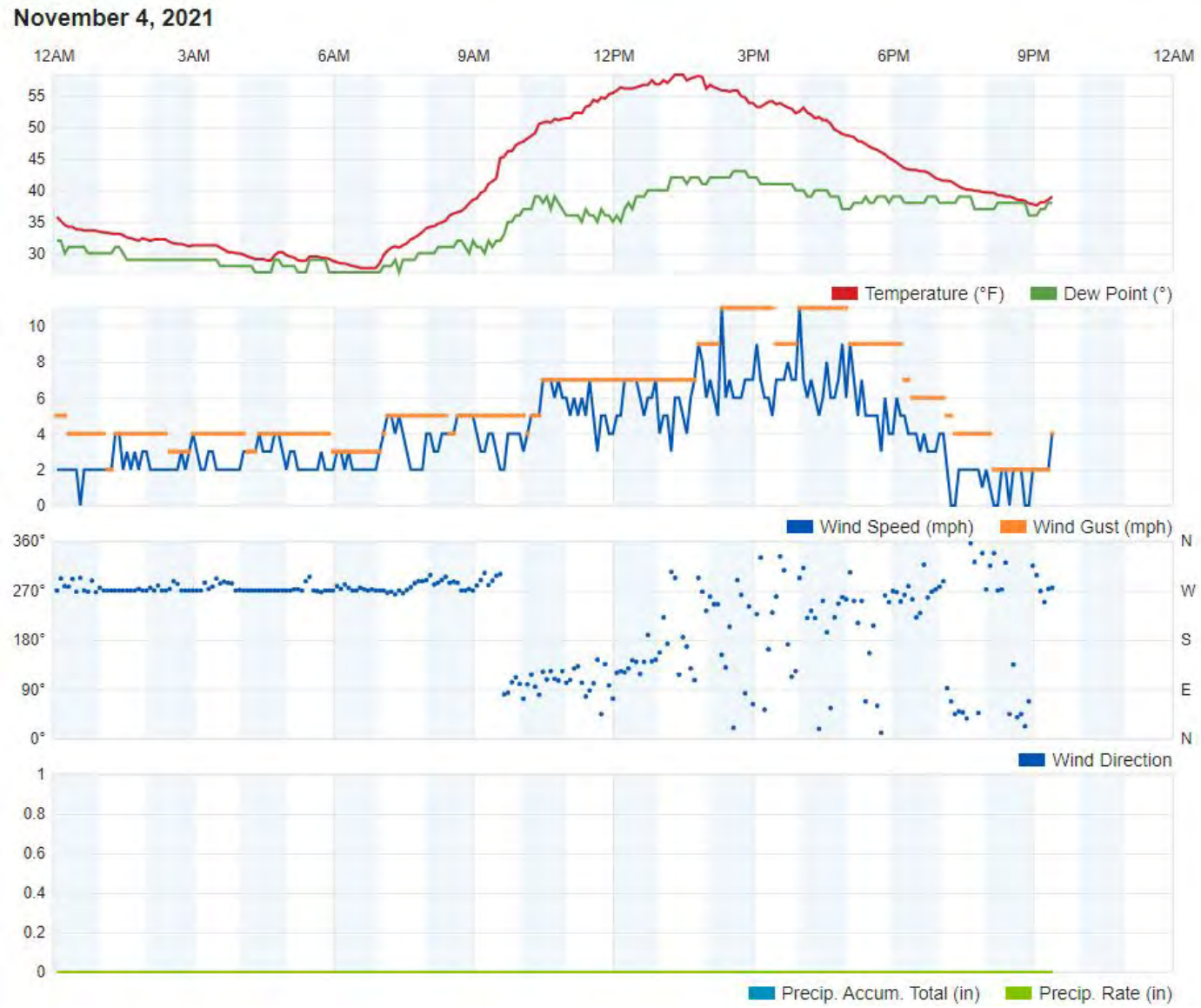
Sonoma Central Landfill, Petaluma, California



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 2, 2021

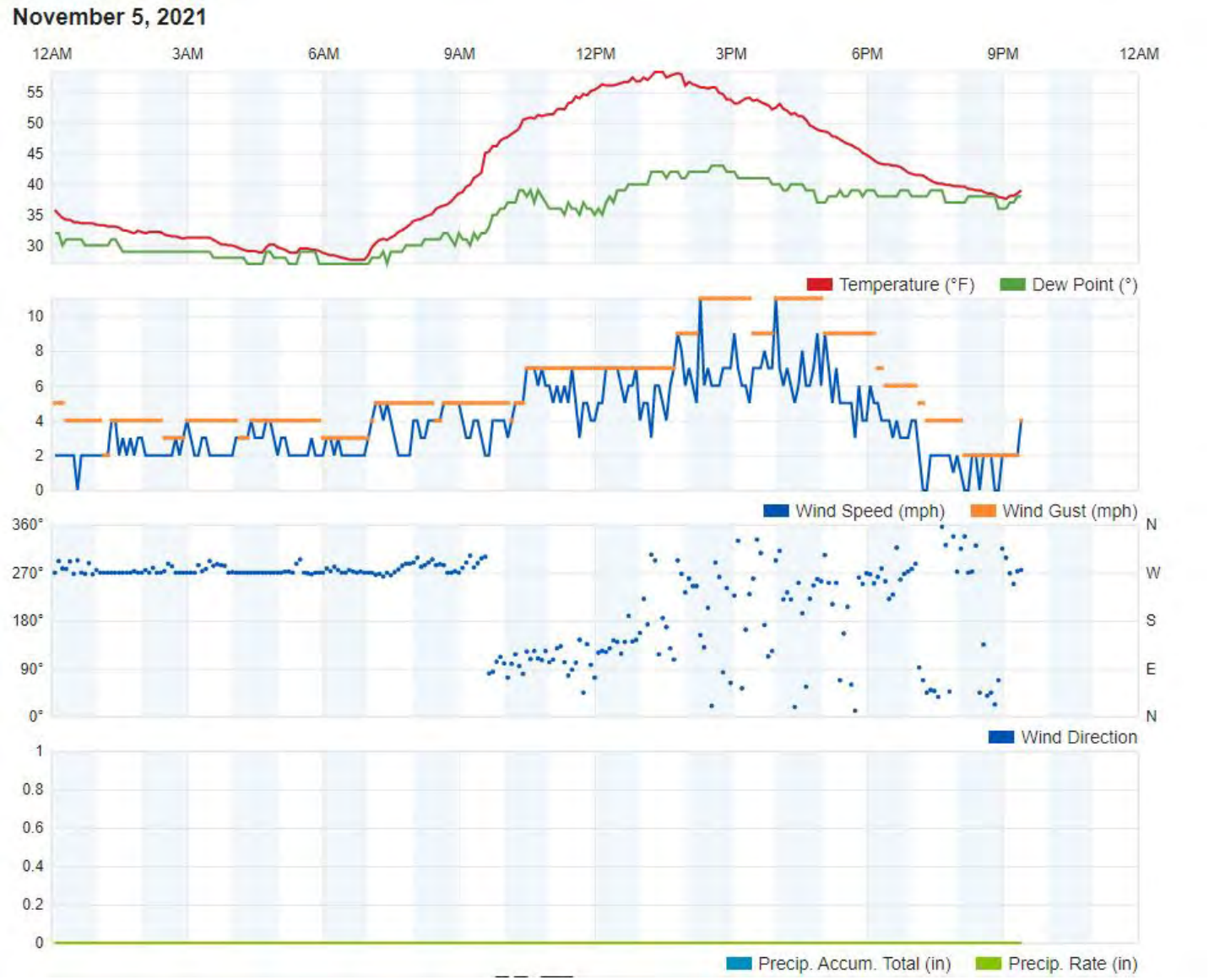
Sonoma Central Landfill, Petaluma, California



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 4, 2021

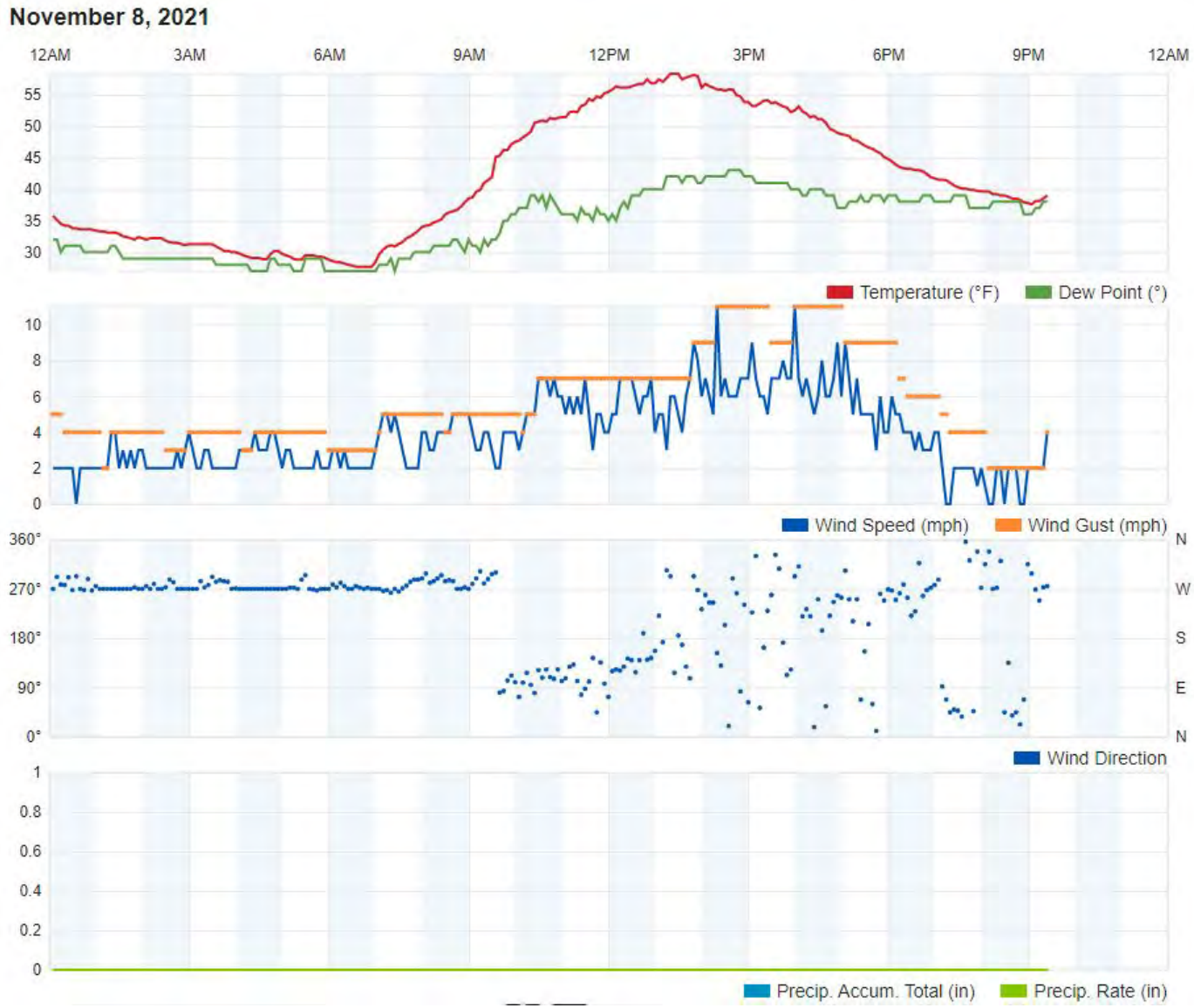
Sonoma Central Landfill, Petaluma, California



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 5, 2021

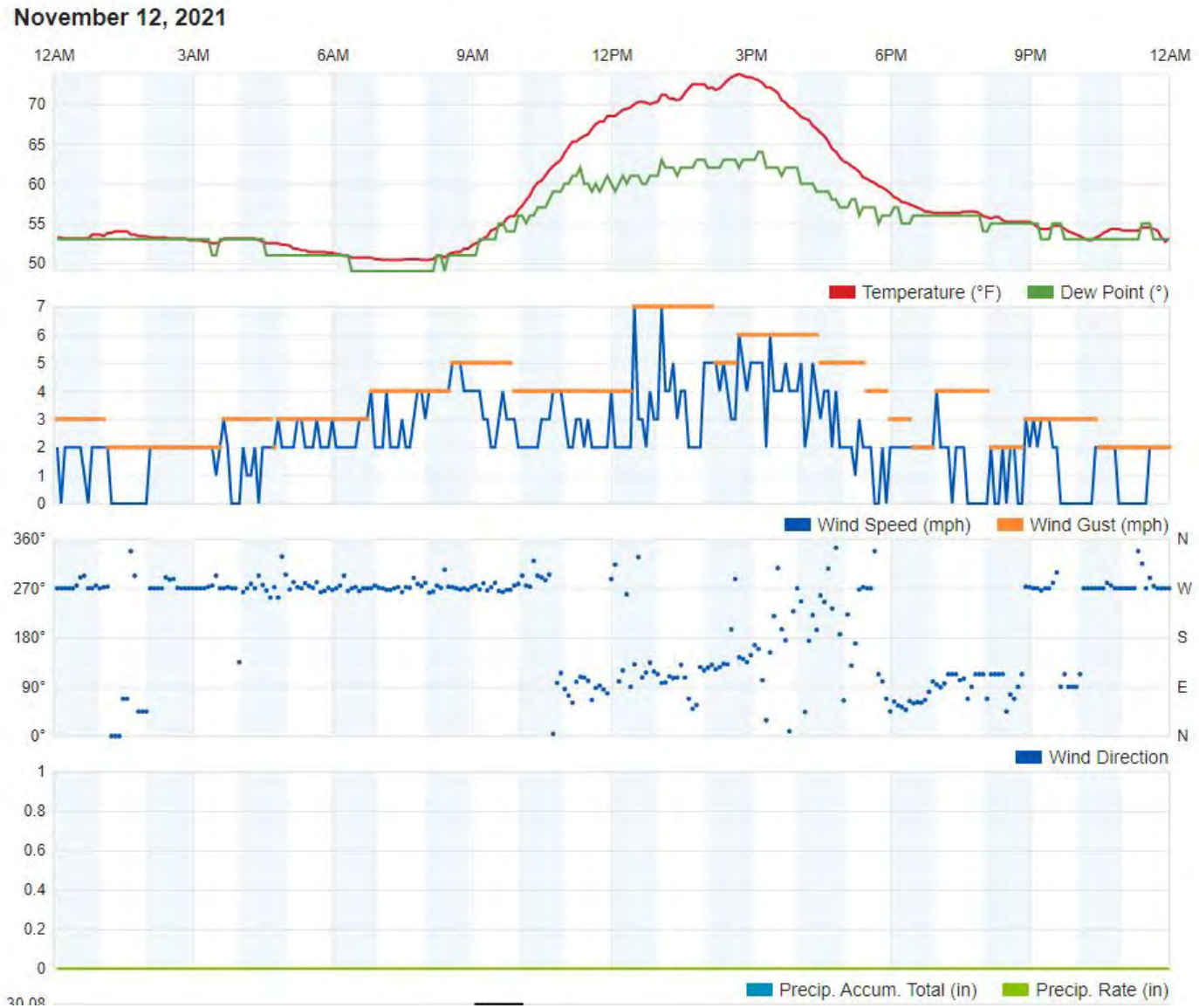
Sonoma Central Landfill, Petaluma, California



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 8, 2021

Sonoma Central Landfill, Petaluma, California



Fourth Quarter 2021

LMR Instantaneous Weather Data for November 12, 2021

Sonoma Central Landfill, Petaluma, California

Fourth Quarter 2021

LMR Instantaneous Weather Data for November 22, 2021

Sonoma Central Landfill, Petaluma, California

Appendix E – Excerpts from the Source Test Reports Issued during the Reporting Period (S-4 and S-5)

Republic Services of Sonoma County, Inc.

BAAQMD Plant # 22987

Compliance Emissions Test Report #21232

Caterpillar Landfill Gas Engine #1 (S-4)

Located at:
Central Landfill
500 Mecham Road
Petaluma, CA 94952

Prepared for:
Republic Services of Sonoma County, Inc.
500 Mecham Road
Petaluma, CA 94952
Attn: Derek Cheney
DCheney@republicservices.com

For Submittal to:
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Marco Hernandez & Gloria Espena
mhernandez@baaqmd.gov & gespena@baaqmd.gov
sourcetest@baaqmd.gov

Testing Performed on:
July 28th, 2021

Final Report Submitted on:
September 16th, 2021

Performed and Reported by:
Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706
bluesky@blueskyenvironmental.com
Office (510) 525 1261 / Mobile (510) 508 3469

Blue Sky Environmental, Inc.
San Gabriel Avenue
Albany, CA 94706
Office (510) 525-1261
Cell (510) 508-3469
bluesky@blueskyenvironmental.com

September 16th, 2021

Republic Services of Sonoma County, Inc
500 Mecham Road
Petaluma, CA 94952

Attn.: Derek Cheney

Subject: Source emissions test report for Engine #1, located at the Central Landfill in Petaluma, to determine compliance with Bay Area Air Quality Management District (BAAQMD) Title V Permit for Plant 22987.

Engine #1 (S-4) – 1,138 hp Caterpillar Model G3516 lean burn IC engine and genset

Test Date(s): Testing was performed on July 28th, 2021.

Sampling Location: Emission sampling was conducted at the 12-inch diameter exhaust stack of Engine #1 (S-4) through ports that were accessible both from the roof of the facility and from a probe extending from ground level. The ¾-inch sample ports on the stack met EPA Method 1 minimum criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

Sampling Personnel: Sampling was performed by Jeramie Richardson of Blue Sky Environmental, Inc.

Observing and Facility Personnel: BAAQMD was notified of the scheduled testing in a plan submitted on April 13th, 2021 and revised July 20th, 2021 (NST #6440); however, no agency observers from BAAQMD were present during the test program.

Matt Beat of Republic Services of Sonoma County, Inc. was on site to coordinate engine operations.

Process Description: Republic Services of Sonoma County, Inc. operates a central landfill outside of Petaluma, California. The facility operates ten Caterpillar Model G3516 lean burn IC engines that produce power from the waste landfill gas generated at the site. Each of the 1,138 hp reciprocating engines operates with an 800 kW genset. The control room uses a Yokogawa fuel-flow monitoring system to read the LFG flows to each engine. Engines #9 (S-13) and #10 (S-14) are currently out of service; but when operating, carry a 50-kW parasitic load that is added to the generator output kW when calculating total kW.

Each engine has a dedicated fuel meter and individual kW meter that is used to indicate load. Readings taken during testing were used with the gas analysis to calculate the exhaust flow rate and to calculate load.

Test Program: The test objective was to demonstrate compliance with the CO, NO_X, CH_4 and NMOC emission limitations specified in the BAAQMD Permit to Operate for Plant #22987.

Three consecutive 35-minute gaseous emissions tests were performed for nitrogen oxides (NO_X), carbon monoxide (CO), carbon dioxide (CO_2), oxygen (O_2), methane (CH_4), and nonmethane organic compounds (NMOC) at the engine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NO_X analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.

Concurrent with the exhaust sampling, Blue Sky Environmental collected a total of three LFG samples from the engine header for CH_4, CO_2, O_2, CO, N_2, and BTU, F-Factor analysis. The samples were collected in Tedlar bags using Teflon tubing connections that were filled and purged prior to sampling, and analyzed by Atmospheric Analysis and Consulting, Inc. in Ventura, California.

Sampling & Analytical Methods: The following U.S. Environmental Protection Agency (EPA) and ASTM International sampling and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O_2 and CO_2, Stack Gas Molecular Weight
EPA Method 7E	NO_X Emissions and NO_2 Converter Efficiency
EPA Method 10	CO Emissions
EPA Method 4	Moisture
EPA Method 25A / ALT-078	CH_4 and NMHC Emissions
EPA Method 19	Calculation of Stack Gas Flow Rate
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)

EPA Method 1 – Sample and Velocity Traverses for Stationary Sources
This method is used to determine the duct or stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements.

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)
This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_X analyzer NO_2 to NO conversion efficiency.

EPA Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources
This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM) test van. The sampling system consists of a stainless-steel sample probe, Teflon sample line, glass-fiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 4 – Determination of Moisture Content in Stack Gas

This method is used to determine the moisture content of stack gas. The sample is extracted and condensed in Greenburg-Smith impingers immersed in an ice bath and in a final impinger silica gel trap. The moisture is condensed in a solution of de-ionized water, or solutions of another type of sampling train if the moisture is being determined as part of another sampling method, such as EPA Method 5 or EPA 12. The moisture gain in the impinger solutions and silica gel is determined volumetrically and gravimetrically respectively. QA/QC procedures require that a minimum of 21 cubic feet of sample is pulled using a leak tight pump. The sample volume is measured with a calibrated dry gas meter. The impingers are immersed in an ice bath to maintain a gas outlet temperature of less than 68°F. Pre-test leak checks are performed for each run using a minimum 15 inches of mercury vacuum. Post-test leak checks are performed at the highest sample vacuum or greater. The leak test is acceptable if the leak rate is less than 0.02 cubic feet per minute or 4% of the average sampling rate, whichever is less. If the final leak check exceeds the criteria, either the volume is corrected based on the leak rate or the run is voided and repeated.

EPA Method 25A/ALT-078 – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.

EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates
This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

ASTM D1945 – Analysis of Natural Gas by Gas Chromatography
This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels
This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas
This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

Instrumentation: The following continuous emissions analyzers were used:

Instrument	Analyte	Principle
Servomex Model 1400	O_2	Paramagnetic
Servomex Model 1400	CO_2	IR
TECO Model 42C	NO_X	Chemiluminescence
TECO Model 48C	CO	GFC/IR
TECO Model 55C	THC/CH_4/NMOC	FID

Test Results: The compliance summary is presented below. Detailed source test emission results are provided in Table 1. All measured test parameters were in compliance with permit limits.

Emission Parameter	Average Results Engine #1 (S-4)	Permit Limits	Compliance Status
NO_X, ppm @ 15% O_2	10.9	70	In Compliance
NO_X, g/Bhp-hr	0.191	0.80	In Compliance
CO, ppm @ 15% O_2	198.4	2,000	In Compliance
CO, g/Bhp-hr	2.10	2.1	In Compliance
CH_4, ppm @ 15% O_2	1,468	3,000	In Compliance
NMOC, ppm as CH_4 @ 3% O_2	125.6	120 or >98%	In Compliance*
NMOC Destruction Efficiency, %	>46.7%		

Note:* NMOC results exceed the 120 ppm limit by 4%. This is within 10% of the permitted limit and is considered in compliance per BAAQMD Resolution No. 1390

The appendices are organized as follows:

Calculations
: Calculations performed on the continuous emissions monitoring (CEM) data and flow rate calculations.

Laboratory Reports
: Laboratory reports and chains-of-custody.

Field Data Sheets
: CEMS data and any transcribed data from the strip charts.

Process Information
: Relevant and available facility process operating documentation.

Calibration Gas Certificates
: Certifications for the calibration gas standards.

Equipment Calibrations
: Calibration records for equipment used (e.g., S-type pitot tubes, dry gas meters, rotameters)

Stack Diagram
: Sketch or photograph of the stack.

Sample System Diagram
: Schematic of the sampling system configuration.

Permit / Authority to Construct
: Permit to Operate / Authority to Construct.

Source Test Plan
: Sampling protocols submitted to the BAAQMD prior to testing.

Comments: This source test was performed in accordance with the protocol submitted to BAAQMD. No deviations from the protocol or anomalies were observed during testing. NMOC emission results exceed the 120 ppm limit by 4%. This is within 10% of the permitted limit and is considered in compliance per BAAQMD Resolution No. 1390; therefore, all measured test parameters are in compliance with permit limits.

The work performed herein was conducted under my supervision, and I certify that:

a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,

b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,

c) that all testing details and conclusions are accurate and valid, and

d) that the production rate and/or heat input rate during the source test are reported accurately.

If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

Anne Richardson

Reviewed by,

Julie Wose-Jennings

TABLE #1

Sonoma Central Landfill
Engine #1 (S-4)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	07/28/21	07/28/21	07/28/21		
Test Time	0947-1023	1057-1132	1154-1229		
Standard Temperature, °F	70	70	70	70	
Process Parameters:					
Engine Rating, kW	800	800	800	800	
Engine (Generator) kW	753	748	753	751	
Engine BHp	1,008	1,002	1,008	1,006	
Fuel:					
Fuel Flow Rate, DSCFM	324.1	318.6	318.9	320.5	
Gas Fd-Factor @ 70°F	9,497	9,521	9,514	9,510	
Heat Input, MMBtu/day	236.0	227.9	229.9	231.3	252.6
Stack Gas:					
Exhaust Temperature, °F	778	781	782	780	
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	2,530	2,472	2,508	2,503	
Oxygen (O_2), % volume dry	8.0	8.2	8.2	8.1	6.4 - 8.3
Carbon Dioxide (CO_2), % volume dry	11.4	11.2	11.2	11.3	
Carbon Dioxide, lb/hr	1,963	1,898	1,925	1,929	
Water Vapor (H_2O), %	13.4	12.7	13.3	13.1	
NO_X Emissions (reported as NO_2):					
NOx, ppm	26.5	21.5	23.1	23.7	
NOx, ppm @ 15% O_2	12.1	10.0	10.7	10.9	70
NOx, lb/hr	0.478	0.379	0.413	0.423	
NOx, lb/MMBtu	0.0487	0.0400	0.0432	0.0439	
NOx, g/Bhp-hr	0.215	0.172	0.186	0.191	0.80
CO Emissions:					
CO, ppm	419.8	429.8	437.0	428.9	
CO, ppm @ 15% O_2	192.6	199.0	203.7	198.4	2,000
CO, lb/hr	4.61	4.61	4.76	4.66	
CO, lb/MMBtu	0.470	0.487	0.498	0.485	
CO, g/Bhp-hr	2.08	2.09	2.14	2.10	2.1
Methane (CH_4) Emissions:					
CH_4, ppm wet *(EPA Method 25A)*	2,566	2,922	2,786	2,758	
CH_4, ppm	2,962	3,347	3,211	3,173	
CH_4, ppm @ 15% O_2	1,359	1,550	1,496	1,468	3,000
CH_4, lb/hr	18.6	20.5	20.0	19.7	
THC Emissions (reported as CH_4):					
THC, ppm wet *(EPA Method 25A)*	2641.0	2999.6	2865.1	2835.3	
THC, ppm	3,048.9	3,436.4	3,303.2	3,262.8	
THC, lb/hr	19.1	21.1	20.6	20.3	
NMOC Emissions (reported as CH_4):					
NMOC, ppm wet *(EPA Method 25A)*	75.4	78.1	79.6	77.7	
NMOC, ppm	87.1	89.5	91.8	89.5	
NMOC, ppm @ 3% O_2	121.2	125.8	129.8	125.6	120*
NMOC, lb/hr	0.547	0.549	0.571	0.556	
NMOC, g/Bhp-hr	0.246	0.249	0.257	0.251	
Inlet:					
Inlet CH_4, % *(ASTM D-1945 & EPA Method 25C)*	50.9	50.0	50.4	50.7	
Inlet CH_4, lb/hr	409.5	395.4	399.0	404.3	
CH_4 Destruction Efficiency, %	>95.5%	>94.8%	>95.0%	>95.2%	
Inlet THC, %	51.0	50.1	50.5	50.8	
Inlet THC, lb/hr	410.6	396.5	400.0	405.3	
THC Destruction Efficiency, %	>95.3%	>94.7%	>94.9%	>95.1%	
Inlet NMOC, ppm *(EPA Method 25C)*	1,347	1,324	1,287	1,317	
Inlet NMOC, lb/hr	1.08	1.05	1.02	1.05	
NMOC Destruction Efficiency, %	>49.5%	>47.6%	>43.9%	>46.7%	>98%*

* NMOC permit limits are 120 ppm @ 3% O_2 or DE >98%

**NMOC emission results exceed the 120 ppm limit by 4%. This is within 10% of the permitted limit and is considered in compliance per BAAQMD Resolution No. 1390; therefore, all measured test parameters are in compliance with permit limits.

WHERE:

ppm = parts per million concentration by volume expressed on a dry gas basis
lb/hr = pound per hour emission rate
Tstd. = standard temperature (°R = °F+460)
MW = molecular weight
DSCFM = dry standard cubic foot per minute
NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)
CO = carbon monoxide (MW = 28)
CH_4 = methane (MW = 16)
THC = total hydrocarbons including methane, reported as methane
NMOC = non-methane organic compounds, reported as methane

CALCULATIONS:

ppm dry = ppm wet · 100 / (100 - H_2O%)
ppm @ 3% O_2 = ppm · 17.9 / (20.9 - %O_2)
lb/hr = ppm · 8.223 E-05 · DSCFM · MW / Tstd. °R
lb/day = lb/hr · 24
lb/MMBtu = Fd · MW · ppm · 2.59E-9 · 20.9/(20.9 - %O_2)
Engine BHp = generator kW · 1.34
g/Bhp-hr = lb/hr · 453.6 / Bhp

Republic Services of Sonoma County, Inc.

BAAQMD Plant # 22987

Compliance Emissions Test Report #21376

Caterpillar Landfill Gas Engine #2 (S-5)

Located at:
Central Landfill
500 Mecham Road
Petaluma, CA 94952

Prepared for:
Republic Services of Sonoma County, Inc.
500 Mecham Road
Petaluma, CA 94952
Attn: Derek Cheney
DCheney@republicservices.com

For Submittal to:
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Marco Hernandez and Gloria Espena
mhernandez@baaqmd.gov and gespena@baaqmd.gov
sourcetest@baaqmd.gov

Testing Performed on:
December 6th, 2021

Final Report Submitted on:
February 1st, 2022

Performed and Reported by:
Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706
bluesky@blueskyenvironmental.com
Office (510) 525 1261 / Mobile (510) 508 3469

Blue Sky Environmental, Inc.
San Gabriel Avenue
Albany, CA 94706
Office (510) 525-1261
Cell (510) 508-3469
bluesky@blueskyenvironmental.com

February 1st, 2022

Republic Services of Sonoma County, Inc
500 Mecham Road
Petaluma, CA 94952

Attn.: Derek Cheney

Subject: Source emissions test report for Engine #2, located at the Central Landfill in Petaluma, to determine compliance with Bay Area Air Quality Management District (BAAQMD) Title V Permit for Plant 22987.

Engine #2 (S-5) – 1,138 hp Caterpillar Model G3516 lean-burn internal combustion engine and generator set

Test Date(s): Testing was performed on December 6th, 2021.

Sampling Location: Emission sampling was conducted at the 12-inch diameter exhaust stack of Engine #2 through ports that were accessible from the roof of the facility. The ¾-inch sample ports on the stack met EPA Method 1 minimum criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

Sampling Personnel: Sampling was performed by Jeramie Richardson of Blue Sky Environmental, Inc.

Observing and Facility Personnel: BAAQMD was notified of the scheduled testing in a source test plan submitted on November 29th, 2021 (NST #7051). No agency observers from BAAQMD were present during the test program.

Matt Beat of Republic Services of Sonoma County, Inc. was on-site to coordinate engine operations.

Process Description: Republic Services of Sonoma County, Inc. operates a multi-material central landfill with a gas collection system abated by a water spray system and LFG flare, outside of Petaluma, California. The facility operates ten Caterpillar Model G3516 lean burn IC engines that produce power from the waste landfill gas generated at the site. Each of the 1,138 hp reciprocating engines operates with an 800 kW generator set. The control room uses a Yokogawa fuel-flow monitoring system to read the LFG flows to each engine. Engines #9 (S-13) and #10 (S-14) are currently out of service; but when operating, carry a 50-kW parasitic load that is added to the generator output kW when calculating total kW.

Each engine has a dedicated fuel meter and individual kW meter that is used to indicate load. Readings taken during testing were used with the gas analysis to calculate the exhaust flow rate and to calculate load.

Test Program: The test objective was to demonstrate compliance with the CO, NO_X, CH_4 and NMOC emission limitations specified in the BAAQMD Permit to Operate for Plant #22987.

Three consecutive 35-minute gaseous emissions tests were performed for nitrogen oxides (NO_X), carbon monoxide (CO), carbon dioxide (CO_2), oxygen (O_2), methane (CH_4), and nonmethane organic compounds (NMOC) at the engine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NO_X analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.

Concurrent with the exhaust sampling, Blue Sky Environmental collected a total of three LFG samples from the engine header for CH_4, CO_2, O_2, CO, N_2, and BTU, F-Factor analysis. The samples were collected in Tedlar bags using Teflon tubing connections that were filled and purged prior to sampling, and analyzed by Atmospheric Analysis and Consulting, Inc. in Ventura, California.

Sampling & Analytical Methods: The following U.S. Environmental Protection Agency (EPA) and ASTM International sampling and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O_2 and CO_2, Stack Gas Molecular Weight
EPA Method 7E	NO_X Emissions and NO_2 Converter Efficiency
EPA Method 10	CO Emissions
EPA Method 4	Moisture
EPA Method 25A / ALT-078	CH_4 and NMHC Emissions
EPA Method 19	Calculation of Stack Gas Flow Rate
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)

EPA Method 1 – Sample and Velocity Traverses for Stationary Sources
This method is used to determine the duct or stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements.

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)
This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_X analyzer NO_2 to NO conversion efficiency.

EPA Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources
This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM) test van. The sampling system consists of a stainless-steel sample probe, Teflon sample line, glass-fiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 4 – Determination of Moisture Content in Stack Gas

This method is used to determine the moisture content of stack gas. The sample is extracted and condensed in Greenburg-Smith impingers immersed in an ice bath and in a final impinger silica gel trap. The moisture is condensed in a solution of de-ionized water, or solutions of another type of sampling train if the moisture is being determined as part of another sampling method, such as EPA Method 5 or EPA 12. The moisture gain in the impinger solutions and silica gel is determined volumetrically and gravimetrically respectively. QA/QC procedures require that a minimum of 21 cubic feet of sample is pulled using a leak tight pump. The sample volume is measured with a calibrated dry gas meter. The impingers are immersed in an ice bath to maintain a gas outlet temperature of less than 68°F. Pre-test leak checks are performed for each run using a minimum 15 inches of mercury vacuum. Post-test leak checks are performed at the highest sample vacuum or greater. The leak test is acceptable if the leak rate is less than 0.02 cubic feet per minute or 4% of the average sampling rate, whichever is less. If the final leak check exceeds the criteria, either the volume is corrected based on the leak rate or the run is voided and repeated.

EPA Method 25A/ALT-078 – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.

EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates

This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

ASTM D1945 – Analysis of Natural Gas by Gas Chromatography

This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

Instrumentation: The following continuous emissions analyzers were used:

Instrument	Analyte	Principle
Servomex Model 1400	O_2	Paramagnetic
Servomex Model 1400	CO_2	IR
TECO Model 42C	NO_X	Chemiluminescence
TECO Model 48C	CO	GFC/IR
TECO Model 55C	THC/CH_4/NMOC	FID

Test Results: The compliance summary is presented below. Detailed source test emission results are provided in Table 1. All measured test parameters were in compliance with permit limits.

Emission Parameter	Average Results Engine #2 (S-5)	Permit Limits	Compliance Status
NO_X, ppm @ 15% O_2	13.2	70[3]	In Compliance
NO_X, g/Bhp-hr	0.193	0.80[1]	In Compliance
CO, ppm @ 15% O_2	182.8	2,000[3]	In Compliance
CO, g/Bhp-hr	1.642	2.1[1]	In Compliance
CH_4, ppm @ 15% O_2	1,104	3,000[4]	In Compliance
NMOC, ppm as CH_4 @ 3% O_2	91.9	120 [2] or >98%[1]	In Compliance
NMOC Destruction Efficiency, %	>77.5%		

[1] – Condition 19933 Parts 5, 6 and 7
[2] – Reg 8-34-301.4
[3] – Reg 9-8-302.1 & -302.3
[4] – Landfill Methane Rule

The appendices are organized as follows:

Calculations
: Calculations performed on the continuous emissions monitoring (CEM) data and flow rate calculations.

Laboratory Reports
: Laboratory reports and chains-of-custody.

Field Data Sheets
: CEMS data and any transcribed data from the strip charts.

Process Information
: Relevant and available facility process operating documentation.

Calibration Gas Certificates
: Certifications for the calibration gas standards.

Equipment Calibrations
: Calibration records for equipment used (e.g., S-type pitot tubes, dry gas meters, rotameters)

Stack Diagram
: Sketch or photograph of the stack.

Sample System Diagram
: Schematic of the sampling system configuration.

Permit / Authority to Construct
: Permit to Operate / Authority to Construct.

Source Test Plan
: Sampling protocols submitted to the BAAQMD prior to testing.

Comments: This source test was performed in accordance with the protocol submitted to BAAQMD. No deviations from the protocol or anomalies were observed during testing.

The work performed herein was conducted under my supervision, and I certify that:

a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,

b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,

c) that all testing details and conclusions are accurate and valid, and

d) that the production rate and/or heat input rate during the source test are reported accurately.

If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

Anne Richardson

Reviewed by,

Julie Wose-Jennings

TABLE #1

Sonoma Central Landfill
Engine #2 (S-5)

Parameter	Run 1	Run 2	Run 3	Average Results	Permit Limits
Test Date	12/06/21	12/06/21	12/06/21		
Test Time	0852-0927	0954-1029	1059-1134		
Standard Temperature, °F	70	70	70	70	
Process Parameters:					
Engine Rating, kW	800	800	800	800	
Engine (Generator), kW	782.5	790	815	795.8	
Engine BHp	1,049	1,059	1,092	1,066	
Fuel:					
Fuel Flow Rate, DSCFM	285.6	283.6	284.3	284.5	
Gas Fd-Factor @ 70°F	9,525	9,514	9,524	9,521	
Heat Input, MMBtu/day	208.8	207.7	205.0	207.2	252.6
Stack Gas:					
Exhaust Temperature, °F	778	781	783	781	
Exhaust Flow Rate, DSCFM *(EPA Method 19)*	2,231	2,205	2,139	2,191	
Oxygen (O_2), % volume dry	8.0	7.9	7.7	7.8	6.4 - 8.3
Carbon Dioxide (CO_2), % volume dry	11.3	11.3	11.6	11.4	
Carbon Dioxide, lb/hr	1,725	1,699	1,688	1,704	
Water Vapor (H_2O), % volume	12.2	12.2	12.8	12.4	
NO_X Emissions (reported as NO_2):					
NOx, ppmvd	24.5	26.5	36.7	29.2	
NOx, ppmvd @ 15% O_2	11.2	12.0	16.3	13.2	70
NOx, lb/hr	0.390	0.416	0.560	0.456	
NOx, lb/MMBtu	0.0449	0.0482	0.0657	0.0529	
NOx, g/Bhp-hr	0.169	0.178	0.233	0.193	0.80
CO Emissions:					
CO, ppmvd	421.4	407.7	385.1	404.7	
CO, ppmvd @ 15% O_2	192.2	184.9	171.5	182.8	2,000
CO, lb/hr	4.084	3.904	3.578	3.856	
CO, lb/MMBtu	0.4702	0.4518	0.4196	0.4472	
CO, g/Bhp-hr	1.767	1.673	1.486	1.642	2.1
Methane (CH_4) Emissions:					
CH_4, ppmv wet *(EPA Method 25A)*	2,477	2,215	1,727	2,140	
CH_4, ppmvd	2,821	2,524	1,981	2,442	
CH_4, ppmvd @ 15% O_2	1,287	1,144	882	1,104	3,000
CH_4, lb/hr	15.6	13.8	10.5	13.3	
THC Emissions (reported as CH_4):					
THC, ppmv wet *(EPA Method 25A)*	2,542	2,276	1,778	2,199	
THC, ppmvd	2,895	2,593	2,039	2,509	
THC, lb/hr	16.04	14.19	10.82	13.68	
NMOC Emissions (reported as CH_4):					
NMOC, ppmv wet *(EPA Method 25A)*	64.7	61.1	50.3	58.7	
NMOC, ppmvd	73.6	69.7	57.7	67.0	
NMOC, ppmvd @ 3% O_2	102	95.8	78.0	91.9	120*
NMOC, lb/hr	0.408	0.381	0.306	0.365	
NMOC, g/Bhp-hr	0.176	0.163	0.127	0.156	
Inlet:					
Inlet CH_4, % *(ASTM D-1945 & EPA Method 25C)*	51.1	51.2	50.4	50.8	
Inlet CH_4, lb/hr	362	360	356	359	
CH_4 Destruction Efficiency, %	>95.7%	>96.2%	>97.0%	>96.4%	
Inlet THC, %	51.3	51.4	50.6	51.0	
Inlet THC, lb/hr	364	362	357	361	
THC Destruction Efficiency, %	>95.6%	>96.1%	>97.0%	>96.3%	
Inlet NMOC, ppmvd *(EPA Method 25C)*	2,272	2,141	2,210	2,241	
Inlet NMOC, lb/hr	1.61	1.51	1.56	1.59	
NMOC Destruction Efficiency, %	>74.7%	>74.7%	>80.4%	>77.5%	>98%*

* NMOC permit limits are 120 ppm @ 3% O_2 or DE >98%

WHERE:

ppmvd = parts per million concentration by volume expressed on a dry gas basis
lb/hr = pound per hour emission rate
Tstd. = standard temperature (°R = °F+460)
MW = molecular weight
DSCFM = dry standard cubic foot per minute
NO_X = oxides of nitrogen, reported as NO_2 (MW = 46)
CO = carbon monoxide (MW = 28)
CH_4 = methane (MW = 16)
THC = total hydrocarbons including methane, reported as methane
NMOC = non-methane organic compounds, reported as methane

CALCULATIONS:

ppm dry = ppm wet · 100 / (100 - H_2O%)
ppm @ 3% O_2 = ppm · 17.9 / (20.9 - %O_2)
lb/hr = ppm · 8.223 E-05 · DSCFM · MW / Tstd. °R
lb/day = lb/hr · 24
lb/MMBtu = Fd · MW · ppm · 2.59E-9 · 20.9/(20.9 - %O_2)
Engine BHp = generator kW · 1.34
g/Bhp-hr = lb/hr · 453.6 / Bhp

Appendix F – Title V Semi-Annual Report

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: SONOMA COUNTY CENTRAL LANDFILL	**FACILITY ID#:** A2254
REPORTING PERIOD: *from* 08/01/2021	*through* 01/31/2022

CERTIFICATION:

I declare, under penalty of perjury under the laws of the state of California, that, based on information and belief formed after reasonable inquiry, all information provided in this reporting package is true, accurate, and addresses all deviations during the reporting period:

Rob Sherman — Signature of Responsible Official

2-25-22 — Date

Rob Sherman
Name of Responsible Official (please print)

General Manager
Title of Responsible Official (please print)

Mail to:

Director of Compliance and Enforcement
BAAQMD
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Title V reports

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: SONOMA COUNTY CENTRAL LANDFILL	**FACILITY ID#:** A2254
REPORTING PERIOD: *from* 08/01/2021	*through* 01/31/2022

List of Permitted Sources and Abatement Device in Title V Permit

Permit Unit Number	**Equipment Description**
S-#	**Description**
S-1	Landfill with Gas Collection System
S-15	Landfill Gas Compression Plant
S-22	Waste and Cover Material
S-23	Mobile Surface Equipment
A-4	Landfill Gas Flare (Control Device for S-1)
A-8	Waste Sprays (Control Device for S-1)
S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14	Lean Burn Internal Combustion Engines and Generator Sets

Notes:

- Condition Number 26507 – Applies to all sources at the facility. All conditions have been reviewed for compliance, and the site is in compliance.

- S-24 (Portable reciprocating engine, 195 hp, portable landfill truck tipper)
    - On September 21, 2021, the S-24 Tipper Engine was removed from the site and replaced with a 49 horsepower (HP) engine. This source operated under a permit to operate (PTO) (Condition No. 26171) which has not yet been incorporated into the Title V Permit. All conditions have been reviewed for compliance, and the site is in compliance up to the date the source was removed from the site.

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection System Installation Dates	BAAQMD 8-34-501.7 and 501.8 and BAAQMD Condition # 4044, Parts 19d, f, g, h	Records	Periodic / On event basis	BAAQMD 8-34-304.1	For Inactive/Closed Areas: collection system components must be installed and operating by 2 years + 60 days after initial waste placement	Continuous	N/A
Collection System Installation Dates	BAAQMD 8-34-501.7 and 501.8 and BAAQMD Condition # 4044, Parts 19d, f, g, h	Records	Periodic / On event basis	BAAQMD 8-34-304.2 and BAAQMD Condition # 4044, Part 4	For Active Areas: Collection system components must be installed and operating by 5 years + 60 days after initial waste placement	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection System Installation Dates	BAAQMD 8-34-501.7 and 501.8 and BAAQMD Condition # 4044, Parts 19e-h	Records	Periodic / On event basis	BAAQMD 8-34-304.3 and BAAQMD Condition # 4044, Part 4	For Any Uncontrolled Areas or Cells: collection system components must be installed and operating within 60 days after the uncontrolled area or cell accumulates 1,000,000 tons of decomposable waste	Continuous	N/A
Collection System Installation Dates	40 CFR 60.758(a), (d)(1) and (d)(2), and 60.759(a)(3) and BAAQMD Condition # 4044, Parts 19d, f, g	Records	Periodic / On event basis	40 CFR 60.753 (a)(2) and 60.755 (b)(2)	For Inactive/Closed Areas: collection system components must be installed and operating by 2 years + 60 days after initial waste placement	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection System Installation Dates	40 CFR 60.758(a), (d)(1) and (d)(2) and BAAQMD Condition # 4044, Parts 19d, f, g	Records	Periodic / On event basis	40 CFR 60.753 (a)(1) and 60.755 (b)(1)	For Active Areas: Collection system components must be installed and operating by 5 years + 60 days after initial waste placement	Continuous	N/A
Gas Flow	BAAQMD Condition #4044, Part 11 and Condition #19933, Part 4	Gas Flow Meter	Continuous	BAAQMD 8-34-301 and 301.1; BAAQMD Condition # 4044, Parts 4a, 5, 8, and 9; BAAQMD Condition #19933, Parts 1 & 2	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Intermittent	There were unplanned shutdowns of the gas collection and control system (GCCS) that did not meet the exemption criteria in BAAQMD Rule 8-34-113. These events included Pacific Gas and Electric (PG&E) utility power outages, which resulted in shutdowns of the GCCS that occurred on September 18, 2021 from 12:04 to 12:12 and 21:34 to 21:42, and September 19, 2021 from 16:14 to 16:40, and thermocouple malfunctions, which resulted in shutdowns of the GCCS that occurred on December 17, 2021 at 22:48 to December 18, 2021 00:44 and December 19, 2021 from 04:56 to

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
							09:24. These events were reported to the BAAQMD as reportable compliance activities (RCA) and breakdown relief was requested. On September 29, 2021, Notice of Violation (NOV) No. A59872 was issued by BAAQMD inspector Mr. Richard Murray for an alleged violation of BAAQMD Regulation 8, Rule 34, Section 301.1 (Landfill Gas Collection and Emission Control Requirements). Per the NOV, Sonoma allegedly failed to operate the GCCS continuously during three RCA events that occurred on September 18 and 19, 2021 (IDs 08B84 and 08B85; 08B89 and 08B90; and 08B91 and 08B92). Additional details can be found in the October 7, 2021 10-day NOV Response Letter.

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Flow	BAAQMD 8-34-501.10 and 508	Gas Flow Meter and Recorder (every 15 minutes)	Continuous	BAAQMD 8-34-301 and 301.1; BAAQMD Condition # 4044, Parts 4a, 5, 8, and 9; BAAQMD Condition #19933, Parts 1 & 2	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Continuous	N/A
Gas Flow	40 CFR 60.756(b)(2) (i or ii) and 60.758(c)(2)	Gas Flow Meter and Recorder (every 15 minutes) or Monthly Inspection of Bypass Valve and Lock and Records	Continuous. Periodic/ Monthly	40 CFR 60.753(a) and (e)	Operate a Collection System in each area or cell and vent all collected gases to a properly operating control system	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection and Control Systems Shutdown Time	BAAQMD 8-34-501.1 and BAAQMD Condition # 4044, Part 19i	Operating Records	Periodic / Daily	BAAQMD 8-34-113.2	240 hours per year and 5 consecutive days	Continuous	N/A
Collection System Startup Shutdown or Malfunction	40 CFR 60.7(b), 60.757(f)(2) and (f)(4)	Operating Records (all occurrences and duration of each)	Periodic / Daily	40 CFR 60.755(e)	5 days per event for collection system or 1 hour for control system	Continuous	N/A
Periods of Inoperation for Parametric Monitors	BAAQMD 1-523.4	Operating Records for All Parametric Monitors	Periodic / Daily	BAAQMD 1-523.2	≤ 15 consecutive days per incident and ≤ 30 calendar days per 12-month period	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 LANDFILL GAS COMPRESSION PLANT; S-22 WASTE AND COVER MATERIAL; S-23 MOBILE SURFACE EQUIPMENT; A-4 LANDFILL GAS FLARE	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Continuous Monitors	40 CFR 60.7(b)	Operating Records for All Continuous Monitors	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous Operation except for breakdowns, repairs, calibration, and required span adjustments	Continuous	N/A
Wellhead Pressure	BAAQMD 8-34-414, 501.9 and 505.1	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.1	< 0 psig	Continuous	N/A
Wellhead Pressure	40 CFR 60.755(a)(3), 60.756(a)(1), and 60.758(c) and (e)	Monthly Inspection and Records	Periodic / Monthly	40 CFR 60.753(b)	< 0 psig	Continuous	N/A
Temperature of Gas at Wellhead	BAAQMD 8-34-414, 501.9 and 505.2	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.2	< 55 °C (< 131 °F),	Continuous	N/A
Temperature of Gas at Wellheads	40 CFR 60.755(a)(5), 60.756(a)(3), and 60.758(c) and (e)	Monthly Inspection and Records	Periodic / Monthly	40 CFR 60.753(c)	< 55 °C	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Concentration at Wellhead	BAAQMD 8-34-414, 501.9 and 505.3 or 505.4	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.3 or 305.4	N_2 < 20% **OR** O_2 < 5%	Continuous	N/A
Gas Concentration at Wellhead	40 CFR 60.755(a)(5), 60.756(a)(2), and 60.758(c) and (e)	Monthly Inspection and Records	Periodic / Monthly	40 CFR 60.753(c)	N2 < 20% **OR** O_2 < 5%	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic / Daily	BAAQMD 8-34-116.2	No more than 5 wells at a time or 10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic / Daily	BAAQMD 8-34-116.3	< 24 hours per well	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-117.6 and 501.1	Records	Periodic / Daily	BAAQMD 8-34-117.4	No more than 5 wells at a time or 10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-117.6 and 501.1	Records	Periodic / Daily	BAAQMD 8-34-117.5	24 hours per well	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TOC (Total Organic Com-pounds Plus Methane)	BAAQMD 8-34-501.6 and 503	Quarterly Inspection of collection and control system components with OVA and Records	Periodic / Quarterly	BAAQMD 8-34-301.2	Component Leak Limit: < 1000 ppmv as methane	Continuous	N/A
TOC	BAAQMD 8-34-415, 416, 501.6, 506 and 510	Monthly Visual Inspection of Cover, Quarterly Inspection with OVA of Surface, Various Reinspec-tion Times for Leaking Areas, and Records	Periodic / Monthly, Quarterly, and on an Event Basis	BAAQMD 8-34-303	Surface Leak Limit: < 500 ppmv as methane at 2 inches above surface	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TOC	40 CFR 60.755(c)(1), (4) and (5), 60.756(f), and 60.758(c) and (e)	Monthly Visual Inspection of Cover, Quarterly Inspection with OVA of Surface, Various Reinspection Times for Leaking Areas, and Records	Periodic / Monthly, Quarterly, and on an Event Basis	40 CFR 60.753(d)	<500 ppmv as methane at 5-10 cm from surface	Continuous	N/A
Non-Methane Organic Com-pounds (NMOC)	BAAQMD 8-34-412 and 8-34-501.4 and BAAQMD Condition # 4044, Parts 17 and 19m	Initial and Annual Source Tests	Periodic / Annual	BAAQMD 8-34-301.3	> 98% removal by weight OR < 30 ppmv, dry basis @ 3% O2, expressed as methane	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
NMOC	40 CFR 60.8 and 60.752(b)(2)(iii)(B) and 60.758 (b)(2)(ii)	Initial Source Test and Records	Periodic	40 CFR 60.752(b)(2)(iii)(B)	98% removal by weight OR < 20 ppmv dry @ 3% O2, expressed as hexane	Continuous	N/A
NOx	BAAQMD Condition # 4044, Part 17	Annual Source Test	Periodic / Annual	BAAQMD Condition # 4044, Part 11	0.05 lb/MMBTU (as NO2)	Continuous	N/A
CO	BAAQMD Condition # 4044, Part 17	Annual Source Test	Periodic / Annual	BAAQMD Condition # 4044, Part 12	0.20 lb/MMBTU	Continuous	N/A
Temperature of Combustion Zone (CT)	BAAQMD 8-34-501.3 and 507 and BAAQMD Condition # 4044, Parts 16 and 19l	Temperature Sensor and Recorder (continuous)	Continuous	BAAQMD Condition # 4044, Part 10	CT > 1400°F	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Temperature of Combustion Zone (CT)	40 CFR 60.756(b)(1) and 60.758 (b)(2)(i)	Temperature Sensor and Recorder (measured every 15 minutes and averaged over performance test time period and 3-hours)	Continuous	40 CFR 60.758 (c)(1)(i)	CT (3-hour average) > (CT_{PF} – 28 °C), where CT_{PF} is the average combustion temperature during the most recent complying performance test	Continuous	N/A
Total Carbon	BAAQMD Condition # 4044, Part 21a-c	Records	Periodic / Daily	BAAQMD 8-2-301	15 pounds/day or 300 ppm, dry basis (applies only to aeration of or use as cover soil of soil containing < 50 ppmw of volatile organic compounds)	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Amount of Contaminated Soil Aerated or Used as Cover	BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD 8-40-116.1	1 cubic yard per project	Continuous	N/A
Amount of Contaminated Soil Aerated or Used as Cover	BAAQMD 8-40-116.2 and BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD 8-40-116.2	8 cubic yards per project, provided organic content < 500 ppmw and limited to 1 exempt project per 3 month period	Continuous	N/A
Amount of Contaminated Soil Aerated or Used as Cover	BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD 8-40-301	Prohibited for Soil with Organic Content >50 ppmw unless exempt per BAAQMD 8-40-116, 117, or 118	Continuous	N/A
Amount of Accidental Spillage	None	N/A	None	BAAQMD 8-40-117	Soil Contaminated by Accidental Spillage of < 5 Gallons of Liquid Organic Compounds	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Total Aeration Project Emissions	BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD 8-40-118	< 150 pounds VOC per project and toxic air contaminant emissions per year < BAAQMD Table 2-1-316 limits	Continuous	N/A
Contaminated Soil Handling	BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD Condition # 4044, Part 20d	Limited to 2 on-site transfers per lot of contaminated soil	Continuous	N/A
Contaminated Soil On-Site Storage Time	BAAQMD Condition # 4044, Part 20l	Records	Periodic / On Event Basis	BAAQMD Condition # 4044, Part 20e-f	If organic content is: < 500 ppmw, storage time < 90 days > 500 ppmw, storage time < 45 days	Continuous	N/A
Opacity	BAAQMD Condition # 4044, Part 19n-o	Records of Dust Suppressant and Water Application	Periodic / On event basis	BAAQMD 6-1-301	Ringelmann No. 1 for ≤ 3 minutes/hr	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD 6-102	Visual Observation	Periodic / On event basis	SIP 6-301	< Ringelmann No. 1 for 3 minutes in any hour	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	Periodic / On event basis	BAAQMD 6-1-301	Ringelmann No. 1 for < 3 minutes/hr	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	Periodic / On event basis	SIP 6-302	< 20% Opacity	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	Periodic / On event basis	BAAQMD 6-1-302	< 20% Opacity	Continuous	N/A
FP	None	N/A	None	BAAQMD 6-310	0.15 grains/dscf (applies to Flare A-4)	Continuous	N/A
Opacity	BAAQMD Condition # 4044, Part 19n-o	Records of Dust Suppressant and Water Application	Periodic / On event basis	BAAQMD Condition # 4044, Part 2	Ringelmann No. 0.5	Continuous	N/A
TSP	BAAQMD 6-1-501, 502, and 504	Source Test (once every 5 years with initial test results due by 7/1/2024)	Periodic / On event basis	SIP 6-310	< 0.15 grains/dscf (applies to Flare A-4)	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TSP	BAAQMD 6-1-501, 502, and 504	Source Test (once every 5 years with initial test results due by 7/1/2024)	Periodic / On event basis	BAAQMD 6-1-310.2	< 0.0697 grains/dscf (Applies to Flare A-4)	Continuous	N/A
Visible Emissions	BAAQMD 6-102	Visual Observation	Periodic / On event basis	BAAQMD 6-1-307.1	No visible emissions due to fugitive dust from active landfill or stockpile operations	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	Periodic / On event basis	BAAQMD 6-1-307.2	During Cleanup: < 20% opacity for 3 minutes in any hour or < Ringelmann No. 1 for 3 minutes in any hour	Continuous	N/A
Opacity	BAAQMD Condition # 4044, Part 19n-o	Records of Dust Suppressant and Water Application	Periodic / On event basis	BAAQMD Condition # 4044, Part 2	< Ringelmann No. 0.5	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Particu-late Trackout	BAAQMD 6-6-501.1-4	Visual Observation and Measure-ment of Trackout at Facility Exits and Records	Periodic / Daily	BAAQMD 6-6-301	Trackout onto Paved Public Roads: < 25 liear feet (clean within 4 hours) And < 1 quart of trackout At end of workday	Continuous	N/A
Opacity	Visual	Visual Observation During Cleaning Events and Records	Periodic / On event basis	BAAQMD 6-6-302	During Trackout Cleanup: < 20% Opacity or < Ringelmann No. 1 for 3 minutes in any hour	Continuous	N/A
Amount of Waste Accepted	BAAQMD Condition # 4044, Part 19a-c	Records	Periodic / Daily	BAAQMD Condition # 4044, Part 1	< 2500 tons/day (except for temporary situations approved by the LEA) and < 897,500 tons/year	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Total Amount of Waste and Cover Materials	BAAQMD Condition # 4044, Part 19c	Records	Periodic / Monthly	BAAQMD Condition # 4044, Part 1	< 32.65 E6 yd^3 and < 19.59 E6 tons	Continuous	N/A
SO_2	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: < 0.5 ppm for 3 minutes and < 0.25 ppm for 60 min. and <0.05 ppm for 24 hours	Continuous	N/A
SO_2	BAAQMD Condition # 4044, Parts 18 and 19m	Sulfur analysis of landfill gas and Records	Periodic / Annual	BAAQMD Regulation 9-1-302	< 300 ppm (dry basis)	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
H_2S	None	N/A	None	BAAQMD 9-2-301	Property Line Ground Level Limits: < 0.06 ppm, averaged over 3 minutes and < 0.03 ppm, averaged over 60 minutes	Continuous	N/A
Total Sulfur Content in Landfill Gas	BAAQMD Condition # 4044, Parts 18 and 19m	Sulfur analysis of landfill gas	Periodic / Annual	BAAQMD Condition # 4044, Part 7	< 1300 ppmv	Continuous	N/A
Toxic Air Contaminants in Collected Landfill Gas	BAAQMD Condition # 4044, Part 18	Annual Source Test	Periodic / Annual	BAAQMD Condition # 4044, Part 6	Benzene < 2.5 ppmv Trichloroethylene < 3.0 ppmv Perchloroethylene < 3.0 ppmv Methylene Chloride<20.0ppmv Vinyl Chloride < 2.5 ppmv	Continuous	N/A

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Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Periods of Inoperation for Parametric Monitors	BAAQMD 1-523.4	Operating Records for All Parametric Monitors	Periodic / Daily	BAAQMD 1-523.2	15 consecutive days/incident and 30 calendar days/12 month period	Continuous	N/A
Continuous Monitors	40 CFR 60.7(b)	Operating Records for All Continuous Monitors	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous Operation except for breakdowns, repairs, calibration, and required span adjustments	Continuous	N/A
Heat Input	BAAQMD Condition #4044, Part 13	Monthly and Annual Records	Periodic / Monthly / Annual	BAAQMD Condition #4044, Part 13	< 2,190 MMBtu per day and < 547,680 MM BTU per year	Continuous	N/A

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Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14 LEAN BURN INTERNAL COMBUSTION ENGINES AND GENERATOR SETS	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD 6-102	Visual Observation	P/E	SIP 6-301	< Ringelmann No. 1 for 3 minutes in any hour	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	P/E	BAAQMD 6-1-301	< Ringelmann No. 1 for 3 minutes in any hour	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	P/E	SIP 6-302	< 20% Opacity	Continuous	N/A
Opacity	BAAQMD 6-102	Visual Observation	P/E	BAAQMD 6-1-302	< 20% Opacity	Continuous	N/A
TSP	BAAQMD 6-1-501, 502, and 504	N/A	None	BAAQMD 6-310	0.15 grains/dscf	Continuous	N/A
TSP	BAAQMD 6-1-501, 502, and 504	N/A	None	BAAQMD 6-310.1	0.15 grains/dscf	Continuous	N/A
TOC (Total Organic Com-pounds Plus Methane)	BAAQMD 8-34-501.6 and 8-34-503	Quarterly Inspection and Records	Periodic / Quarterly	BAAQMD 8-34-301.2	1000 ppmv as methane (component leak limit)	Continuous	N/A
Non-Methane Organic Com-pounds (NMOC)	BAAQMD 8-34-412 and 8-34-501.4 and BAAQMD Condition #19933, Part 8	Initial and Annual Source Tests and Records	Periodic / Annual	BAAQMD 8-34-301.4	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane	Continuous	N/A
NMOC	BAAQMD Condition #24894,	Annual Source Test	Periodic / Annual	BAAQMD Condition #	< 120 ppmv dry @ 3% O2, expressed as methane	Continuous	N/A

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Permitted Unit: S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14 LEAN BURN INTERNAL COMBUSTION ENGINES AND GENERATOR SETS	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
	Part 8			19933, Part 6	(S-13, S-14: when fired by biogas fuel)		
POC	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition # 19933, Part 7	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane	Continuous	N/A
SO_2	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: < 0.5 ppm for 3 minutes, < 0.25 ppm for 60 minutes & < 0.05 ppm for 24 hours	Continuous	N/A
SO_2	BAAQMD Condition # 4044, Parts 15 and 17m	Sulfur Analysis of landfill gas	Periodic / Annual	BAAQMD 9-1-302	300 ppm (dry)	Continuous	N/A
H_2S	None	N/A	None	BAAQMD 9-2-301	Property Line ground level limits < 0.06 ppm Averaged over 3 minutes and < 0.03 ppm Averaged over 60 minutes	Continuous	N/A
Total Sulfur Content in Landfill Gas	BAAQMD Condition # 4044, Parts 15 and 17m	Sulfur Analysis of landfill gas	Periodic / Annual	BAAQMD Condition # 4044, Part 7	< 300 ppmv	Continuous	N/A
NO_x	None	N/A	None	BAAQMD 9-8-301.2	Fossil Fuel Gas, Lean-Burn 65 ppmv dry @ 15% O2	Continuous	N/A
NO_x	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD 9-8-302.1	Waste Fuel Gas, Lean-Burn 70 ppmv dry @ 15% O2	Continuous	N/A
NO_x	BAAQMD Condition #19933,	Annual Source Test	Periodic / Annual	BAAQMD Condition #	0.80 grams per brake horsepower hour (g/bhp-hr)	Continuous	N/A

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Permitted Unit: S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14 LEAN BURN INTERNAL COMBUSTION ENGINES AND GENERATOR SETS	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
	Part 8			19933, Part 5			
NO_x	BAAQMD Condition #24894, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition # 24894, Part 4	0.80 grams per brake horsepower hour (g/bhp-hr) (S-13, S-14: when fired by biogas fuel)	Continuous	N/A
CO	None	N/A	None	BAAQMD 9-8-301.3	Fossil Fuel Gas: 2000 ppmv dry @ 15% O_2	Continuous	N/A
CO	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD 9-8-302.3	Waste Fuel Gas: 2000 ppmv dry @ 15% O_2	Continuous	N/A
CO	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition #19933, Part 6	2.1 g/bhp-hr	Continuous	N/A
CO	BAAQMD Condition #24894, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition # 24894, Part 5	2.1 grams per brake horsepower hour (g/bhp-hr) (S-13, S-14: when fired by biogas fuel)	Continuous	N/A
Heat Input	BAAQMD Condition #19933, Part 9a-e	Records	Periodic / Daily	BAAQMD Condition # 19933, Part 10	Limits for each engine: < 252.6 MM BTU/day And < 92,199 MM BTU/year	Continuous	N/A
Emission Control System Shutdown Time	BAAQMD 8-34-501.2 and BAAQMD Condition #19933, Part 9a	Records	Periodic / Daily	BAAQMD 8-34-113.2	240 hours/year	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14 LEAN BURN INTERNAL COMBUSTION ENGINES AND GENERATOR SETS	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Engine Exhaust Oxygen Content	BAAQMD Condition #19933, Part 11 and BAAQMD 8-34-509	Monthly Exhaust Oxygen Monitoring and Records	Periodic / Monthly	BAAQMD 8-34-301.4	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane (as demonstrated by proper exhaust oxygen content range)	Continuous	N/A
Natural Gas Usage	BAAQMD Condition #19933, Part 9a-c	Records	Periodic / Daily	BAAQMD Condition # 19933, Part 3	Prohibited when flare is operating and unless it is needed as supplemental fuel	Continuous	N/A
Gas Flow	BAAQMD Condition #19933, Part 4	Gas Flow Meter (per engine)	Continuous	BAAQMD 8-34-301 and 301.1; BAAQMD Condition # 19933, Parts 1 & 2	Vent all collected gases to a properly operating control system and operate control system continuously.	Continuous	N/A
Gas Flow	BAAQMD 8-34-501.10 and 508	Gas Flow Meter and Recorder (every 15 minutes);	Continuous	BAAQMD 8-34-301 and 301.1; BAAQMD Condition # 19933, Parts 1 & 2	Vent all collected gases to a properly operating control system and operate control system continuously.	Continuous	N/A
Periods of Inoperation for Parametric Monitors	BAAQMD 1-523.4	Records of occurrence and duration	Periodic / Daily	BAAQMD 1-523.2	15 consecutive days/incident and 30 calendar days/12 month period	Continuous	N/A

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Sonoma County Central Landfill	**Facility ID#:** A2254
Permitted Unit: S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14 LEAN BURN INTERNAL COMBUSTION ENGINES AND GENERATOR SETS	**Reporting Period:** *from* 08/01/2021 *through* 01/31/2022

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Main-tenance	63.6655(e)	Records of Main- tenance	P/E	40 CFR Part 63. Subpart ZZZZ, Table 2d, 13	Every 1440 Hours of Operation or Annually: Change Oil and Filter, Inspect Spark Plugs, Inspect Hoses and Belts	Continuous	N/A

Appendix G – Title V Annual Compliance Certification

SONOMA COUNTY CENTRAL LANDFILL

TITLE V ANNUAL CERTIFICATION

SITE: SONOMA COUNTY CENTRAL LANDFILL	**FACILITY ID#:** A2254
REPORTING PERIOD: *from* 02/01/2021	*through* 01/31/2022

CERTIFICATION:

I declare, under penalty of perjury under the laws of the state of California, that, based on information and belief formed after reasonable inquiry, all information provided in this reporting package is true, accurate, and addresses all deviations during the reporting period:

Rob Sherman — 2-25-22

Signature of Responsible Official — Date

Rob Sherman

Name of Responsible Official (please print)

General Manager

Title of Responsible Official (please print)

Notes:

- On June 9, 2021, Sonoma received an updated Title V permit, expiring June 8, 2026. From the expiration of the previous Title V permit on May 19, 2018 to the issuance of the new permit on June 9, 2021, the site was operating under a permit shield. Permit conditions for the renewed Title V permit and previous Title V permit have been reviewed and compliance has been confirmed for both permits. Deviations from either permit have been noted below.

Compliance Certification Report

Site #: A2254 **Site Name:** Sonoma County Central Landfill **Reporting Period:** 02/1/2021 to 01/31/2022

Address: 500 Mecham Road **City:** Petaluma, CA **Zip Code:** 94952

Source #: Facility **Source Name:** Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Notes
BAAQMD Regulation 1	General Provisions and Definitions (5/4/11)	N	C	
SIP Regulation 1	General Provisions and Definitions (6/28/99)	Y	C	
BAAQMD Regulation 2, Rule 1	Permits – General Requirements (3/9/04)	N	C	
BAAQMD 2-1-429	Permits – General Requirements: Federal Emissions Statement (12/21/04)	N	C	
SIP Regulation 2, Rule 1	Permits - General Requirements (1/26/99)	Y	C	
SIP Regulation 2-1-429	Permits – General Requirements: Federal Emissions Statement (4/3/95)	Y	C	
BAAQMD Regulation 2, Rule 5	Permits – New Source Review of Toxic Air Contaminants (1/6/10)	N	C	
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)	N	C	
SIP Regulation 4	Air Pollution Episode Plan (8/6/90)	Y	C	
BAAQMD Regulation 5	Open Burning (3/6/02)	N	C	
SIP Regulation 5	Open Burning (9/4/98)	Y	C	
BAAQMD Regulation 6, Rule 1	Particulate Matter – General Requirements (12/5/07)	N	C	
SIP Regulation 6	Particulate Matter and Visible Emissions (9/4/98)	Y	C	
BAAQMD Regulation 7	Odorous Substances (3/17/82)	N	C	
BAAQMD Regulation 8, Rule 1	Organic Compounds - General Provisions (6/15/94)	Y	C	
BAAQMD Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations (7/20/05)	N	C	
SIP Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations (3/22/95)	Y	C	
BAAQMD Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (11/21/01)	N	C	
BAAQMD Regulation 8, Rule 4	Organic Compounds - General Solvent and Surface Coating Operations (10/16/02)	Y	C	
BAAQMD Regulation 8, Rule 15	Organic Compounds – Emulsified and Liquid Asphalts (6/1/94)	Y	C	
BAAQMD Regulation 8, Rule 16	Organic Compounds - Solvent Cleaning Operations (10/16/02)	Y	C	
BAAQMD Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (6/15/05)	N	C	

Compliance Certification Report

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Source #: Facility **Source Name:** Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Notes
SIP Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (4/19/01)	Y	C	
BAAQMD Regulation 8-40-116	Exemption, Small Volume	Y	C	
BAAQMD Regulation 8-40-117	Exemption, Accidental Spills	Y	C	
BAAQMD Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations (6/15/05)	N	C	
SIP Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations (4/26/95)	Y	C	
BAAQMD Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (12/20/95)	N	C	
SIP Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (3/22/95)	Y	C	
BAAQMD Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (7/17/02)	N	C	
SIP Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (2/26/02)	Y	C	
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)	N	C	
SIP Regulation 9, Rule 1	Inorganic Gaseous Pollutants – Sulfur Dioxide (6/8/99)	Y	C	
BAAQMD Regulation 9, Rule 2	Inorganic Gaseous Pollutants – Hydrogen Sulfide (3/17/82)	N	C	
BAAQMD Regulation 11, Rule 1	Hazardous Pollutants – Lead (3/17/82)	N	C	
SIP Regulation 11, Rule 1	Hazardous Pollutants – Lead (9/2/81)	Y	C	
BAAQMD Regulation 11, Rule 2	Hazardous Pollutants - Asbestos Demolition, Renovation and Manufacturing (10/7/98)	N	C	
BAAQMD Regulation 11, Rule 3	Hazardous Pollutants - Beryllium (3/17/82)	Y	C	
BAAQMD Regulation 11, Rule 14	Hazardous Pollutants - Asbestos Containing Serpentine (7/17/91)	N	C	
BAAQMD Regulation 11, Rule 18	Hazardous Pollutants – Reduction of Risk from Air Toxic Emissions at Existing Facilities (11/15/17)	N	C	
BAAQMD Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (7/11/90)	N	C	
BAAQMD Regulation 14, Rule 1	Mobile Sources Emission Reduction Methods – Bay Area Commuter Benefits Program (3/19/14)	N	C	
SIP Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (9/2/81)	Y	C	

Compliance Certification Report

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Source #: Facility **Source Name:** Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Notes
California Health and Safety Code Section 41750 et seq.	Portable Equipment	N	C	
California Code of Regulations Title 17, Section 93105	Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (7/26/01)	N	C	
California Code of Regulations Title 17, Section 93106	Asbestos Airborne Toxic Control Measure for Asbestos-Containing Serpentine (7/20/00)	N	C	
California Health and Safety Code Section 44300 et seq.	Air Toxics "Hot Spots" Information and Assessment Act of 1987	N	C	
California Health and Safety Code Title 17, Section 93115	Airborne Toxic Control Measure for Stationary Compression Ignition Engines	N	C	
California Health and Safety Code Title 17, Section 93116	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater	N	C	
California Health and Safety Code Title 17, Sections 95100-95109	Mandatory Greenhouse Gas Emissions Reporting	N	C	
California Health and Safety Code Title 17, Sections 95460-95476	Methane Emissions from Municipal Solid Waste Landfills	N	C	
40 CFR Part 61, Subpart A	National Emission Standards for Hazardous Air Pollutants – General Provisions	Y	C	
40 CFR Part 61, Subpart M	National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos (6/19/95)	Y	C	
EPA Regulation 40 CFR 82	Protection of Stratospheric Ozone (2/21/95)			
Subpart F, 40 CFR 82.154	Prohibitions	Y	C	
Subpart F, 40 CFR 82.156	Required Practices	Y	C	
Subpart F, 40 CFR 82.158	Standards for Recycling and Recovery Equipment	Y	C	
Subpart F, 40 CFR 82.161	Technician Certification	Y	C	
Subpart F, 40 CFR 82.162	Certification by Owners of Recovery and Recycling Equipment	Y	C	
Subpart F, 40 CFR 82.166	Reporting and Recordkeeping Requirements	Y	C	

Compliance Certification Report

Site #: A2254
Address: 500 Mecham Road
Source #: S-1, S-15, S-22, S-23, A-4

Site Name: Sonoma County Central Landfill
City: Petaluma, CA
Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
BAAQMD Regulation 1	**General Provisions and Definitions (5/4/11)**			
1-301	**Public Nuisance**	N	C	
1-523	Parametric Monitoring and Recordkeeping Procedures	N	C	
1-523.1	Parametric monitor periods of inoperation	Y	C	
1-523.2	Limit on duration of inoperation	Y	C	
1-523.3	Reports of Violations	N	C	
1-523.4	Records	Y	C	
1-523.5	Maintenance and calibration	N	C	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**			
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	C	
1-523.3	Reports of Violations	Y	C	
BAAQMD Regulation 6, Rule 1	**Particulate Matter – General Requirements (12/5/07)**			
6-1-301	Ringelmann No. 1 Limitation	Y	C	
6-1-302	Opacity Limitation	Y	C	
6-1-305	Visible Particles	N	C	
6-1-307	Prohibition of Visible Emissions Within and From Regulated Bulk Material Sites	N	C	
6-1-307.1	Fugitive Dust Limitations	N	C	
6-1-307.2	Fugitive Dust Cleanup Provision	N	C	
6-1-310	Particle Weight Limitation (applies to Flare only)	N	C	
6-1-310.2	TSP Limits for any source with a PTE > 1000 kg/year (applies to A-4)	N	C	
6-1-401	Appearance of Emissions	N	C	

Compliance Certification Report

Site #: A2254
Address: 500 Mecham Road
Source #: S-1, S-15, S-22, S-23, A-4

Site Name: Sonoma County Central Landfill
City: Petaluma, CA
Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
6-1-501	Sampling Facilities and Instruments Required	N	C	
6-1-502	Data, Records, and Reporting	N	C	
6-1-504	Demonstration of Total Suspended Particulate (TSP) Compliance	N	C	
6-1-506	Monitoring and Record Keeping at Regulated Bulk Material Sites	N	C	
SIP Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**			
6-301	Ringelmann No. 1 Limitation	Y	C	
6-302	Opacity Limitation	Y	C	
6-305	Visible Particles	Y	C	
6-310	Particle Weight Limitation (applies to flare only)	Y	C	
6-401	Appearance of Emissions	Y	C	
BAAQMD Regulation 6, Rule 6	**Particulate Matter – Prohibition of Trackout (8/1/18)**	N	C	
6-6-301	Prohibition of Trackout onto Paved Roadways	N	C	
6-6-302	Prohibition of Visible Emissions During Cleanup of Trackout	N	C	
6-6-501	Monitoring and Recordkeeping	N	C	
BAAQMD Regulation 8, Rule 2	**Organic Compounds – Miscellaneous Operations (7/20/05)**			
8-2-301	Miscellaneous Operations (applies to VOC-laden soil handling and disposal activities only)	Y	C	
SIP Regulation 8, Rule 2	**Organic Compounds - Miscellaneous Operations (6/15/94)**			
8-2-301	Miscellaneous Operations (applies to low VOC soil handling and disposal	N	C	

Compliance Certification Report

Site #: A2254
Address: 500 Mecham Road
Source #: S-1, S-15, S-22, S-23, A-4

Site Name: Sonoma County Central Landfill
City: Petaluma, CA
Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
BAAQMD Regulation 8, Rule 34	**Organic Compounds – Solid Waste Disposal Sites (6/15/05)**			
8-34-113	Limited Exemption, Inspection and Maintenance	N	C	
8-34-113.1	Emission Minimization Requirement	N	C	
8-34-113.2	Shutdown Time Limitation	N	C	
8-34-113.3	Recordkeeping Requirement	N	C	
8-34-116	Limited Exemption, Well Raising	N	C	
8-34-116.1	New Fill	N	C	
8-34-116.2	Limits on Number of Wells Shutdown	N	C	
8-34-116.3	Shutdown Duration Limit	N	C	
8-34-116.4	Capping Well Extensions	N	C	
8-34-116.5	Well Disconnection Records	N	C	
8-34-117	Limited Exemption, Gas Collection System Components	N	C	
8-34-117.1	Necessity of Existing Component Repairs/Adjustments	N	C	
8-34-117.2	New Components are Described in Collection and Control System Design Plan	N	C	
8-34-117.3	Meets Section 8-34-118 Requirements	N	C	
8-34-117.4	Limits on Number of Wells Shutdown	N	C	
8-34-117.5	Shutdown Duration Limit	N	C	
8-34-117.6	Well Disconnection Records	N	C	
8-34-118	Limited Exemption, Construction Activities	N	C	
8-34-118.1	Construction Plan	N	C	
8-34-118.2	Activity is Required to Maintain Compliance with this Rule	N	C	
8-34-118.3	Required or Approved by Other Enforcement Agencies	N	C	
8-34-118.4	Emission Minimization Requirement	N	C	

Compliance Certification Report

Site #: A2254
Address: 500 Mecham Road
Source #: S-1, S-15, S-22, S-23, A-4

Site Name: Sonoma County Central Landfill
City: Petaluma, CA
Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-118.5	Excavated Refuse Requirements	N	C	
8-34-118.6	Covering Requirements for Exposed Refuse	N	C	
8-34-118.7	Installation Time Limit	N	C	
8-34-118.8	Capping Required for New Components	N	C	
8-34-118.9	Construction Activity Records	N	C	
8-34-301	Landfill Gas Collection and Emission Control System Requirements	N	C	
8-34-301.1	Continuous Operation	N	I	There were unplanned shutdowns of the gas collection and control system (GCCS) that did not meet the exemption criteria in BAAQMD Rule 8-34-113. These events included a blower shutdown resulting from the variable frequency drive (VFD), which resulted in a shutdown of the GCCS that occurred on February 11, 2021 from 03:20 to 06:34, Pacific Gas and Electric (PG&E) utility power outages, which resulted in shutdowns of the GCCS that occurred on June 5, 2021 from 06:44 to 06:54, September 18, 2021 from 12:04 to 12:12 and 21:34 to 21:42, and September 19, 2021 from 16:14 to 16:40, and thermocouple malfunctions, which resulted in shutdowns of the GCCS that occurred on December 17, 2021 at 22:48 to December 18, 2021 00:44 and December 19, 2021 from 04:56 to 09:24. These events were reported to the BAAQMD as reportable compliance activities (RCA) and breakdown relief was requested.

Compliance Certification Report

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Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
				On September 29, 2021, Notice of Violation (NOV) No. A59872 was issued by BAAQMD inspector Mr. Richard Murray for an alleged violation of BAAQMD Regulation 8, Rule 34, Section 301.1 (Landfill Gas Collection and Emission Control Requirements). Per the NOV, Sonoma allegedly failed to operate the GCCS continuously during three RCA events that occurred on September 18 and 19, 2021 (IDs 08B84 and 08B85; 08B89 and 08B90; and 08B91 and 08B92). Additional details can be found in the October 7, 2021 10-day NOV Response Letter.
8-34-301.2	Collection and Control Systems Leak Limitations	N	C	
8-34-301.3	Limits for Enclosed Flare (applies to A-4 only)	N	C	

Compliance Certification Report

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Site Name: Sonoma County Central Landfill
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Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-303	Landfill Surface Requirements	N	I	On May 5 and 6, 2021, the BAAQMD inspector arrived at the Landfill to conduct a routine 18-month inspection. During this monitoring, the inspector identified methane exceedances in excess of 500 ppmv near the surface of landfill gas (LFG) extraction wells 49A, 94A, 215, and 218. The inspector subsequently issued an NOV (No. A59863) for these exceedances on May 10, 2021 and cited 8-34-303 as well as the Landfill Methane Rule (LMR), Section 95465(a)(1) of Title 17 of the California Code of Regulations (CCR), as Sonoma is also subject to the LMR which also has a 500 ppmv surface emissions limit. SCS Field Services performed remediation activities to correct these excess exceedances. Additional details can be found in the May 18, 2021 10-day NOV Response Letter.
8-34-304	Gas Collection System Installation Requirements	N	C	
8-34-304.1	Based on Waste Age For Inactive or Closed Areas	N	C	
8-34-304.2	Based on Waste Age For Active Areas	N	C	
8-34-304.3	Based on Amount of Decomposable Waste Accepted	N	C	
8-34-304.4	Based on NMOC Emission Rate	N	C	
8-34-305	Wellhead Requirements (unless operating under alternative wellhead requirements)	N	C	
8-34-305.1	Wellhead Vacuum Requirements	N	C	
8-34-305.2	Wellhead Temperature Limit	N	C	

Compliance Certification Report

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Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-305.3	Nitrogen Concentration Limit for Wellhead Gas or	N	C	
8-34-305.4	Oxygen Concentration Limit for Wellhead Gas	N	C	
8-34-405	Design Capacity Reports	N	C	
8-34-406	Initial NMOC Emission Rate Reports	N	C	
8-34-407	Periodic NMOC Emission Rate Reports	N	C	
8-34-408	Collection and Control System Design Plans	N	C	
8-34-408.1	Sites With NMOC Emission Rate > 50 Mg/year			
8-34-408.2	Sites With Existing Collection and Control Systems	N	C	
8-34-411	Annual Report	N	C	
8-34-412	Compliance Demonstration Tests	N	C	
8-34-413	Performance Test Report	N	C	
8-34-414	Repair Schedule for Wellhead Excesses	N	C	
8-34-414.1	Records of Excesses	N	C	
8-34-414.2	Corrective Action	N	C	
8-34-414.3	Collection System Expansion	N	C	
8-34-414.4	Operational Due Date for Expansion	N	C	
8-34-415	Repair Schedule for Surface Leak Excesses	N	C	
8-34-415.1	Records of Excesses	N	C	
8-34-415.2	Corrective Action	N	C	
8-34-415.3	Re-monitor Excess Location Within 10 Days	N	C	
8-34-415.4	Re-monitor Excess Location Within 1 Month	N	C	
8-34-415.5	If No More Excesses, No Further Re-Monitoring	N	C	
8-34-415.6	Additional Corrective Action	N	C	
8-34-415.7	Re-monitor Second Excess Within 10 days	N	C	
8-34-415.8	Re-monitor Second Excess Within 1 Month	N	C	
8-34-415.9	If No More Excesses, No Further Re-monitoring	N	C	

Compliance Certification Report

Site #: A2254
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Source #: S-1, S-15, S-22, S-23, A-4

Site Name: Sonoma County Central Landfill
City: Petaluma, CA
Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-415.10	Collection System Expansion for Third Excess in a Quarter	N	C	
8-34-415.11	Operational Due Date for Expansion	N	C	
8-34-416	Cover Repairs	N	C	
8-34-501	Operating Records	N	C	
8-34-501.1	Collection System Downtime	N	C	
8-34-501.2	Emission Control System Downtime	N	C	
8-34-501.3	Continuous Temperature Records for Enclosed Combustors (applies to A-4)	N	C	
8-34-501.4	Testing	N	C	
8-34-501.6	Leak Discovery and Repair Records	N	C	
8-34-501.7	Waste Acceptance Records	N	C	
8-34-501.8	Non-decomposable Waste Records	N	C	
8-34-501.9	Wellhead Excesses and Repair Records	N	C	
8-34-501.10	Gas Flow Rate Records for All Emission Control Systems	N	C	
8-34-501.12	Records Retention for 5 Years	N	C	
8-34-503	Landfill Gas Collection and Emission Control System Leak Testing	N	C	
8-34-504	Portable Hydrocarbon Detector	N	C	
8-34-505	Well Head Monitoring	N	C	
8-34-506	Landfill Surface Monitoring	N	C	
8-34-507	Continuous Temperature Monitor and Recorder (applies to flare)	N	C	
8-34-508	Gas Flow Meter	N	C	
8-34-510	Cover Integrity Monitoring	N	C	
SIP Regulation 8, Rule 34	**Organic Compounds-Solid Waste Disposal Sites (10/6/99)**			
8-34-113	Limited Exemption, Inspection and Maintenance	Y	C	
8-34-113.1	Emission Minimization Requirement	Y	C	

Compliance Certification Report

Site #: A2254
Address: 500 Mecham Road
Source #: S-1, S-15, S-22, S-23, A-4

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Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

Reporting Period: 02/1/2021 to 01/31/2022
Zip Code: 94952

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-113.2	Shutdown Time Limitation	Y	C	
8-34-113.3	Recordkeeping Requirement	Y	C	
8-34-116	Limited Exemption, Well Raising	Y	C	
8-34-116.1	New Fill	Y	C	
8-34-116.2	Limits on Number of Wells Shutdown	Y	C	
8-34-116.3	Shutdown Duration Limit	Y	C	
8-34-116.4	Capping Well Extensions	Y	C	
8-34-116.5	Well Disconnection Records	Y	C	
8-34-117	Limited Exemption, Gas Collection System Components	Y	C	
8-34-117.1	Necessity of Existing Component Repairs/Adjustments	Y	C	
8-34-117.2	New Components are Described in Collection and Control System Design Plan	Y	C	
8-34-117.3	Meets Section 8-34-118 Requirements	Y	C	
8-34-117.4	Limits on Number of Wells Shutdown	Y	C	
8-34-117.5	Shutdown Duration Limit	Y	C	
8-34-117.6	Well Disconnection Records	Y	C	
8-34-118	Limited Exemption, Construction Activities	Y	C	
8-34-118.1	Construction Plan	Y	C	
8-34-118.2	Activity is Required to Maintain Compliance with this Rule	Y	C	
8-34-118.3	Required or Approved by Other Enforcement Agencies	Y	C	
8-34-118.4	Emission Minimization Requirement	Y	C	
8-34-118.5	Excavated Refuse Requirements	Y	C	
8-34-118.6	Covering Requirements for Exposed Refuse	Y	C	
8-34-118.7	Installation Time Limit	Y	C	
8-34-118.8	Capping Required for New Components	Y	C	
8-34-118.9	Construction Activity Records	Y	C	
8-34-301	Landfill Gas Collection and Emission Control System Requirements	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-301.1	Continuous Operation	Y	C	
8-34-301.2	Collection and Control Systems Leak Limitations	Y	C	
8-34-301.3	Limits for Enclosed Flare	Y	C	
8-34-303	Landfill Surface Requirements	Y	C	
8-34-304	Gas Collection System Installation Requirements	Y	C	
8-34-304.1	Based on Waste Age For Inactive or Closed Areas	Y	C	
8-34-304.2	Based on Waste Age For Active Areas	Y	C	
8-34-304.3	Based on Amount of Decomposable Waste Accepted	Y	C	
8-34-304.4	Based on NMOC Emission Rate	Y	C	
8-34-305	Wellhead Requirements	Y	C	
8-34-305.1	Operate Under Vacuum	Y	C	
8-34-305.2	Temperature < 55 ℃	Y	C	
8-34-305.3	Nitrogen < 20% or	Y	C	
8-34-305.4	Oxygen < 5%	Y	C	
8-34-405	Design Capacity Reports	Y	C	
8-34-406	Initial NMOC Emission Rate Reports	Y	C	
8-34-407	Periodic NMOC Emission Rate Reports	Y	C	
8-34-408	Collection and Control System Design Plans	Y	C	
8-34-408.1	Sites With NMOC Emission Rate > 50 Mg/year	Y	C	
8-34-408.2	Sites With Existing Collection and Control Systems	Y	C	
8-34-411	Annual Report	Y	C	
8-34-412	Compliance Demonstration Tests	Y	C	
8-34-413	Performance Test Report	Y	C	
8-34-414	Repair Schedule for Wellhead Excesses	Y	C	
8-34-414.1	Records of Excesses	Y	C	
8-34-414.2	Corrective Action	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
8-34-414.3	Collection System Expansion	Y	C	
8-34-414.4	Operational Due Date for Expansion	Y	C	
8-34-415	Repair Schedule for Surface Leak Excesses	Y	C	
8-34-415.1	Records of Excesses	Y	C	
8-34-415.2	Corrective Action	Y	C	
8-34-415.3	Re-monitor Excess Location Within 10 Days	Y	C	
8-34-415.4	Re-monitor Excess Location Within 1 Month	Y	C	
8-34-415.5	If No More Excesses, No Further Re-Monitoring	Y	C	
8-34-415.6	Additional Corrective Action	Y	C	
8-34-415.7	Re-monitor Second Excess Within 10 days	Y	C	
8-34-415.8	Re-monitor Second Excess Within 1 Month	Y	C	
8-34-415.9	If No More Excesses, No Further Re-monitoring	Y	C	
8-34-415.10	Collection System Expansion for Third Excess in a Quarter	Y	C	
8-34-415.11	Operational Due Date for Expansion	Y	C	
8-34-416	Cover Repairs	Y	C	
8-34-501	Operating Records	Y	C	
8-34-501.1	Collection System Downtime	Y	C	
8-34-501.2	Emission Control System Downtime	Y	C	
8-34-501.3	Continuous Temperature Records for Enclosed Combustors	Y	C	
8-34-501.4	Testing	Y	C	
8-34-501.6	Leak Discovery and Repair Records	Y	C	
8-34-501.7	Waste Acceptance Records	Y	C	
8-34-501.8	Non-decomposable Waste Records	Y	C	
8-34-501.9	Wellhead Excesses and Repair Records	Y	C	
8-34-501.10	Gas Flow Rate Records for All Emission Control Systems	Y	C	
8-34-501.12	Records Retention for 5 Years	Y	C	

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8-34-503	Landfill Gas Collection and Emission Control System Leak Testing	Y	C	
8-34-504	Portable Hydrocarbon Detector	Y	C	
8-34-505	Well Head Monitoring	Y	C	
8-34-506	Landfill Surface Monitoring	Y	C	
8-34-507	Continuous Temperature Monitor and Recorder	Y	C	
8-34-508	Gas Flow Meter	Y	C	
8-34-510	Cover Integrity Monitoring	Y	C	
BAAQMD Regulation 8, Rule 40	**Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (12/15/99)**			
8-40-110	Exemption, Storage Pile	Y	C	
8-40-112	Exemption, Sampling	Y	C	
8-40-113	Exemption, Non-Volatile Hydrocarbons	Y	C	
8-40-116	Exemption, Small Volume	Y	C	
8-40-116.1	Volume does not exceed 1 cubic yard	Y	C	
8-40-116.2	Volume does not exceed 8 cubic yards, organic content does not exceed 500 ppmw, may be used only once per quarter	Y	C	
8-40-117	Exemption, Accidental Spills	Y	C	
8-40-118	Exemption, Aeration Projects of Limited Impact	Y	C	
8-40-301	Uncontrolled Contaminated Soil Aeration	Y	C	
8-40-304	Active Storage Piles	Y	C	
8-40-305	Inactive Storage Piles	Y	C	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**			
9-1-301	Limitations on Ground Level Concentrations (applies to A-4 only)	Y	C	
9-1-302	General Emission Limitations (applies to A-4 only)	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
BAAQMD Regulation 9, Rule 2	**Inorganic Gaseous Pollutants – Hydrogen Sulfide (10/6/99)**			
9-2-301	Limitations on Hydrogen Sulfide	N	C	
40 CFR Part 60, Subpart A	**Standards of Performance for New Stationary Sources – General Provisions (5/4/98)**			
60.4(b)	Requires Submission of Requests, Reports, Applications, and Other Correspondence to the Administrator	Y	C	
60.7	Notification and Record Keeping	Y	C	
60.8	Performance Tests	Y	C	
60.11	Compliance with Standards and Maintenance Requirements	Y	C	
60.11(a)	Compliance determined by performance tests	Y	C	
60.11(d)	Control devices operated using good air pollution control practice	Y	C	
60.12	Circumvention	Y	C	
60.13	Monitoring Requirements	Y	C	
60.13(a)	Applies to all continuous monitoring systems	Y	C	
60.13(b)	Monitors shall be installed and operational before performing performance tests	Y	C	
60.13(e)	Continuous monitors shall operate continuously	Y	C	
60.13(f)	Monitors shall be installed in proper locations	Y	C	
60.13(g)	Requires multiple monitors for multiple stacks	Y	C	
60.14	Modification	Y	C	
60.15	Reconstruction	Y	C	
60.19	General Notification and Reporting Requirements	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
40 CFR Part 60, Subpart WWW	**Standards of Performance for New Stationary Sources – Standards of Performance for Municipal Solid Waste Landfills (2/24/99)**			
60.752	Standards for Air Emissions from Municipal Solid Waste Landfills	Y	C	
60.752(b)	Requirements for MSW Landfills with Design Capacity equal to or greater than 2.5 million Mg and 2.5 million m3 (Large Designated Facilities)	Y	C	
60.752(b)(1)	Requirements for Large Designated Facilities with Calculated NMOC Emissions of less than 50 Mg/Year	Y	C	
60.752(b)(1)(i)	Submit Annual Emission Report	Y	C	
60.752(b)(1)(ii)	Recalculate NMOC Emissions Annually until NMOC Emissions > 50 Mg/year or Landfill is Closed	Y	C	
60.752(b)(1)(ii)(A)	If NMOC > 50 Mg/year, comply with 60.752(b)(2)	Y	C	
60.752(b)(1)(ii)(B)	If landfill is permanently closed, submit closure notice to comply with 60.757(d)	Y	C	
60.752(b)(2)	Comply with all requirements in sections (b)(2)(i through iv)	Y	C	
60.752(b)(2)(i)	Submit a Collection and Control System Design Plan	Y	C	
60.752(b)(2)(i)(A)	The collection and control system in the Design Plan shall comply with 60.752(b)(2)(ii)	Y	C	
60.752(b)(2)(i)(B)	Design Plan shall include all proposed alternatives to 60.753 through 60.758	Y	C	
60.752(b)(2)(i)(C)	Design Plan shall conform to 60.759 (active collection system) or demonstrate sufficiency of proposed alternatives	Y	C	
60.752(b)(2)(ii)	Install a collection and control system	Y	C	
60.752(b)(2)(iii)	Route collected gases to a control system.	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.752(b)(2)(iii)(B)	NMOC Control Requirement for Enclosed Combustion Devices	Y	C	
60.752(b)(2)(iv)	Operate in accordance with 60.753, 60.755, and 60.756	Y	C	
60.753	Operational Standards for Collection and Control Systems	Y	C	
60.753(a)	Operate a Collection System in each area or cell in which:	Y	C	
60.753(a)(1)	Active Cell – solid waste in place for 5 years or more	Y	C	
60.753(a)(2)	Closed/Final Grade – solid waste in place for 2 years or more	Y	C	
60.753(b)	Operate each wellhead under negative pressure unless:	Y	C	
60.753(b)(1)	Fire or increased well temperature or to prevent fire	Y	C	
60.753(b)(2)	Use of geomembrane or synthetic cover (subject to alternative Pressure limits)	Y	C	
60.753(b)(3)	Decommissioned well after approval received for shut-down	Y	C	
60.753(c)	Operate each wellhead at < 55 °C, and either < 20% N2 or < than 5% O2 (or other approved alternative levels)	Y	C	
60.753(c)(1)	N2 determined by Method 3C	Y	C	
60.753(c)(2)	O2 determined by 3A and as described in (2)(i-v)	Y	C	
60.753(d)	Surface Leak Limit is less than 500 ppm methane above Background at landfill surface. This section also describes some Surface monitoring procedures.	Y	C	
60.753(e)	Vent all collected gases to a control system complying with 60.752(b)(2)(iii). If collection or control system inoperable, shut down gas mover and close all vents within 1 hour	Y	C	
60.753(f)	Operate the control system at all times when collected gas is Routed to the control system	Y	C	
60.753(g)	If monitoring demonstrates that 60.753(b), (c), or (d) are not Being met, corrective action must be taken	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.754	Test Methods and Procedures	Y	C	
60.754(a)	NMOC Calculation Procedures for NMOC Emission Rate Reports and Comparison to 50 Mg/Year Standard	Y	C	
60.654(a)(1)	Calculate NMOC Emission Rate using either or both of the equations in 60.754(a)(1)(i-ii) with the listed default values	Y	C	
60.754(a)(1)(i)	Equation for known year-to-year waste acceptance rate	Y	C	
60.754(a)(1)(ii)	Equation for unknown year-to-year waste acceptance rate	Y	C	
60.754(a)(2)	Tier 1 - compare calculated NMOC emission rate to 50 Mg/year	Y	C	
60.754(a)(2)(i)	If NMOC Emission Rate < 50 Mg/Year, submit NMOC emission rate report and recalculate NMOC emissions annually	Y	C	
60.754(a)(2)(ii)	If NMOC Emission Rate > 50 Mg/year, comply with 60.752(b)(2) or determine a site specific NMOC concentration and follow 60.754(a)(3).	Y	C	
60.754(a)(3)	Tier 2 – determine site specific NMOC Concentration using Methods 18 or 25C	Y	C	
60.754(a)(3)(i)	Recalculate NMOC Emission Rate using site specific NMOC concentration data	Y	C	
60.754(a)(3)(ii)	If NMOC Emission Rate > 50 Mg/year, comply with 60.752(b)(2) or determine a site specific methane generation rate constant and follow 60.754(a)(4).	Y	C	
60.754(a)(3)(iii)	If NMOC Emission Rate < 50 Mg/Year, submit NMOC Emission rate report, recalculate NMOC emissions annually, retest for NMOC Concentration every 5 years.	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.754(a)(4)	Tier 3 – determine site specific methane generation rate Constant using Method 2E and recalculate NMOC Emission Rate using site specific NMOC Concentration and site specific Methane Generation Rate Constant	Y	C	
60.754(a)(4)(i)	If NMOC Emission Rate > 50 Mg/year, comply with	Y	C	
60.754(a)(4)(ii)	If NMOC Emission Rate < 50 Mg/Year, submit NMOC emission rate report, recalculate NMOC emissions annually, retest for NMOC Concentration every 5 years.	Y	C	
60.754(a)(5)	Allows use of alternative calculation methods if approved by EPA	Y	C	
60.754(c)	For PSD, NMOC emissions shall be calculated using AP-42	Y	C	
60.754(d)	Test Methods for Performance Test (Method 18 or 25C)	Y	C	
60.755	Compliance Provisions	Y	C	
60.755(a)	For Gas Collection Systems	Y	C	
60.755(a)(1)	Calculation Procedures for Maximum Expected Gas Generation Flow Rate	Y	C	
60.755(a)(1)(i)	Equation for unknown year-to-year waste acceptance rate	Y	C	
60.755(a)(1)(ii)	Equation for known year-to-year waste acceptance rate	Y	C	
60.755(a)(1)(iii)	For closed or inactive and full sites with gas collection systems, actual flow rates may be used	Y	C	
60.755(a)(2)	Vertical wells and horizontal collectors shall be of sufficient density to meet all performance specifications	Y	C	
60.755(a)(3)	Measure wellhead pressure monthly. If pressure is positive, take corrective action (final corrective action = expand system within 120 days of initial positive pressure reading)	Y	C	
60.755(a)(4)	Expansion not required during first 180 days after startup.	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.755(a)(5)	Monitor wellheads monthly for temperature and either nitrogen or oxygen. If readings exceed limits, take corrective action up to expanding system within 120 days of first excess.	Y	C	
60.755(b)	Wells shall be placed in cells as described in design plan And no later than 60 days after:	Y	C	
60.755(b)(1)	Five years after initial waste placement in cell, for active cells	Y	C	
60.755(b)(2)	Two years after initial waste placement in cell, for closed/final grade cells.	Y	C	
60.755(c)	Procedures for complying with surface methane standard	Y	C	
60.755(c)(1)	Quarterly monitoring of surface and perimeter	Y	C	
60.755(c)(2)	Procedure for determining background concentration	Y	C	
60.755(c)(3)	Method 21 except probe inlet placed 5-10 cm above ground	Y	C	
60.755(c)(4)	Excess is any reading of 500 ppmv or more. Take corrective action indicated below (i-v).	Y	C	
60.755(c)(4)(i)	Mark and record location of excess	Y	C	
60.755(c)(4)(ii)	Repair cover or adjust vacuum. Re-monitor within 10 calendar days.	Y	C	
60.755(c)(4)(iii)	If still exceeding 500 ppmv, take additional corrective action. Re-monitor within 10 calendar days of 2nd excess.	Y	C	
60.755(c)(4)(iv)	Re-monitor within 1 month of initial excess.	Y	C	
60.755(c)(4)(v)	For any location with 3 monitored excesses in a quarter, additional collectors (or other approved collection system repairs) shall be operational within 120 days of 1st excess.	Y	C	
60.755(c)(5)	Monitor cover integrity monthly and repair as needed.	Y	C	
60.755(d)	Instrumentation and procedures for complying with 60.755(c).	Y	C	
60.755(d)(1)	Portable analyzer meeting Method 21	Y	C	
60.755(d)(2)	Calibrated with methane diluted to 500 ppmv in air	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.755(d)(3)	Use Method 21, Section 4.4 instrument evaluation procedures	Y	C	
60.755(d)(4)	Calibrate per Method 21, Section 4.2 immediately before monitoring.	Y	C	
60.755(e)	Provisions apply at all times except during startup, shutdown, or Malfunction, provided the duration of these shall not exceed 5 Days for collection systems or 1 hour for control systems.	Y	C	
60.756	Monitoring of Operations	Y	C	
60.756(a)	For active collection systems, install wellhead sampling port	Y	C	
60.756(a)(1)	Measure gauge pressure in wellhead on a monthly basis	Y	C	
60.756(a)(2)	Measure nitrogen or oxygen concentration in wellhead gas on a monthly basis.	Y	C	
60.756(a)(3)	Measure temperature of wellhead gas on a monthly basis.	Y	C	
60.756(b)	Enclosed combustors shall comply with (b)(1) and (b)(2)	Y	C	
60.756(b)(1)	Temperature monitor and continuous recorder (not required for boilers and process heaters with capacity > 44 MW)	Y	C	
60.756(b)(2)	Device that records flow to or bypass of the control device (i or ii below)	Y	C	
60.756(b)(2)(i)	Install, calibrate, and maintain a device that records flow to the control device at least every 15 minutes.	Y	C	
60.756(b)(2)(ii)	Secure a bypass valve in closed position with a lock-and-key configuration and inspect seal and lock monthly.	Y	C	
60.756(e)	Procedures for requesting alternative monitoring parameters	Y	C	
60.756(f)	Monitor surface on a quarterly basis. Closed landfills with no monitored exceedances in 3 consecutive quarters may reduce monitoring frequency to an annual basis	Y	C	
60.757	Reporting Requirements	Y	C	
60.757(a)	Submit an Initial Design Capacity Report	Y	C	

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Source Name: Sonoma County Central Landfill (S-1), Landfill Compression Plan (S-15), Waste and Cover Material (S-22), Mobile Surface Equipment (S-23), Landfill Gas Flare (A-4)

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.757(a)(1)	Initial Design Capacity Report fulfills 60.7(a)(1) construction date notification requirement.	Y	C	
60.757(a)(2)	Initial Design Capacity Report Shall Contain:	Y	C	
60.757(a)(2)(i)	Map indicating size and location of site and all areas where waste may be placed.	Y	C	
60.757(a)(2)(ii)	Permit or other documentation that indicates the maximum Design capacity.	Y	C	
60.757(a)(3)	Amended Design Capacity Report required within 90 days of Receiving a permitted increase in design capacity or within 90 Days of an annual density calculation that results in a design Capacity over the thresholds.	Y	C	
60.757(b)	Submit Initial and Annual NMOC Emission Rate Report	Y	C	
60.757(b)(3)	Sites with Collection and Control Systems operating in Compliance with this subpart are exempt from periodic NMOC emission rate reporting requirements.	Y	C	
60.757(c)	Submit a Collection and Control System Design Plan within 1 year of first NMOC emission rate report showing NMOC > 50 MG/year, except as follows	Y	C	
60.757(f)	Submit Annual Reports containing information required by (f)(1) through (f)(6)	Y	C	
60.757(f)(1)	Value and length of time for exceedance of parameters Monitored per 60.756(a), (b) or (d)	Y	C	
60.757(f)(2)	Description and duration of all periods when gas is diverted from the control device by a by-pass line	Y	C	
60.757(f)(3)	Description and duration of all periods when control device was not operating for more than 1 hour	Y	C	

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60.757(f)(4)	All periods when collection system was not operating for more than 5 days.	Y	C	
60.757(f)(5)	Location of each surface emission excess and all re-monitoring dates and concentrations.	Y	C	
60.757(f)(6)	Location and installation dates for any wells or collectors added as a result of corrective action for a monitored excess.	Y	C	
60.757(g)	Initial Performance Test Report Requirements (g)(1-6)	Y	C	
60.757(g)(1)	Diagram of collection system showing positions of all existing collectors, proposed positions for future collectors, and areas to be excluded from control.	Y	C	
60.757(g)(2)	Basis for collector positioning to meet sufficient density requirement	Y	C	
60.757(g)(3)	Documentation supporting percentage of asbestos or non-degradable material claims for areas without a collection system.	Y	C	
60.757(g)(4)	For areas excluded from collection due to non-productivity, calculations and gas generation rates for each non-productive area and the sum for all nonproductive areas.	Y	C	
60.757(g)(5)	Provisions for increasing gas mover equipment if current system inadequate to handle maximum projected gas flow rate.	Y	C	
60.757(g)(6)	Provisions for control of off-site migration	Y	C	
60.758	Recordkeeping Requirements	Y	C	
60.758(a)	Design Capacity and Waste Acceptance Records (retain 5 years)	Y	C	
60.758(b)	Collection and Control Equipment Records (retain for life of Control equipment except 5 years for monitoring data)	Y	C	
60.758(b)(1)	Collection System Records	Y	C	
60.758(b)(1)(i)	Maximum expected gas generation flow rate.	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.758(b)(1)(ii)	Density of wells and collectors	Y	C	
60.758(b)(2)	Control System Records – enclosed combustors other than boilers or process heaters with heat input > 44 MW	Y	C	
60.758(b)(2)(i)	Combustion temperature measured every 15 minutes and Averaged over the same time period as the performance test	Y	C	
60.758(b)(2)(ii)	Percent NMOC reduction achieved by the control device	Y	C	
60.758(c)	Records of parameters monitored pursuant to 60.756 and periods of operation when boundaries are exceeded (retain for 5 years).	Y	C	
60.758(c)(1)	Exceedances subject to record keeping are	Y	C	
60.758(c)(1)(i)	All 3-hour periods when average combustion temperature was more than 28 C below the average combustion temperature during the most recent complying performance test	Y	C	
60.758(c)(2)	Records of continuous flow to control device or monthly Inspection records if seal and lock for bypass valves	Y	C	
60.758(d)	Plot map showing location of all existing and planned collectors with a unique label for each collector (retain for life of collection system)	Y	C	
60.758(d)(1)	Installation date and location of all newly installed collectors	Y	C	
60.758(d)(2)	Records of nature, deposition date, amount, and location of asbestos or non-degradable waste excluded from control	Y	C	
60.758(e)	Records of any exceedance of 60.753, location of exceedance and re-monitoring dates and data (for wellheads and surface). Retain for 5 years.	Y	C	
60.759	Specifications for Active Collection Systems	Y	C	
60.759(a)	Active wells and collectors shall be at sufficient density	Y	C	
60.759(a)(1)	Collection System in refuse shall be certified by PE to achieve comprehensive control of surface gas emissions	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
60.759(a)(2)	Collection Systems (active or passive) outside of refuse shall address migration control	Y	C	
60.759(a)(3)	All gas producing areas shall be controlled except as Described below (i-iii).	Y	C	
60.759(a)(3)(i)	Any segregated area of asbestos or non-degradable Material only may be excluded, if documented adequately per 60.758(d).	Y	C	
60.759(a)(3)(ii)	Any non-productive areas may be excluded from control, provided total NMOC emissions from all excluded areas is < 1% of total NMOC emissions from landfill. Document amount, location, and age of waste and all calculations for each excluded area.	Y	C	
60.759(a)(3)(iii)	For calculating NMOC emissions, values for k and concentration of NMOC that have been previously approved shall be used or defaults if no values were approved. All non-degradable wastes that are being subtracted from total wastes for NMOC calculations must be documented adequately.	Y	C	
60.759(b)	Gas Collection System Components	Y	C	
60.759(b)(1)	Must be constructed of PVC, HDPE, fiberglass, stainless steel, or other approved material and of suitable dimensions to convey projected gas amounts and withstand settling, traffic, etc.	Y	C	
60.759(b)(2)	Collectors shall not endanger liner, shall manage condensate and leachate, and shall prevent air intrusion and surface leaks.	Y	C	
60.759(b)(3)	Header connection assemblies shall include positive closing throttle valve, seals and couplings to prevent leaks, at least one sampling port, and shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other approved materials.	Y	C	
60.759(c)	Gas Mover Equipment shall be sized to handle maximum expected gas generation rate over the intended period of use.	Y	C	

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60.759(c)(1)	For existing systems, flow data shall be used to project maximum flow rate.	Y	C	
60.759(c)(2)	For new systems, shall be calculated per 60.755(a)(1)	Y	C	
40 CFR Part 63, Subpart A	**National Emission Standards for Hazardous Air Pollutants: General Provisions (12/22/08)**			
63.4	Prohibited activities and circumvention	Y	C	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	Y	C	
63.6(e)	Operation and maintenance requirements and SSM Plan	Y	C	
63.6(f)	Compliance with non-opacity emission standards	Y	C	
63.10(b)(2) (i-v)	Records for startup, shutdown, malfunction, and maintenance	Y	C	
63.10(d)(5)	Startup, Shutdown, and Malfunction (SSM) Reports	Y	C	
40 CFR Part 63, Subpart AAAA	**National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (4/20/06)**			
63.1945	When do I have to comply with this subpart?	Y	C	
63.1945(b)	Compliance date for existing affected landfills	Y	C	
63.1955	What requirements must I meet?	Y	C	
63.1955(a)	Comply with either 63.1955(a)(1) or (a)(2)	Y	C	
63.1955(a)(2)	Comply with State Plan that implements 40 CFR Part 60, Subpart Cc	Y	C	
63.1955(b)	Comply with 63.1960-63.1985, if a collection and control system is required by 40 CFR Part 60, Subpart WWW or a State Plan implementing 40 CFR Part 60, Subpart Cc	Y	C	

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63.1955(c)	Comply with all approved alternatives to standards for collection and control systems plus all SSM requirements and 6 month compliance reporting requirements	Y	C	
63.1960	How is compliance determined?	Y	C	
63.1965	What is a deviation?	Y	C	
63.1975	How do I calculate the 3-hour block average used to demonstrate compliance?	Y	C	
63.1980	What records and reports must I keep and submit?	Y	C	
63.1980(a)	Comply with all record keeping and reporting requirements in 40 CFR Part 60, Subpart WWW or the State Plan implementing 40 CFR Part 60, Subpart Cc, except that the annual report required by 40 CFR 60.757(f) must be submitted every 6 months	Y	C	
63.1980(b)	Comply with all record keeping and reporting requirements in 40 CFR Part 60, Subpart A and 40 CFR Part 63, Subpart A, including SSM Plans and Reports	Y	C	
BAAQMD Condition # 4044	**NOTE:** Application Numbers (AN) 28194 and 28326 - Change of Permit Conditions only modified some of the original Condition 4044 Parts as listed in the Title V Permit. For documentation purposes, only those parts that were changed are provided in detail below for clarity of the compliance requirements that may have changed.			

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
Part 1	Except for temporary emergency situations approved by the Local Enforcement Agency, the total amount of municipal solid waste received at the Sonoma County Central Landfill (S-1) shall not exceed 2,500 tons per day nor 897,500 tons per year. The total cumulative amount of all wastes and cover materials (excluding final cover material) placed in the landfill shall not exceed both 32.65 million cubic yards and 19.59 million tons. (basis: Cumulative Increase and 2-1-301)	Y	C	
Part 2	Dust emission limits (BACT and 1-301)	Y	C	
Part 3	Public nuisance consequences (1-301)	N	C	
Part 4	The Sonoma County Central Landfill includes the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in the current Landfill Collection and Control System Design Plan.	Y	C	
4.a.	Total Number of Vertical Wells: 167 Total Number of Horizontal Collectors: 30		C	
4.b.	The Permit Holder has been authorized to make the landfill gas collection system alterations described below pursuant to Permit Applications #26628 and #28194. All collection system alterations shall comply with subparts 4b(i-vii) below.		C	

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4.b.i.	The authorized collection system alterations are: Install up to 100 new gas collection wells Permanently decommission up to 100 gas collection wells Modify wellhead monitoring locations, as needed, provided that each landfill gas collection system component identified in Part 4a and each new collection system component installed per Part 4b is adequately represented by a wellhead monitoring location. The Permit Holder shall maintain documentation on site that identifies all landfill gas collection system components that are represented by each wellhead monitoring location.		C	
4.b.ii.	The Permit Holder shall apply for and receive a Change of Conditions before altering the landfill gas collection components described in subpart 4a. Installing, altering, or permanently decommissioning a vertical well, horizontal collector, or other gas collection component is subject to this requirement, unless this change constitutes a replacement as defined in subpart 4b(iii) below.		C	

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4.b.iii.	Replacement of landfill gas collection system components with identical or functionally equivalent components will not be deemed an alteration and will not be subject to subpart 4b(ii) under the following circumstances. If a well or collector will be shut down and replaced by a new well or collector in essentially the same location as the old component and this decommission/installation will be accomplished in accordance with Regulations 8-34-117 and 8-34-118, then this activity shall be considered a component replacement that is not subject to the Authority to Construct requirement. For each individual well or collector replacement, this subpart authorizes a maximum vacuum disconnection time of five consecutive days for compliance with Regulation 8-34-117.5. The disconnected component and the new component shall not be counted toward the subpart 4b(i) limits; the numbers of replacement wells and replacement collectors are not limited. Alterations, repairs, or replacements of non-perforated piping sections (such as risers, laterals, or header pipes), piping connectors, or valves are not subject to an Authority to Construct requirement.	Y	C	
4.b.iv.	At least three days prior to initiating operation of a well or collector installed pursuant to subpart 4b, the Permit Holder shall submit a start-up notice to the District that contains the component ID number for each new well or collector and the anticipated initial start-up date for each new component.		C	

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4.b.v.	For each well or collector that is permanently decommissioned after January 13, 2017, the Permit Holder shall submit a decommissioning notice to the District within no later than three working days after the component was disconnected from vacuum system. This decommissioning notice shall contain the component ID for each well or collector that was decommissioned, the date and time that each component was disconnected from the vacuum system, and the reason the component was decommissioned.		C	
4.b.vi.	Within six months of installing a new component or permanently decommissioning an existing component, the Permit Holder shall prepare an updated map of the landfill gas collection system that identifies the ID numbers and locations of all operable wells and collectors. On this map or in accompanying documentation, the Permit Holder shall summarize all component changes that were made since the last map was prepared. The previous collection system map, the updated collection system map, and the component change summary shall be provided to District staff upon request.		C	

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4.b.vii.	If the Permit Holder has a net reduction (number of decommissioned components minus the number of installed components) of more than five components within a 120-day period, the Permit Holder shall submit a more comprehensive decommissioning notice to the District. In addition to the information required by subpart 4b(v), this comprehensive decommissioning notice shall include the maps and documentation required by subpart 4b(vi), shall identify all component changes that have occurred but that are not included on the most recently updated map, shall include a list of all well installations that are expected to occur within the next 120 days, and shall discuss the reasons why this reduction in gas collection components is not expected to result in surface emission leaks. Upon request, the Permit Holder shall provide wellhead monitoring data, surface leak monitoring data, records of repair attempts made to date, and other information to support the. need for a net collection component reduction of more than five wells. The District may require additional surface monitoring to verify that this net component reduction is not causing landfill surface leaks. The District will notify the Permit Holder in writing of any additional surface monitoring that is required pursuant to this subpart.		C	
Part 5	Operating Requirements for Landfill Gas Collection System and Collection Components.	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
Part 6	If the concentrations (dry basis) of toxic air contaminants in the collected landfill gas exceed any of the limits listed below, the Permit Holder shall submit a permit application for a Change of Permit Conditions within 30 days of receiving the test results. Benzene= 2.5 ppmv Trichloroethylene = 3.0 ppmv Perchloroethylene = 3.0 ppmv Methylene Chloride=20.0 ppmv Vinyl Chloride= 2.5 ppmv (basis: Regulation 2-5-302 and AB2588 Air Toxic Hot Spots Act)	N	C	
Part 7	Limit on total reduced sulfur content in landfill gas (9-1-302)	Y	C	
Part 8	All collected landfill gas shall be vented to properly operating abatement equipment including the Internal Combustion Engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14) and/or the Landfill Gas Flare (A-4). Under no circumstances shall raw landfill gas be vented to. the atmosphere. This limitation does not apply to unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 or to inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (basis: Regulation 8-34-301)	Y	C	
Part 9	The A-4 Landfill Gas Flare shall be operated as necessary to combust excess gas whenever the flow of landfill gas exceeds the capacity of the Internal Combustion Engines in service. (basis: Regulation 8-34-301)	Y	C	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Comments
Part 10	During operation, the combustion temperature of the A-4 Landfill Gas Flare shall be maintained at a minimum of 1400 degrees Fahrenheit, each averaged over any 3-hour period. (basis: 8-34-301, BACT, and Regulation 2-5- 302)	N	C	
Part 11	Emissions of Nitrogen Oxides (NOx) from the Flare A-4 shall not exceed 0.05 pounds per million BTU (calculated as N02) per flare. (basis: RACT and Offsets)	Y	C	
Part 12	Emissions of Carbon Monoxide (CO) from the Flare A-4 shall not exceed 0.20 pounds per million BTU per flare. (basis: RACT and Offsets).	Y	C	
Part 13	The Heat Input to the A-4 Landfill Gas Flare shall not exceed 2,190 MMBtu per day per flare and 547,680 million BTU per year combined. In order to demonstrate compliance with this part, the Permit Holder shall calculate and record on a daily and monthly basis the total heat input to the flare based on the landfill gas flow rate recorded pursuant to part 14, the average methane concentration in the landfill gas based on the most recent source test, and a high heating value for methane of 1013 BTU/scf. The records shall be retained for five years and shall be available to the District staff upon request. (basis: Cumulative Increase, Regulation 2-1-301)	Y	C	
Part 14	A flow meter to measure gas flow into the A-4 Landfill Gas Flare shall be installed and maintained in good working condition. (basis: Regulation 8-34-301)	Y	C	
Part 15	The A-4 Landfill Gas Flare shall be equipped with both local and remote alarm systems, which shall be enabled whenever the flare is required to be operated under the requirements of Part 9 above. (basis: Regulation 8- 34-301.41)	Y	C	

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Part 16	The A-4 Landfill Gas Flare shall be equipped with a combustion temperature readout monitor and continuous recorder. (basis: Regulation 8- 34-507, BACT, and Regulation 2-5-302)	Y	C	
Part 17	In order to demonstrate compliance with Regulation 8, Rule 34, Section 301.3, parts 11 and 12 above, 40 CFR 60.752(b)(2)(iii)(B), and CCR, Title 17, Section 95464 (b)(2)(A)(l), the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-4).	Y	C	
	Annual source tests shall be conducted no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain their approval of the source test procedures at least 14 days in advance of each source test. They shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date. [Basis: Cumulative Increase, Regulations 8-34- 301.3 and 8-34-412, 40 (FR 60.752(b)(2)(iii)(B), and CCR, Title 17, Section 95464 (b)(2)(A)(l)]	Y	C	
Part 18	Landfill Gas Characterization Test (2-1-403 and AB2588 Air Toxic Hot Spots Act)	N	C	
Part 19	Recordkeeping Requirements (Cumulative Increase, 6-301, 6-305, 8-34-304, 8-34-501.3, and 8-34-501.8)	Y	C	
Part 20	Handling Procedures for Soil Containing VOCs (8-40-301, 8-40-304, and 8- 40-305)	N	C	
Part 21	Daily Soil VOC Emissions Limit (8-2-301)	Y	C	

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BAAQMD Condition # 23087	**Landfill Gas Compression Plant Operating Requirements**		C	
BAAQMD Condition # 26507				
Part 1	CO emission limits for landfill gas combustion devices (Cumulative Increase and Regulation 2-1-301)	Y	C	
Part 2	Site-wide CO emission limit for all non-mobile combustion equipment (Regulation 2-1-403)	Y	C	
Part 3	Record keeping requirements (Regulations 2-1-301 and 2-1-403)	Y	C	

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Site Name: Sonoma Country Central Landfill
City: Petaluma, CA
Source Name: Lean Burn Internal Combustion Engines and Generator Sets (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, S-14)

Reporting Period: 02/1/2021 to 01/31/2022
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Continuous or Intermittent	Days out of compliance / Comments
BAAQMD Regulation 1	**General Provisions and Definitions (5/2/01)**			
1-523	Parametric Monitoring and Recordkeeping Procedures	N	C	
1-523.1	Parametric monitor periods of inoperation	Y	C	
1-523.2	Limit on periods of inoperation	Y	C	
1-523.3	Reports of Violations	N	C	
1-523.4	Records	Y	C	
1-523.5	Maintenance and calibration	Y	C	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**			
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	C	
1-523.3	Reports of Violations	Y	C	
BAAQMD Regulation 6	**Particulate Matter – General Requirements (12/5/07)**			
6-1-301	Ringelmann No. 1 Limitation	Y	C	
6-1-302	Opacity Limitation	Y	C	
6-1-305	Visible Particles	Y	C	
6-1-310	Particle Weight Limitation	N	C	
6-1-310.1	TSP Limit for any source	N	C	
6-1-401	Appearance of Emissions	Y	C	
6-1-501	Sampling Facilities and Instruments Required	N	C	
6-1-502	Data, Records, and Reporting	N	C	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**			
6-301	Ringelmann No. 1 Limitation	Y	C	
6-302	Opacity Limitation	Y	C	
6-305	Visible Particles	Y	C	

Compliance Certification Report

Site #: A2254
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6-310	Particle Weight Limitation (Applies to A-4 only)			
6-401	Appearance of Emissions	Y	C	
BAAQMD Regulation 8, Rule 34	**Organic Compounds - Solid Waste Disposal Sites (10/6/99)**			
8-34-113	Limited Exemption, Inspection and Maintenance	Y	C	
8-34-113.1	Emission Minimization Requirement	Y	C	
8-34-113.2	Shutdown Time Limitation	Y	C	
8-34-113.3	Recordkeeping Requirement	Y	C	
8-34-301	Landfill Gas Collection and Emission Control System Requirements	Y	C	
8-34-301.1	Continuous Operation	Y	C	
8-34-301.2	Collection and Control Systems Leak Limitations	Y	C	
8-34-301.4	Limits for Other Emission Control Systems	Y	C	
8-34-408	Collection and Control System Design Plans	Y	C	
8-34-408.2	Sites With Existing Collection and Control Systems	Y	C	
8-34-410	Equipment Removal Report	Y	C	
8-34-411	Annual Report	Y	C	
8-34-412	Compliance Demonstration Tests	Y	C	
8-34-413	Performance Test Report	Y	C	
8-34-501	Operating Records	Y	C	
8-34-501.2	Emission Control System Downtime	Y	C	
8-34-501.11	Records of Key Emission Control System Operating Parameters	Y	C	
8-34-501.4	Testing	Y	C	
8-34-501.6	Leak Discovery and Repair Records	Y	C	

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8-34-501.10	Gas Flow Rate Records for All Emission Control Systems	Y	C	
8-34-501.12	Records Retention for 5 Years	Y	C	
8-34-503	Landfill Gas Collection and Emission Control System Leak Testing	Y	C	
8-34-504	Portable Hydrocarbon Detector	Y	C	
8-34-508	Gas Flow Meter	Y	C	
8-34-509	Key Emission Control System Operating Parameters	Y	C	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**			
9-1-301	Limitations on Ground Level Concentrations	Y	C	
9-1-302	General Emission Limitations	Y	C	
BAAQMD Regulation 9, Rule 2	**Inorganic Gaseous Pollutants – Hydrogen Sulfide (10/6/99)**			
9-2-301	Limitations on Hydrogen Sulfide	N	C	
BAAQMD Regulation 9, Rule 8	**Inorganic Gaseous Pollutants – Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines (1/20/93)**			
9-8-301	Emission Limits - Fossil Derived Fuel Gas	Y	C	
9-8-301.2	Lean-Burn Engines: NOx Emission Limit	Y	C	
9-8-301.3	CO Emission Limit	Y	C	
9-8-302	Emission Limits – Waste Derived Fuel Gas	Y	C	
9-8-302.1	Lean-Burn Engines: NOx Emission Limit	Y	C	
9-8-302.3	CO Emission Limit	Y	C	

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BAAQMD Condition # 19933	**NOTE:** Application Number (AN) 28326-Change of Permit Conditions only modified some of the original Condition 19933 Parts as listed in the Title V Permit. For documentation purposes, only those parts that were changed are provided in detail below for clarity of the compliance requirements that may have changed.	Y	C	
Part 1	All collected landfill gas shall be vented to properly operating abatement equipment including the Internal Combustion Engines (S-4, S-5, S-6, -S-7, S- 9, S-10, S-11, S-12, S-13, and S-14) or a Landfill Gas Flare (A-4). Under no circumstances shall raw landfill gas be vented to the atmosphere. This limitation does not apply to unavoidable landfill gas emissions that occur during control system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 or to inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (basis: Regulation 8-34-301)	Y	C	
Part 2	The A-4 Landfill Gas Flare shall be operated as necessary to combust excess gas whenever the flow of landfill gas exceeds the capacity of the IC engines in service. (basis: Regulation 8-34-301)	Y	C	
Part 3	The Internal Combustion Engines (S-4, 5-5, S-6, S-7, S-9, S-10, S-11, S-12, S- 13, and S-14) shall be fired exclusively on landfill gas. If required, natural gas can be used as a supplemental fuel, but it shall not reduce or replace landfill gas available for use in these engines. Natural gas shall not be used as supplemental fuel when the A-4 Flare is operating concurrently with these engines. (basis: Offsets and Cumulative Increase)	Y	C	
Part 4	Landfill Gas Flow Meter Requirement (2-1-403, 8-34-301)	Y	C	

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Part 5	NOx emission limit (BACT, Offsets, and Cumulative Increase)	Y	C	
Part 6	CO emission limit (BACT)	Y	C	
Part 7	NMOC control requirement (BACT, Offsets, and Regulation 8-34-301.4)	Y	C	
Part 8	Annual Source Test Requirement (BACT, Offsets, 8-34-114, 8-34-301.4, 8-34-412, 9-8-302.1, and 9-8-302.3)	Y	C	
Part 9	Record Keeping Requirements (Cumulative Increase and Offsets)	Y	C	
Part 10	Heat Input Limits (2-1-301)	Y	C	
Part 11	Exhaust Gas Oxygen Concentration Monitoring Requirements (Regulations 8-34-301.4, 8-34-501.4, and 8-34-509)	Y	C	
BAAQMD Condition # 24894	**Special Conditions for S-13 and S-14 When Fired by Biogas**			
Part 1	Biogas fuel requirement (Regulation 2-1-403)	Y	C	
Part 2	Fuel heat input limit (Cumulative Increase)	Y	C	
Part 3	Fuel Flow Meter requirement (Regulation 2-1-403)	Y	C	
Part 4	NOx emission limit (BACT, Offsets, and Cumulative Increase)	Y	C	
Part 5	CO emission limit (BACT)	Y	C	
Part 6	NMOC emission limit (Cumulative Increase)	Y	C	
Part 7	Fuel use monitoring (Cumulative Increase, Offsets, and TRMP)	Y	C	
Part 8	Annual Source Test Requirement (BACT, Cumulative Increase, Regulations 9-8-302.1, and 9-8-302.3)	Y	C	
Part 9	Record Keeping Requirements (Cumulative Increase, Regulation 2-6-501)	Y	C	

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40 CFR Part 63, Subpart A	**National Emission Standards for Hazardous Air Pollutants – General Provisions (9/13/10)**			
63.4	Prohibited activities and circumvention	Y	C	
63.5	Preconstruction review and notification requirements	Y	C	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	Y	C	
63.6	Compliance with standards and maintenance requirements	Y	C	
63.6(e)	Operation and maintenance requirements and SSM Plan	Y	C	
63.6(f)	Compliance with non-opacity emission standards	Y	C	
63.10	Record Keeping and reporting requirements	Y	C	
63.10(b)	General record keeping requirements	Y	C	
63.10(b)(2)	For affected sources, maintain relevant records of:	Y	C	
63.10(b)(2)(i-v)	Records for startup, shutdown, malfunction, and maintenance	Y	C	
63.10(d)	General reporting requirements	Y	C	
63.10(d)(5)	Startup, Shutdown, and Malfunction (SSM) Reports	Y	C	
40 CFR Part 63 Subpart ZZZZ	**National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (1/30/13)**			
63.6585	Am I subject to this subpart?	Y	C	
63.6585(a)	A stationary reciprocating internal combustion engine (RICE) is not a non-road engine and is not used to propel a motor vehicle.	Y	C	
63.6585(c)	An area source of HAP emissions is a source that is not a major source.	Y	C	
63.6590	What parts of my plant does this subpart cover?	Y	C	

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63.6590(a)	Affected source is any existing, new or reconstructed stationary RICE located at a major or area source.	Y	C	
63.6590(a)(1)	Existing stationary RICE is:	Y	C	
63.6590(a)(1)(iii)	For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006..	Y	C	
63.6595	When do I have to comply with this subpart	Y	C	
63.6595(a)(1)	Comply with the applicable emission limitations, operating limitations, and other requirements no later than 10/19/2013.	Y	C	
63.6603(a)	Emission Limitations and Operating Limitations for Existing Stationary RICE located at an area source of HAP emissions	Y	C	
Table 2d.13	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	Y	C	
63.6605	General requirements for complying with this subpart	Y	C	
63.6605(a)	Compliance with the emission limitations and operating limitations in this subpart at all times.	Y	C	
63.6605(b)	Safety and good air pollution control practices for minimizing emissions.	Y	C	
63.6625	What are my monitoring, installation, collection, operation, and maintenance requirements?	Y	C	
BAAQMD Condition # 26507				
Part 1	CO emission limits for landfill gas combustion devices (Cumulative Increase and Regulation 2-1-301)	Y	C	
Part 2	Site-wide CO emission limit for all non-mobile combustion equipment (Regulation 2-1-403)	Y	C	

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Part 3	Record keeping requirements (Regulations 2-1-301 and 2-1-403)	Y	C	