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TV Tracking #: 786

1. ☐ RECEIVED IN  
ENFORCEMENT: 08/30/2023

Subject: Combined NESHAP/NSPS Report, 8-34 Semi-Annual Report, 40 CFR Subpart AAA  
Semi-Annual Report, and Title V Semi-Annual Monitoring 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)/ New Source Performance Standards (NSPS) Report, Bay Area Air Quality Management District (BAAQMD), Regulation 8, Rule 34 Semi-Annual Report; Semi-Annual Startup, Shutdown and Malfunction (SSM) Plan Report, and Title V Semi-Annual Monitoring Report to the BAAQMD and the U.S. Environmental Protection Agency (EPA) Region IX for the Sonoma County Central Landfill (Sonoma Central).

The combined NESHAP/NSPS, Title V Semi-Annual Monitoring Report, the BAAQMD Rule 8-34 Semi-Annual Report, and the SSM Plan Report covers the period from February 1, 2023 through July 31, 2023.

The Title V reports 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 Maximum Achievable Control Technology (MACT) rule for semi-annual reporting of SSM Plan implementation including 40 CFR 63.10(d)(S). The Title V reports and the SSM Plan report each includes a certification by the responsible official for Sonoma Central.

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](mailto:DCheney@republicservices.com).

Sincerely,

A handwritten signature in blue ink, appearing to be 'Derek Cheney', with a long, sweeping underline that extends to the right.

Derek Cheney  
Environmental Manager  
Sonoma Central Landfill

cc: Ken Lewis, Sonoma Central  
Maria Bowen, SCS Engineers

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

Prepared for:



Republic Services of Sonoma County, Inc.  
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Petaluma, CA 94952

For Submittal to:

Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**SCS ENGINEERS**

01213327.01 Task 1 | August 2023

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This submittal consisting of the National Emission Standards for Hazardous Air Pollutants (NESHAP)/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, and the Title V Semi-Annual Monitoring Report for the Sonoma County Central Landfill in Petaluma, California, dated August 2023, was prepared and reviewed by the following:



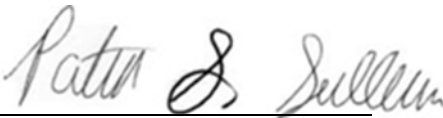
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## Table of Contents

| Section                                                         | Page |
|-----------------------------------------------------------------|------|
| SECTION I. NESHAP/NSPS/BAAQMD Rule 8-34 Semi-Annual Report..... | 1    |
| 1.0 Introduction .....                                          | 1    |
| 1.1 Updated NESHAP 40 CFR 63, Subpart AAAA.....                 | 1    |
| 2.0 Site Background Information.....                            | 2    |
| 2.1 Existing Air Permits.....                                   | 2    |
| 2.2 Existing Landfill Gas Collection and Control System .....   | 2    |
| 3.0 Monitoring and Records .....                                | 3    |
| 3.1 Continuously Monitored Parameters .....                     | 4    |
| 3.1.1 Gas Extraction System Downtime .....                      | 5    |
| 3.1.2 Emission Control System Downtime .....                    | 5    |
| 3.1.3 Individual Well Downtime.....                             | 5    |
| 3.1.4 Flow Meter and Temperature Gauge Downtime .....           | 6    |
| 3.1.5 Flare Combustion Zone Temperature .....                   | 6    |
| 3.2 Component Leak Quarterly Monitoring.....                    | 6    |
| 3.2.1 Fourth Quarter 2022 Monitoring.....                       | 7    |
| 3.2.2 First Quarter 2023 Monitoring .....                       | 7    |
| 3.2.3 Second Quarter 2023 Monitoring .....                      | 7    |
| 3.3 Control Efficiency.....                                     | 7    |
| Flare A-4 .....                                                 | 7    |
| IC Engines .....                                                | 7    |
| 3.4 Landfill Surface Emissions Monitoring.....                  | 8    |
| 3.4.1 Fourth Quarter 2022 Monitoring.....                       | 8    |
| 3.4.2 First Quarter 2023 Monitoring .....                       | 9    |
| 3.4.3 Second Quarter 2023 Monitoring .....                      | 9    |
| 3.5 Wellhead Monthly Monitoring.....                            | 9    |
| 3.5.1 Pressure .....                                            | 9    |
| 3.5.2 Oxygen.....                                               | 10   |
| 3.5.3 Temperature .....                                         | 10   |
| 3.5.4 Corrective Action Analysis .....                          | 11   |
| 3.6 24 Hour High Temperature .....                              | 11   |
| 3.7 Treatment System Monitoring Plan.....                       | 11   |

|              |                                                                  |    |
|--------------|------------------------------------------------------------------|----|
| 3.8          | Cover Integrity Monitoring.....                                  | 11 |
| 3.9          | Gas Generation Estimate and Monthly Landfill Gas Flow Rates..... | 11 |
| 3.10         | Annual Waste Acceptance Rate and Refuse In Place.....            | 12 |
| 3.10.1       | Non-Degradable Waste Areas .....                                 | 12 |
| SECTION II.  | SSM Plan Report .....                                            | 13 |
| SECTION III. | Title V Semi-Annual Report.....                                  | 14 |

## Tables

|          |                                                        |
|----------|--------------------------------------------------------|
| Table 1a | GCCS Downtime                                          |
| Table 1b | Flare A-4 Downtime                                     |
| Table 2  | Individual Well Startups, Shutdowns, and Decommissions |
| Table 3  | Wells with Positive Pressure                           |
| Table 4  | Wells with Oxygen Exceedances                          |
| Table 5  | Wells with Temperature Exceedances                     |

## Appendices

|            |                                                             |
|------------|-------------------------------------------------------------|
| Appendix A | Responsible Official Certification Form                     |
| Appendix B | Existing GCCS Layout                                        |
| Appendix C | LFGTE Facility Downtime Logs                                |
| Appendix D | Source Test Results                                         |
| Appendix E | Surface Emission and GCCS Component Leak Monitoring Results |
| Appendix F | Well Exceedance Documentation                               |
| Appendix G | Title V Semi-Annual Report                                  |

# **SECTION I. NESHAP/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), 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 February 1, 2023 through July 31, 2023 to the BAAQMD and the United States Environmental Protection Agency (EPA).

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

## **1.1 UPDATED NESHAP 40 CFR 63, SUBPART AAAA**

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 000.

Due to the site's permitted design capacity being over the 2.5 million Megagram/2.5 million cubic meter limits and having an uncontrolled non-methane organic compound (NMOC) content exceeding 50 Megagrams per year (mg/year), as of September 27, 2021, Sonoma Central became subject to the updated landfill NESHAP under 40 CFR 63, Subpart AAAA requirements. The NESHAP implements and enhances provisions of 40 CFR 60, Subparts XXX (which were updated NSPS for Municipal Solid Waste (MSW) landfills promulgated in 2016) as well as removes the SSM Plan requirements. However, because the Title V Permit references Subpart WWW and SSM, 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. Sonoma Central has chosen to comply with equivalent provisions of Subpart AAAA in lieu of Subpart 000 and WWW, as allowed by the regulations.

For the reporting period from February 1, 2023 through July 31, 2023, this Semi-Annual Report complies with the sections specified in Subpart WWW, 40 CFR 60.757(f), and Subpart AAAA, 40 CFR 63.1981(h), which describes the items to be submitted in an annual report for landfills using an active collection system. Moreover, this report also includes SSM reporting as it is listed in the Title V Permit, even though it is no longer contained in NESHAP Subpart AAAA. In accordance with NESHAP 40 CFR 63, Subpart AAAA, this report is submitted semi-annually. This report includes a certification signed by a Responsible Official which is provided in Appendix A.

## 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 for the life of the landfill and GCCS equipment, 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 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.

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 and 40 CFR Part 63, Subpart AAAA. The reporting period is from February 1, 2023 through July 31, 2023. The table below summarizes the corresponding sections for the regulatory references addressed in this report:

**Reporting Requirements, Corresponding Regulatory References**

| <b>NSPS Subpart WWW</b><br><b>40 CFR 60.757(f), (g)</b>                                                                                                       | <b>Updated NESHAP Subpart AAAA</b><br><b>40 CFR 63.1981(h), (i), (j), (k), (l)</b>                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| 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 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.                                           |
| All periods when the collection system was not operating in excess of 5 days.                                                                                 | 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 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).                                                                       |
| 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).                                                                                                                            |

| <b>NSPS Subpart WWW</b>      | <b>Updated NESHAP Subpart AAAA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>40 CFR 60.757(f), (g)</b> | <b>40 CFR 63.1981(h), (i), (j), (k), (l)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| --                           | 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.                                                                                                                                                                                                                                                                                                                                                                                                 |
| --                           | 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 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.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| --                           | --                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| --                           | 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 ten (10) occasions for a total of 7.83 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.

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 33.37 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 multiple periods when the entire LFGTE facility was offline (all engines were offline concurrently). Note that Engines 4 (S-7), 5 (S-9), 6 (S-10), 7 (S-11), and Engine 9 (S-13) were intermittently out of service during the reporting period due to necessary equipment upgrades. 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 217.47 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. Well SCHC2001 has an approved less-than-continuous operation condition in the Permit to Operate.

Wells SCV215-0, SCV087-5B, and SCV116-A were abandoned during the reporting period due to a pinched lateral and construction activities.

During the reporting period, there were no new wells started up.

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 not applicable during the reporting period, therefore comprehensive decommissioning notices were not required to be submitted to the BAAQMD.

Details of individual well shutdown and well startups occurring during the reporting period are provided in **Table 2**. All downtime was in compliance with Rule 8-34.

#### **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 1,600°F based on the January 12, 2023 source test results (average test result of 1,650°F minus 50°F). Please note that under the updated NESHAP rules, the requirement is the source test temperature minus 82°F, but as BAAQMD Rule 8-34 and NSPS WWW are still in Sonoma's permit, we will continue to comply with the source test temperature minus 50°F temperature limit.

Flare temperature records are available for review at the site. A summary of results from the January 12, 2023 source test for the flare (report dated March 6, 2023) is provided in **Appendix D**.

### **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 Fourth Quarter 2022 Monitoring**

SCSFS personnel conducted the component leak monitoring of the flare station and the LFGTE Plant on October 5, 2022. One (1) component leak above 1,000 ppmv was detected at the LFGTE facility during fourth quarter 2022 monitoring events. Site initiated corrective actions and re-monitoring was completed on October 12, 2022. Methane concentrations were below the limit of 1,000 ppmv and remained below the limit at the 30-day re-monitoring completed on November 4, 2022.

As of submittal of the previous semi-annual report, the fourth quarter 2022 SEM report was in review. Therefore, a copy of the final report, including the component leak monitoring results, is provided **Appendix E** of this submittal.

### **3.2.2 First Quarter 2023 Monitoring**

SCS Field Services (SCSFS) personnel conducted component leak monitoring of the flare station and the LFGTE facility on January 30, 2023. No component leaks above 1,000 ppmv were detected at the flare station, wellfield, or LFGTE facility during the first quarter 2023 monitoring event. These results are included in **Appendix E**.

### **3.2.3 Second Quarter 2023 Monitoring**

SCS Field Services (SCSFS) personnel conducted component leak monitoring of the flare station and the LFGTE facility on April 25 and May 2, 2023. Two component leaks above 1,000 ppmv were detected at the LFGTE facility. No readings were above 1,000 ppmv at the flare station or wellfield during the second quarter 2023 monitoring event. Corrective actions were initiated upon discovery and subsequent re-monitoring was conducted on May 10, 12, and 18, 2023 and no further exceedances were detected. These results are included in **Appendix E**.

## **3.3 CONTROL EFFICIENCY**

### **Flare A-4**

LFG Flare A-4 was tested on January 12, 2023 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 12, 2023 source test was measured to be greater than (>) 99.46 percent by weight, and the NMOC as methane concentration in the flare outlet was less than (<) 1.7 ppmv. As such, Flare A-4 is in compliance with the aforementioned rules.

Excerpts from the January 2023 source test report dated March 6, 2023, summarizing the test results are provided **Appendix D**.

### **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 <sub>2</sub> ) |
|------------------------|---------------------|------------------------------------|
| 1 (S-4)                | July 28, 2021       | 125.6*                             |
| 2 (S-5)                | December 6, 2021    | 91.9                               |
| 3 (S-6 <sup>1</sup> )  | November 6, 2020    | 99.8                               |
| 4 (S-7 <sup>1</sup> )  | October 21, 2020    | <32                                |
| 5 (S-9)                | March 12, 2021      | 109.3                              |
| 6 (S-10)               | April 29, 2021      | 95.7                               |
| 7 (S-11)               | April 26, 2021      | 74.8                               |
| 8 (S-12 <sup>2</sup> ) | January 12, 2021    | 122.8*                             |
| 9 (S-13)               | February 20, 2018** | 40.97                              |

<sup>1</sup> Per the Lead Power Plant Operator of the LFGTE facility, the S-6, S-7, and S-12 engines were not source tested the previous 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.

There was no IC engine source testing conducted during the reporting period. Following correspondence with Mr. Marco Hernandez with the Source Test Division of the BAAQMD on March 21, 2022, he recommended to not perform source testing of the engines until upgrades to all the engines are made. Upgrades for the facility as required by the Source Test Division of the BAAQMD were initiated on March 28, 2022, and expected to be completed by December 31, 2023. Source testing for the engines will commence once upgrades are completed.

## 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 Fourth Quarter 2022 Monitoring

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on October 5, 6, and 7, 2022. Surface emissions in excess of 500 ppmv were detected at twenty-five (25) locations during the fourth quarter 2022 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring event, which was conducted on October 14, 2022, indicated that all areas with instantaneous exceedances had returned to compliance. One-month re-monitoring was conducted on November 4, 2022, as required by NSPS, and all locations remained in compliance.

As of submittal of the previous semi-annual report, the fourth quarter 2022 SEM report was in review. The final report, including the locations with exceedances and associated methane concentrations are provided in **Appendix E**.

### **3.4.2 First Quarter 2023 Monitoring**

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on January 30, 31 and February 1, 2023. Surface emissions in excess of 500 ppmv were detected at four (4) locations during the First Quarter 2023 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring event, which was conducted on February 9, 2023, indicated that all areas with instantaneous exceedances had returned to compliance. One-month re-monitoring event was conducted on March 1, 2023, as required by NSPS and all locations remained in compliance.

The locations with the exceedances and associated methane concentrations are provided in the First Quarter 2023 SEM report (**Appendix E**).

### **3.4.3 Second Quarter 2023 Monitoring**

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on April 24 and 25, 2023. Surface emissions in excess of 500 ppmv were detected at twenty-two (22) locations during the Second Quarter 2023 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring event, which was conducted on May 2, 3, 10, and 12, 2023, indicated that all areas with instantaneous exceedances had returned to compliance. One-month re-monitoring event was conducted on May 17 and 18, 2023, as required by NSPS and all locations remained in compliance.

The locations with the exceedances and associated methane concentrations are provided in the Second Quarter 2023 SEM report (**Appendix E**).

## **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/NESHAP regulations and in Rule 8-34.

A total of nine (9) wells demonstrated positive pressure readings at the end of the reporting period. The wells will be returned under negative pressure by its applicable compliance date, as specified in

BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report. Pressure exceedances, which were corrected during the reporting period, were corrected within 60 days.

As of the end of the previous reporting period, well SCV236-0 was operating under positive pressure. The wells were back in compliance within the timeline specified in BAAQMD Rule 8-34-414.

Per 40 CFR 63.1960(a)(3)(i), a “root cause analysis” (RCA) is required if pressure exceedances cannot be corrected in 15 days. An additional “corrective action analysis” (CAA) and notification is required for corrective actions that require more than 60 days to complete. See **Appendix E** for RCA forms, CAA forms, and 75-day notifications.

### **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 with the exception of fourteen (14) wells. 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.

### **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. Please note, Subpart AAAA allows wells to be operated in compliance up to 145°F.

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 with a temperature concentration below the 131°F limit with the exception of three (3) wells.

Per 40 CFR 63.1960(a)(4)(i), an RCA is required if temperature exceedances cannot be corrected in 15 days. An additional CAA and notification is required for corrective actions that require more than 60 days to complete. See **Appendix E** for RCA forms, CAA forms, and 75-day notifications.

### **3.5.4 Corrective Action Analysis**

40 CFR 63.1981(j) 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.

During the reporting period, pressure exceedances at SCEW2103, SCV140-0, SCV223-0, and SCEW2016 could not be corrected within 15 days and temperature exceedances at SCV125A0 could not be corrected within 15 days, therefore RCA forms were completed for each well. A pressure exceedance at SCEW2016 could not be remediated within 60 days, which required a 75-day notification submittal. See **Appendix E** for RCA forms, CAA forms, and 75-day notifications.

## **3.6 24 HOUR HIGH TEMPERATURE**

Title 40 CFR 63.1981(k) 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.

## **3.7 TREATMENT SYSTEM MONITORING PLAN**

There are no vents within the treatment system, which allow venting of gas to the atmosphere, and the treatment system is not designed nor equipped to bypass a control device and vent directly to the atmosphere. A calibrated flow meter is installed to measure flow to the treatment system. Treated landfill gas, which cannot be routed for sale or beneficial use, is routed to a control system. Republic maintains and operates all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required by §62.16726(b)(5)(ii) and §63.1983(b)(5)(ii). During this reporting period, per Republic, there were no parameter exceedances of the Treatment System Monitoring Plan.

The LFGTE facility at Sonoma is not equipped with a bypass line.

## **3.8 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 February 27, March 31, April 28, May 30, June 30, and July 31, 2023. All necessary repairs were implemented in a timely manner. Records of cover integrity monitoring are available for review upon request.

## **3.9 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.

## **3.10 ANNUAL WASTE ACCEPTANCE RATE AND REFUSE IN PLACE**

Sonoma Central is an active landfill that continues to accept refuse for disposal. From February 1, 2023 through July 31, 2023, the site accepted 149,148.26 tons of MSW, resulting in a cumulative waste-in-place total of 18,091,769 as of July 31, 2023.

### **3.10.1 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.

## 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 February 1, 2023 through July 31, 2023 are documented below.

- During the reporting period, the GCCS had ten (10) SSM events. Details of these events are included in **Table 1a**.
- During the reporting period, A-4 Flare had fifty-one (51) SSM events. Details of these events are included in **Table 1b**.
- During the reporting period, 126 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, three (3) 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 February 1, 2023 through July 31, 2023 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**.



## Tables

**Table 1a. GCCS Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| GCCS Shutdown                                | GCCS Restarted  | Downtime Hours | Reason for Downtime*                                                                | Corrective Actions Taken                                           |
|----------------------------------------------|-----------------|----------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| There was no GCCS downtime in February 2023. |                 |                |                                                                                     |                                                                    |
| 3/30/2023 10:22                              | 3/30/2023 12:06 | 1.73           | Manual Shutdown Wellfield Scheduled Construction 8-34-113, Inspection & Maintenance | Flare was inspected and adjusted before being returned to service. |
| 3/30/2023 16:28                              | 3/30/2023 17:08 | 0.67           | Manual Shutdown Wellfield Scheduled Construction 8-34-113, Inspection & Maintenance | Flare was inspected and adjusted before being returned to service. |
| 3/30/2023 19:18                              | 3/30/2023 19:26 | 0.13           | Manual Shutdown Wellfield Scheduled Construction 8-34-113, Inspection & Maintenance | Flare was inspected and adjusted before being returned to service. |
| 3/31/2023 11:08                              | 3/31/2023 13:20 | 2.20           | Manual Shutdown Wellfield Scheduled Construction 8-34-113, Inspection & Maintenance | Flare was inspected and adjusted before being returned to service. |
| 3/31/2023 14:24                              | 3/31/2023 15:20 | 0.93           | Manual Shutdown Wellfield Scheduled Construction 8-34-113, Inspection & Maintenance | Flare was inspected and adjusted before being returned to service. |
| 4/11/2023 12:48                              | 4/11/2023 14:02 | 1.23           | Manual Shutdown for plant operations (113)                                          | Flare was inspected and adjusted before being returned to service. |
| There was no GCCS downtime in May 2023.      |                 |                |                                                                                     |                                                                    |
| 6/29/2023 8:12                               | 6/29/2023 8:20  | 0.14           | Manual Shutdown for plant operations (113)                                          | Flare was inspected and adjusted before being returned to service. |
| 6/29/2023 14:02                              | 6/29/2023 14:28 | 0.43           | Manual Shutdown for plant operations (113)                                          | Flare was inspected and adjusted before being returned to service. |
| 6/30/2023 9:00                               | 6/30/2023 9:10  | 0.17           | Manual Shutdown for plant operations (113)                                          | Flare was inspected and adjusted before being returned to service. |
| 6/30/2023 11:36                              | 6/30/2023 11:48 | 0.20           | Manual Shutdown for plant operations (113)                                          | Flare was inspected and adjusted before being returned to service. |
| There was no GCCS downtime in July 2023.     |                 |                |                                                                                     |                                                                    |
| <b>Total:</b>                                |                 | <b>7.83</b>    |                                                                                     |                                                                    |

Notes:

Downtimes listed represent periods when all landfill gas combustion devices were offline concurrently (no gas flow from the collection system).

\*Per the Startup, Shutdown, and Malfunction (SSM) forms, a flare flame failure shutdown is due to limited gas available while operating concurrently with the engine plant. In these instances, the flare cannot maintain the proper temperature to comply with the temperature limit, so a shutdown is activated to avoid non-compliance. Per BAAQMD 8-34-113 and the BAAQMD Compliance Advisory dated November 5, 2018, shutdown of air pollution control equipment prior to any non-compliance is allowable, given the parametric indicators of the system (temperature or flow indicators) are predictive of a pending equipment failure and shutdown.

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.

**Table 1b. Flare (A-4) Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Shutdown        | Startup         | Downtime Hours | Reason for Downtime*                 |
|-----------------|-----------------|----------------|--------------------------------------|
| 2/10/2023 14:30 | 2/10/2023 15:16 | 0.77           | Manual Shutdown for plant operations |
| 2/16/2023 15:00 | 2/16/2023 15:14 | 0.23           | Manual Shutdown for plant operations |
| 2/20/2023 8:28  | 2/20/2023 8:40  | 0.20           | Manual Shutdown for plant operations |
| 2/21/2023 6:10  | 2/21/2023 6:18  | 0.13           | Manual Shutdown for plant operations |
| 2/21/2023 7:20  | 2/21/2023 7:30  | 0.17           | Manual Shutdown for plant operations |
| 2/21/2023 13:22 | 2/21/2023 13:40 | 0.30           | Manual Shutdown for plant operations |
| 2/21/2023 13:44 | 2/21/2023 13:50 | 0.10           | Manual Shutdown for plant operations |
| 2/21/2023 13:52 | 2/21/2023 14:00 | 0.13           | Manual Shutdown for plant operations |
| 2/21/2023 14:04 | 2/21/2023 14:14 | 0.17           | Manual Shutdown for plant operations |
| 2/21/2023 14:16 | 2/21/2023 14:24 | 0.13           | Manual Shutdown for plant operations |
| 2/23/2023 8:42  | 2/23/2023 8:58  | 0.27           | Manual Shutdown for plant operations |
| 3/1/2023 10:30  | 3/1/2023 10:44  | 0.23           | Manual Shutdown for plant operations |
| 3/2/2023 6:44   | 3/2/2023 6:54   | 0.17           | Manual Shutdown for plant operations |
| 3/8/2023 6:32   | 3/8/2023 6:44   | 0.20           | Manual Shutdown for plant operations |
| 3/10/2023 12:06 | 3/10/2023 13:04 | 0.97           | Manual Shutdown for plant operations |
| 3/15/2023 12:14 | 3/15/2023 12:26 | 0.20           | Manual Shutdown for plant operations |
| 3/18/2023 12:50 | 3/18/2023 13:14 | 0.40           | Manual Shutdown for plant operations |
| 3/21/2023 8:54  | 3/21/2023 10:02 | 1.13           | Manual Shutdown for plant operations |
| 3/22/2023 13:46 | 3/22/2023 14:26 | 0.67           | Manual Shutdown for plant operations |
| 3/22/2023 15:44 | 3/22/2023 16:04 | 0.33           | Manual Shutdown for plant operations |
| 3/22/2023 17:06 | 3/22/2023 18:04 | 0.97           | Manual Shutdown for plant operations |
| 3/22/2023 18:08 | 3/22/2023 18:16 | 0.13           | Manual Shutdown for plant operations |
| 3/27/2023 8:02  | 3/27/2023 8:12  | 0.17           | Manual Shutdown for plant operations |
| 3/27/2023 10:26 | 3/27/2023 11:54 | 1.47           | Manual Shutdown for plant operations |
| 3/27/2023 12:44 | 3/27/2023 12:58 | 0.23           | Manual Shutdown for plant operations |
| 3/27/2023 14:06 | 3/27/2023 15:42 | 1.60           | Manual Shutdown for plant operations |
| 3/28/2023 8:40  | 3/28/2023 8:50  | 0.17           | Manual Shutdown for plant operations |
| 3/28/2023 16:20 | 3/28/2023 19:04 | 2.73           | Manual Shutdown for plant operations |
| 3/30/2023 10:22 | 3/30/2023 12:06 | 1.73           | Manual Shutdown for plant operations |
| 3/30/2023 16:28 | 3/30/2023 17:08 | 0.67           | Manual Shutdown for plant operations |
| 3/30/2023 19:18 | 3/30/2023 19:26 | 0.13           | Manual Shutdown for plant operations |
| 3/31/2023 11:08 | 3/31/2023 13:20 | 2.20           | Manual Shutdown for plant operations |
| 3/31/2023 14:24 | 3/31/2023 15:20 | 0.93           | Manual Shutdown for plant operations |
| 4/5/2023 12:42  | 4/5/2023 13:30  | 0.80           | Manual Shutdown for plant operations |
| 4/11/2023 12:48 | 4/11/2023 14:02 | 1.23           | Manual Shutdown for plant operations |
| 4/11/2023 14:24 | 4/11/2023 14:32 | 0.13           | Manual Shutdown for plant operations |
| 4/13/2023 13:26 | 4/13/2023 14:00 | 0.57           | Manual Shutdown for plant operations |
| 4/14/2023 11:36 | 4/14/2023 12:46 | 1.17           | Manual Shutdown for plant operations |
| 4/24/2023 9:18  | 4/24/2023 9:46  | 0.47           | Manual Shutdown for plant operations |
| 5/24/2023 11:14 | 5/24/2023 11:30 | 0.27           | Manual Shutdown for plant operations |
| 6/10/2023 4:16  | 6/10/2023 8:58  | 4.70           | Manual Shutdown for plant operations |
| 6/10/2023 9:52  | 6/10/2023 10:36 | 0.73           | Manual Shutdown for plant operations |

**Table 1b. Flare (A-4) Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Shutdown        | Startup         | Downtime Hours | Reason for Downtime*                 |
|-----------------|-----------------|----------------|--------------------------------------|
| 6/13/2023 13:16 | 6/13/2023 13:26 | 0.17           | Manual Shutdown for plant operations |
| 6/28/2023 9:12  | 6/28/2023 9:40  | 0.47           | Manual Shutdown for plant operations |
| 6/28/2023 9:58  | 6/28/2023 11:00 | 1.03           | Manual Shutdown for plant operations |
| 6/28/2023 14:10 | 6/28/2023 14:32 | 0.37           | Manual Shutdown for plant operations |
| 6/29/2023 8:10  | 6/29/2023 8:20  | 0.17           | Manual Shutdown for plant operations |
| 6/29/2023 14:02 | 6/29/2023 14:30 | 0.47           | Manual Shutdown for plant operations |
| 6/30/2023 8:58  | 6/30/2023 9:10  | 0.20           | Manual Shutdown for plant operations |
| 6/30/2023 11:36 | 6/30/2023 11:48 | 0.20           | Manual Shutdown for plant operations |
| 7/24/2023 9:28  | 7/24/2023 9:40  | 0.20           | Manual Shutdown for plant operations |
| <b>Total</b>    |                 | <b>33.37</b>   |                                      |

**Notes:**

**Events in bold type denotes Malfunction Events**

and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018, with the exception of the events that occurred on February 19, March 3, 15, and 22, and

\*Per the Startup, Shutdown, and Malfunction (SSM) forms, a flare flame failure shutdown is due to limited gas available while operating concurrently with the engine plant. In these instances, the flare cannot maintain the proper temperature to comply with the temperature limit, so a shutdown is activated to avoid non-compliance. Per BAAQMD 8-34-113 and the BAAQMD Compliance Advisory dated November 5, 2018, shutdown of air pollution control equipment prior to any non-compliance is allowable, given the parametric indicators of the system (temperature

**Table 2. Individual Well Startups, Shutdowns, and Decommissions  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID   | Shutdown | Start-up* | Days Offline | Reason for Shutdown/Startup                          |
|-----------|----------|-----------|--------------|------------------------------------------------------|
| SCV215-0  | 5/25/23  | N/A       | N/A          | Vertical well abandoned due to pinched lateral       |
| SCV087-5B | 7/13/23  | N/A       | N/A          | Vertical well abandoned due to new cell construction |
| SCV116-A  | 7/13/23  | N/A       | N/A          | Vertical well abandoned due to new cell construction |

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**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Initial Static Pressure ("H <sub>2</sub> O) | Adjusted Static Pressure ("H <sub>2</sub> O) | Comments                                                               | Corrective Action |
|-----------|-----------------|---------------------------------------------|----------------------------------------------|------------------------------------------------------------------------|-------------------|
| SCEC0008  | 5/23/2023 11:33 | 0.70                                        | 0.90                                         | Initial reading,Closed well                                            | N/A               |
| SCEC0008  | 5/23/2023 11:34 | 0.85                                        | 0.86                                         | No Change                                                              |                   |
| SCEC0008  | 5/25/2023 10:26 | 1.44                                        | -0.19                                        | Initial reading,Opened well                                            |                   |
| SCEC0008  | 5/25/2023 10:26 | 1.44                                        | -0.19                                        |                                                                        | N/A               |
| SCEC0207  | 3/21/2023 13:04 | 0.17                                        | -0.12                                        | Initial reading,Opened well                                            | N/A               |
| SCEC0208  | 3/21/2023 13:44 | 0.50                                        | -0.21                                        | Initial reading,Opened well                                            | N/A               |
| SCHC2201  | 6/29/2023 11:19 | 0.23                                        | 0.33                                         |                                                                        | N/A               |
| SCHC2201  | 6/29/2023 11:19 | 0.23                                        | 0.33                                         |                                                                        |                   |
| SCHC2201  | 6/29/2023 11:24 | -0.05                                       | -0.05                                        |                                                                        |                   |
| SCHC2202  | 7/14/2023 11:01 | 0.06                                        | 0.13                                         |                                                                        | N/A               |
| SCHC2202  | 7/17/2023 8:55  | -0.08                                       | -0.07                                        |                                                                        |                   |
| SCEW2103  | 2/20/2023 10:01 | -0.34                                       | 0.15                                         | No Change                                                              | RCA               |
| SCEW2103  | 3/7/2023 11:32  | -4.73                                       | -4.25                                        | Initial reading,Closed well                                            |                   |
| SCEW2104  | 3/7/2023 13:00  | 0.00                                        | 0.02                                         | Initial reading,Opened well                                            | N/A               |
| SCEW2104  | 3/7/2023 13:01  | -0.03                                       | 0.01                                         | No Change                                                              |                   |
| SCEW2104  | 3/20/2023 9:06  | -0.23                                       | -0.08                                        | Initial reading,Closed well                                            |                   |
| SCEW2104  | 4/13/2023 12:34 | -0.47                                       | 0.03                                         | Initial reading,Opened well                                            | N/A               |
| SCEW2104  | 4/13/2023 12:35 | -0.17                                       | -0.15                                        | No Change                                                              |                   |
| SCEW2104  | 4/28/2023 14:08 | 0.21                                        | 0.22                                         | Closed well,Valve at minimum position,Well offline (valve 100% closed) | N/A               |
| SCEW2104  | 5/9/2023 11:52  | -0.44                                       | -0.35                                        | Initial reading,Opened well                                            |                   |
| SCV51-5A  | 6/19/2023 16:04 | 0.20                                        | -0.05                                        | Initial reading,Opened well                                            | N/A               |
| SCV064-5  | 4/28/2023 16:15 | 8.12                                        | 8.17                                         | Well Decommissioned (permanent),                                       | N/A               |
| SCV064-5  | 5/5/2023 13:13  | -49.92                                      | -49.91                                       | No Change                                                              |                   |
| SCV066-5  | 2/3/2023 12:57  | 3.09                                        | -0.44                                        | Initial reading,Opened well                                            | N/A               |
| SCV066-5  | 4/3/2023 10:50  | 2.28                                        | -1.98                                        | Initial reading,Opened well                                            | N/A               |
| SCV077-1  | 2/24/2023 11:11 | 37.16                                       | 36.47                                        | Initial reading,No ChangePump Needs Maintenance                        | N/A               |
| SCV077-1  | 2/24/2023 11:17 | 28.43                                       | 28.40                                        | Follow up reading,No ChangePump Needs Maintenance                      |                   |
| SCV077-1  | 3/6/2023 12:50  |                                             | -6.17                                        | Initial reading,Opened well                                            |                   |
| SCV077-1  | 4/20/2023 11:41 | 0.42                                        | -0.56                                        | Initial reading,Opened well                                            | N/A               |
| SCV079-1  | 2/2/2023 14:25  | 0.86                                        | -1.79                                        | Initial reading,Opened well                                            | N/A               |
| SCV079-1  | 2/24/2023 11:02 | 10.93                                       | -0.43                                        | Initial reading,Opened well                                            | N/A               |
| SCV082-1  | 6/12/2023 11:56 | 1.66                                        | -0.17                                        | Initial reading,Opened well                                            | N/A               |
| SCV089-B  | 4/4/2023 13:08  | 3.93                                        | -0.13                                        |                                                                        | N/A               |
| SCV090-A* | 7/24/2023 10:29 | 1.82                                        | 1.83                                         |                                                                        | N/A               |
| SCV093-A  | 3/27/2023 10:06 | 7.80                                        | -0.87                                        | Initial reading,Opened well                                            | N/A               |
| SCV095-A  | 3/27/2023 10:39 | 1.00                                        | -0.09                                        | Initial reading,Opened well                                            | N/A               |
| SCV095-A  | 5/8/2023 11:13  | 1.62                                        | -0.49                                        | Initial reading,Opened well                                            | N/A               |
| SCV099-A* | 7/25/2023 7:39  | 0.39                                        | 0.41                                         | No ChangeLateral Vacuum loss                                           | N/A               |

**Table 3. Wells with Positive Pressure**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Initial Static Pressure ("H <sub>2</sub> O) | Adjusted Static Pressure ("H <sub>2</sub> O) | Comments                                                                                | Corrective Action |
|-----------|-----------------|---------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------|-------------------|
| SCV100-5  | 3/22/2023 8:35  | 0.72                                        | -0.16                                        | Initial reading,Opened well                                                             | N/A               |
| SCV103-A  | 3/22/2023 10:28 | 0.26                                        | -0.23                                        | Initial reading,Opened well                                                             | N/A               |
| SCOV106A  | 3/9/2023 10:40  | 0.08                                        | -0.09                                        | Initial reading,Opened well                                                             | N/A               |
| SCOV108A* | 7/24/2023 10:35 | 1.32                                        | 1.39                                         | No ChangeLateral Vacuum loss                                                            | N/A               |
| SCV109-A  | 4/4/2023 12:51  | 0.23                                        | -0.05                                        | Initial reading,Opened well                                                             | N/A               |
| SCV112-0  | 2/21/2023 12:29 | 0.25                                        | -0.03                                        | Initial reading,Opened well                                                             | N/A               |
| SCV112-0  | 3/9/2023 9:58   | 0.08                                        | -0.17                                        | Initial reading,Opened well                                                             | N/A               |
| SCV112-0  | 3/22/2023 12:43 | 0.02                                        | -0.07                                        | Initial reading,Closed well                                                             | N/A               |
| SCV112-0  | 4/3/2023 11:49  | 0.80                                        | -0.08                                        | Initial reading,Opened well                                                             | N/A               |
| SCV112-0  | 5/8/2023 15:36  | 2.53                                        | -0.04                                        | Initial reading,Opened well                                                             | N/A               |
| SCV116-A  | 2/21/2023 10:42 | -0.28                                       | 0.34                                         | No Change                                                                               | N/A               |
| SCV116-A  | 2/28/2023 12:51 | -0.04                                       | -0.13                                        | Initial reading,Opened well                                                             |                   |
| SCV116-A  | 3/27/2023 11:01 | 0.61                                        | -0.09                                        | Initial reading,Opened well                                                             | N/A               |
| SCV120-0  | 2/20/2023 11:11 | 4.86                                        | -18.93                                       | Initial reading,Opened well                                                             | N/A               |
| SCV126A0* | 7/24/2023 10:46 | 0.23                                        | 0.24                                         | No Change                                                                               | N/A               |
| SCV132-0  | 6/12/2023 16:25 | 0.06                                        | -0.07                                        | Initial reading,Opened well                                                             | N/A               |
| SCV135-0  | 6/15/2023 11:58 | 0.02                                        | 0.03                                         | Follow up reading,No ChangeValve at minimum position                                    | N/A               |
| SCV135-0  | 6/22/2023 15:08 | -0.21                                       | -0.22                                        |                                                                                         |                   |
| SCV138-0  | 3/30/2023 15:25 | 3.52                                        | -0.61                                        | Initial reading,Opened well                                                             | N/A               |
| SCV138-0  | 4/28/2023 15:54 | 0.11                                        | -1.90                                        |                                                                                         | N/A               |
| SCV138-0  | 7/11/2023 6:31  | 0.07                                        | 0.09                                         | Follow up reading,No Change                                                             | N/A               |
| SCV138-0  | 7/13/2023 8:10  | -0.30                                       | -0.25                                        | Initial reading,Closed well                                                             |                   |
| SCV138-0* | 7/21/2023 8:39  | 0.17                                        | 0.21                                         | Follow up reading,No ChangeValve at minimum position                                    | N/A               |
| SCV139-0  | 4/4/2023 11:13  | 0.93                                        | -0.28                                        | Initial reading,Opened well                                                             | N/A               |
| SCV139-0  | 4/28/2023 15:59 | 0.28                                        | 0.28                                         | Initial reading,Closed well,Well offline (valve 100% closed),Well offline (ongoing),,,, | N/A               |
| SCV139-0  | 5/4/2023 11:33  | -2.91                                       | -2.74                                        | Initial reading,Closed well                                                             |                   |
| SCV140-0  | 2/23/2023 9:51  | 16.09                                       | -9.80                                        | Initial reading,Opened well                                                             | N/A               |
| SCV140-0  | 4/4/2023 11:04  | 3.45                                        | -0.60                                        | Initial reading,Opened well                                                             | N/A               |
| SCV140-0  | 4/28/2023 16:04 | -0.59                                       | 0.11                                         |                                                                                         | RCA               |
| SCV140-0  | 4/28/2023 16:23 | 36.29                                       | 36.31                                        | Follow up reading,                                                                      |                   |
| SCV140-0  | 5/2/2023 11:09  | 40.02                                       | 40.53                                        | Initial reading,Closed well                                                             |                   |
| SCV140-0  | 5/2/2023 11:11  | 40.86                                       | 40.88                                        | No Change                                                                               |                   |
| SCV140-0  | 5/15/2023 9:26  | -36.62                                      | -27.40                                       | Initial reading,Closed well                                                             |                   |
| SCV141-0  | 6/19/2023 14:24 | 0.12                                        | -0.40                                        | Initial reading,Opened well                                                             | N/A               |
| SCV142-0  | 2/24/2023 15:02 | 0.11                                        | -0.43                                        | Initial reading,Opened well                                                             | N/A               |

**Table 3. Wells with Positive Pressure**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID          | Date and Time   | Initial Static Pressure ("H <sub>2</sub> O) | Adjusted Static Pressure ("H <sub>2</sub> O) | Comments                                             | Corrective Action |
|------------------|-----------------|---------------------------------------------|----------------------------------------------|------------------------------------------------------|-------------------|
| SCV142-0         | 3/31/2023 9:46  | 0.12                                        | -0.35                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV142-0         | 6/14/2023 15:11 | 0.95                                        | 0.97                                         | Follow up reading,Closed well                        | N/A               |
| SCV142-0         | 6/19/2023 14:14 | 1.32                                        | -1.05                                        | Initial reading,Opened well                          |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV142-0         | 7/20/2023 11:04 | 0.22                                        | -1.12                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV142-0*        | 7/20/2023 11:06 | 0.42                                        | 0.43                                         | Follow up reading,No Change                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV146-0         | 7/20/2023 9:10  | 0.01                                        | -23.56                                       | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV147-0         | 3/29/2023 14:03 | 5.77                                        | -0.28                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV149-A*        | 7/25/2023 7:34  | 2.13                                        | 2.17                                         | No ChangeLateral Vacuum loss                         | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV219-0         | 7/17/2023 12:26 | 0.37                                        | -0.59                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV221-0         | 7/10/2023 8:40  | 1.89                                        | 1.91                                         |                                                      | N/A               |
| SCV221-0         | 7/17/2023 12:15 | -30.03                                      | -30.03                                       | No Change                                            |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV222-0         | 3/28/2023 12:52 | 0.21                                        | -0.13                                        | Initial reading,Closed well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV222-0         | 7/10/2023 8:47  | 0.16                                        | 0.16                                         | No ChangeValve at minimum position                   | N/A               |
| SCV222-0         | 7/13/2023 7:44  | -0.50                                       | -0.75                                        | No ChangeValve at minimum position                   |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV223-0         | 2/20/2023 13:43 | 0.07                                        | -0.66                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| <b>SCV223-0*</b> | 7/10/2023 7:55  | 1.87                                        | 1.88                                         |                                                      | RCA               |
| <b>SCV223-0*</b> | 7/17/2023 12:00 | 1.79                                        | 1.81                                         | No Change                                            |                   |
| <b>SCV223-0*</b> | 7/17/2023 12:03 | 1.81                                        | 1.81                                         | No Change                                            |                   |
| <b>SCV223-0*</b> | 7/25/2023 12:20 | 1.59                                        | 1.65                                         | No Change                                            |                   |
| <b>SCV223-0*</b> | 7/28/2023 10:54 | 1.36                                        | 1.39                                         | Initial reading,No ChangeValve at minimum position   |                   |
| <b>SCV223-0*</b> | 7/28/2023 11:13 | 1.18                                        | 1.23                                         | Follow up reading,No ChangeOrifice Plate Changed     |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV226-0         | 7/10/2023 7:43  | 0.07                                        | -2.06                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV228-0         | 7/10/2023 7:36  | 0.02                                        | -2.84                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV229-0         | 6/20/2023 8:56  | 0.22                                        | 0.21                                         | Initial reading,No Change                            | N/A               |
| SCV229-0         | 6/26/2023 16:43 | -1.93                                       | -1.98                                        | Initial reading,Opened well                          |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV230-0         | 7/10/2023 8:10  | 0.04                                        | -9.78                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV230-0         | 7/10/2023 8:10  | 0.04                                        | -9.78                                        |                                                      | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV233-0         | 6/20/2023 9:58  | -0.47                                       | 0.14                                         | Follow up reading,No ChangeValve at minimum position | N/A               |
| SCV233-0         | 6/26/2023 16:39 | -0.46                                       | -0.54                                        | Initial reading,Opened well                          |                   |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV235-0         | 2/27/2023 14:21 | 0.25                                        | -0.89                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCV89-5A*        | 7/26/2023 7:21  | 0.20                                        | 0.22                                         | No Change                                            | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCEW2003         | 7/12/2023 13:25 | 0.03                                        | -0.05                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| SCEW2008         | 2/27/2023 10:10 | 0.15                                        | -0.02                                        | Initial reading,Opened well                          | N/A               |
|                  |                 |                                             |                                              |                                                      |                   |
| <b>SCEW2016</b>  | 2/6/2023 11:20  | 0.35                                        | 0.34                                         | Initial reading,Opened well                          | RCA, CAA, 75-day  |
| <b>SCEW2016</b>  | 2/6/2023 11:21  | 0.10                                        | 0.14                                         | No Change                                            |                   |
| <b>SCEW2016</b>  | 2/20/2023 10:17 | 0.46                                        | 0.46                                         | Initial reading,Opened well                          |                   |
| <b>SCEW2016</b>  | 2/20/2023 10:18 | 0.14                                        | 0.17                                         | No Change                                            |                   |
| <b>SCEW2016</b>  | 3/7/2023 13:07  | 0.54                                        | 0.53                                         | Initial reading,Opened well                          |                   |
| <b>SCEW2016</b>  | 3/7/2023 13:08  | 0.56                                        | 0.54                                         | No Change                                            |                   |
| <b>SCEW2016</b>  | 3/20/2023 9:01  | 0.24                                        | 0.23                                         | Initial reading,Opened well                          |                   |



**Table 3. Wells with Positive Pressure**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID         | Date and Time   | Initial Static Pressure ("H <sub>2</sub> O) | Adjusted Static Pressure ("H <sub>2</sub> O) | Comments                        | Corrective Action |
|-----------------|-----------------|---------------------------------------------|----------------------------------------------|---------------------------------|-------------------|
| <i>SCEW2016</i> | 3/20/2023 9:02  | 0.30                                        | 0.31                                         | No Change                       |                   |
| <i>SCEW2016</i> | 4/13/2023 12:29 | 0.11                                        | 0.60                                         | Initial reading,Opened well     |                   |
| <i>SCEW2016</i> | 4/13/2023 12:30 | 0.57                                        | 0.58                                         | No Change                       |                   |
| <i>SCEW2016</i> | 4/26/2023 10:20 | 0.08                                        | 0.54                                         | Initial reading,Valve 100% open |                   |
| <i>SCEW2016</i> | 4/26/2023 10:21 | 0.06                                        | 0.11                                         | No Change                       |                   |
| <i>SCEW2016</i> | 5/9/2023 12:06  | -0.16                                       | -0.22                                        | Initial reading,Opened well     |                   |
| SCEW2017        | 2/6/2023 13:49  | 0.01                                        | -0.13                                        | Initial reading,Opened well     | N/A               |
| SCEW2202        | 3/3/2023 12:01  | 0.06                                        | -0.05                                        |                                 | N/A               |
| SCEW2203        | 2/1/2023 13:08  | 0.05                                        | -0.03                                        |                                 | N/A               |
| SCEW2204        | 2/1/2023 13:03  | 0.07                                        | -0.03                                        |                                 | N/A               |
| SCEW2205        | 3/3/2023 11:44  | 0.14                                        | -0.10                                        |                                 | N/A               |
| SCEW2206        | 3/9/2023 10:54  | 0.12                                        | -0.16                                        |                                 | N/A               |
| SCEW2207        | 3/27/2023 9:04  | 1.79                                        | -0.37                                        |                                 | N/A               |
| SCEW2208        | 3/27/2023 10:18 | 3.73                                        | -0.79                                        |                                 | N/A               |

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 except for the wells noted in ***bold italics*** . Root cause analysis forms were completed for these wells. Wells noted with an asterisk (\*) remained in exceedance at the end of the reporting period.

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID  | Date and Time   | Oxygen (%) | Comments                                                                       |
|----------|-----------------|------------|--------------------------------------------------------------------------------|
| SCEC0010 | 3/6/2023 12:53  | 7.6        | Initial reading,Valve at minimum position                                      |
| SCEC0010 | 3/6/2023 12:54  | 17.0       | No Change                                                                      |
| SCEC0010 | 3/17/2023 9:27  | 13.9       | Initial reading,Valve at minimum position                                      |
| SCEC0010 | 3/17/2023 9:28  | 12.5       | No Change                                                                      |
| SCEC0010 | 4/6/2023 12:26  | 18.7       | Initial reading,Valve at minimum position                                      |
| SCEC0010 | 4/6/2023 12:27  | 19.9       | No Change                                                                      |
| SCEC0010 | 4/20/2023 14:13 | 2.6        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0031 | 3/6/2023 12:37  | 8.0        | Initial reading,Closed well                                                    |
| SCEC0031 | 3/6/2023 12:38  | 7.2        | No Change                                                                      |
| SCEC0031 | 3/17/2023 9:19  | 12.5       | Valve at minimum position,                                                     |
| SCEC0031 | 3/17/2023 9:21  | 11.0       | No Change                                                                      |
| SCEC0031 | 4/6/2023 12:12  | 0.9        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0032 | 3/21/2023 13:59 | 5.2        | Initial reading,Closed well                                                    |
| SCEC0032 | 3/21/2023 14:01 | 7.2        | No Change                                                                      |
| SCEC0032 | 4/6/2023 12:08  | 3.1        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0034 | 3/21/2023 13:12 | 5.8        | Initial reading,Closed well                                                    |
| SCEC0034 | 3/21/2023 13:14 | 5.7        | No Change                                                                      |
| SCEC0034 | 4/6/2023 11:43  | 0.5        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0034 | 5/5/2023 11:54  | 5.4        | No Change                                                                      |
| SCEC0034 | 5/10/2023 14:00 | 0.0        | Valve 100% open,                                                               |
|          |                 |            |                                                                                |
| SCEC0034 | 7/17/2023 7:49  | 11.4       | No ChangeValve at minimum position                                             |
| SCEC0034 | 7/28/2023 9:08  | 4.6        | No Change                                                                      |
|          |                 |            |                                                                                |
| SCEC0035 | 3/21/2023 12:56 | 13.1       | Initial reading,Closed well                                                    |
| SCEC0035 | 3/21/2023 12:58 | 10.5       | Closed well,                                                                   |
| SCEC0035 | 4/6/2023 11:19  | 0.8        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0038 | 3/21/2023 12:33 | 5.7        | No Change                                                                      |
| SCEC0038 | 4/6/2023 11:07  | 0.0        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0040 | 3/21/2023 12:23 | 9.1        | Initial reading,Closed well                                                    |
| SCEC0040 | 3/21/2023 12:25 | 8.0        | No Change                                                                      |
| SCEC0040 | 4/6/2023 10:59  | 0.0        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SCEC0207 | 3/6/2023 11:26  | 6.9        | Initial reading,Valve at minimum position                                      |
| SCEC0207 | 3/6/2023 11:27  | 19.0       |                                                                                |
| SCEC0207 | 3/17/2023 9:09  | 20.1       | Initial reading,Valve at minimum position                                      |
| SCEC0207 | 3/17/2023 9:10  | 20.7       | No Change                                                                      |
| SCEC0207 | 3/21/2023 13:04 | 0.0        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SC000H04 | 6/14/2023 14:28 | 20.4       | Initial reading,No Change                                                      |
| SC000H04 | 6/14/2023 14:31 | 20.4       | Follow up reading,Closed well,Valve at minimum position,Ongoing exceedance,,,, |
| SC000H04 | 6/27/2023 8:25  | 0.2        | Initial reading,Opened well                                                    |
|          |                 |            |                                                                                |
| SC000H52 | 2/2/2023 14:03  | 11.4       | Initial reading,Closed well                                                    |
| SC000H52 | 2/2/2023 14:05  | 12.2       | No Change                                                                      |
| SC000H52 | 2/20/2023 10:29 | 0.0        | Initial reading,Closed well                                                    |
|          |                 |            |                                                                                |
| SC000H52 | 4/17/2023 13:18 | 8.1        | Initial reading,Valve at minimum position                                      |
| SC000H52 | 4/17/2023 13:19 | 7.4        | No Change                                                                      |
| SC000H52 | 5/1/2023 13:06  | 3.8        | Initial reading,Valve at minimum position                                      |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                |
|-----------|-----------------|------------|---------------------------------------------------------|
| SC000H52  | 6/15/2023 12:52 | 5.6        | Follow up reading,Valve at minimum position             |
| SC000H52  | 6/19/2023 15:02 | 0.0        | Initial reading,No ChangeValve at minimum position      |
|           |                 |            |                                                         |
| SCHC2201  | 3/16/2023 9:03  | 9.6        | <i>HOV Requested</i>                                    |
| SCHC2201  | 4/11/2023 12:41 | 0.4        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2201  | 4/24/2023 7:44  | 10.7       | <i>HOV Requested</i>                                    |
| SCHC2201  | 4/24/2023 7:45  | 4.2        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2201  | 5/16/2023 8:22  | 5.9        | <i>HOV Requested</i>                                    |
| SCHC2201  | 5/16/2023 8:23  | 6.1        | <i>HOV Requested</i>                                    |
| SCHC2201  | 5/25/2023 8:32  | 4.4        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2202  | 2/1/2023 12:35  | 11.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 2/1/2023 12:36  | 13.7       | <i>HOV Requested</i>                                    |
| SCHC2202  | 2/20/2023 9:04  | 5.1        | <i>HOV Requested</i>                                    |
| SCHC2202  | 2/20/2023 9:05  | 6.4        | <i>HOV Requested</i>                                    |
| SCHC2202  | 3/1/2023 9:08   | 10.2       | <i>HOV Requested</i>                                    |
| SCHC2202  | 3/1/2023 9:09   | 14.4       | <i>HOV Requested</i>                                    |
| SCHC2202  | 3/16/2023 9:09  | 13.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 3/16/2023 9:11  | 14.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 4/13/2023 11:12 | 6.1        | <i>HOV Requested</i>                                    |
| SCHC2202  | 4/13/2023 11:13 | 4.5        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2202  | 4/24/2023 7:51  | 10.1       | <i>HOV Requested</i>                                    |
| SCHC2202  | 4/24/2023 7:52  | 13.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/1/2023 10:34  | 16.2       | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/1/2023 10:35  | 16.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/15/2023 9:06  | 2.5        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2202  | 5/16/2023 8:27  | 7.7        | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/16/2023 8:28  | 8.3        | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/16/2023 8:28  | 8.3        | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/25/2023 8:37  | 12.9       | <i>HOV Requested</i>                                    |
| SCHC2202  | 5/25/2023 8:38  | 13.3       | <i>HOV Requested</i>                                    |
| SCHC2202  | 6/27/2023 13:17 | 14.4       | <i>HOV Requested</i>                                    |
| SCHC2202  | 6/29/2023 11:29 | 14.1       | <i>HOV Requested</i>                                    |
| SCHC2202  | 7/14/2023 11:01 | 3.9        | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCHC2202* | 7/17/2023 8:55  | 11.9       | <i>HOV Requested</i>                                    |
| SCHC2202* | 7/17/2023 8:57  | 11.5       | <i>HOV Requested</i>                                    |
|           |                 |            |                                                         |
| SCLEW-06  | 6/14/2023 14:39 | 20.4       | Initial reading,Closed well                             |
| SCLEW-06  | 6/14/2023 14:42 | 17.3       | Follow up reading,Closed well,Valve at minimum position |
| SCLEW-06  | 6/19/2023 14:04 | 0.2        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCLEW-07  | 2/3/2023 12:17  | 6.3        | Initial reading,Valve at minimum position               |
| SCLEW-07  | 2/3/2023 12:20  | 2.0        | No Change                                               |
|           |                 |            |                                                         |
| SCEW2103  | 2/6/2023 10:43  | 12.6       | Initial reading,Valve at minimum position               |
| SCEW2103  | 2/6/2023 10:44  | 13.3       | No Change                                               |
| SCEW2103  | 2/20/2023 10:00 | 8.4        | Initial reading,Closed well                             |
| SCEW2103  | 2/20/2023 10:01 | 12.0       | No Change                                               |
| SCEW2103  | 3/7/2023 11:32  | 4.4        | Initial reading,Closed well                             |
|           |                 |            |                                                         |
| SCEW2103  | 3/20/2023 13:45 | 6.5        | Initial reading,Closed well                             |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                              |
|-----------|-----------------|------------|-------------------------------------------------------|
| SCEW2103  | 3/20/2023 13:47 | 4.9        | No Change                                             |
|           |                 |            |                                                       |
| SCEW2103  | 4/14/2023 14:22 | 7.6        | Initial reading,Opened well                           |
| SCEW2103  | 4/14/2023 14:23 | 8.3        | No Change                                             |
| SCEW2103  | 4/28/2023 13:06 | 2.9        |                                                       |
|           |                 |            |                                                       |
| SCEW2103  | 5/19/2023 12:41 | 6.5        | Initial reading,No ChangeValve at minimum position    |
| SCEW2103  | 5/19/2023 12:43 | 7.0        | Follow up reading,No ChangeValve at minimum position  |
| SCEW2103  | 5/19/2023 12:45 | 3.3        | Follow up reading,No Change                           |
|           |                 |            |                                                       |
| SCEW2103* | 6/14/2023 15:51 | 6.2        |                                                       |
| SCEW2103* | 6/19/2023 14:41 | 7.0        | Initial reading,Closed well                           |
| SCEW2103* | 6/19/2023 14:45 | 11.1       | Follow up reading,No Change                           |
| SCEW2103* | 7/3/2023 14:13  | 8.1        | Initial reading,No ChangeValve at minimum position    |
| SCEW2103* | 7/25/2023 10:37 | 7.1        | Initial reading,No ChangeValve at minimum position    |
| SCEW2103* | 7/25/2023 10:40 | 7.4        | Follow up reading,No Change                           |
|           |                 |            |                                                       |
| SCEW2104  | 2/6/2023 11:04  | 18.4       | Initial reading,Opened well                           |
| SCEW2104  | 2/6/2023 11:05  | 20.6       | No Change                                             |
| SCEW2104  | 2/21/2023 8:51  | 0.3        | Initial reading,                                      |
|           |                 |            |                                                       |
| SCEW2104  | 3/7/2023 13:00  | 20.3       | Initial reading,Opened well                           |
| SCEW2104  | 3/7/2023 13:01  | 20.7       | No Change                                             |
| SCEW2104  | 3/20/2023 9:06  | 18.1       | Initial reading,Closed well                           |
| SCEW2104  | 3/20/2023 9:07  | 20.1       | No Change                                             |
| SCEW2104  | 4/13/2023 12:34 | 0.0        | Initial reading,Opened well                           |
|           |                 |            |                                                       |
| SCEW2108  | 4/14/2023 9:51  | 6.0        | Closed well,                                          |
| SCEW2108  | 4/14/2023 9:53  | 2.2        | No Change                                             |
|           |                 |            |                                                       |
| SCEW2111  | 7/14/2023 11:50 | 5.7        | No ChangeValve at minimum position                    |
| SCEW2111  | 7/18/2023 12:46 | 5.3        | No ChangeValve at minimum position                    |
| SCEW2111  | 7/28/2023 8:39  | 4.9        | No ChangeValve at minimum position                    |
|           |                 |            |                                                       |
| SCEW2119  | 3/21/2023 10:31 | 20.5       | Initial reading,Valve at minimum position             |
| SCEW2119  | 3/21/2023 10:33 | 20.9       | No Change                                             |
| SCEW2119  | 4/7/2023 10:59  | 20.2       | Initial reading,Valve at minimum position             |
| SCEW2119  | 4/7/2023 11:01  | 20.4       | No Change                                             |
| SCEW2119  | 4/20/2023 13:51 | 20.3       | Initial reading,Valve at minimum position             |
| SCEW2119  | 4/20/2023 13:52 | 20.6       | No Change                                             |
| SCEW2119  | 5/2/2023 10:38  | 10.1       | Initial reading,Valve at minimum position             |
| SCEW2119  | 5/2/2023 10:40  | 3.4        | No Change                                             |
|           |                 |            |                                                       |
| SCEW2119  | 6/6/2023 14:39  | 5.5        | Initial reading,No ChangeOngoing exceedance           |
| SCEW2119  | 6/6/2023 14:45  | 0.1        | Follow up reading,Opened well                         |
|           |                 |            |                                                       |
| SCV003-0  | 3/3/2023 12:15  | 13.1       | Initial reading,Closed well,Valve at minimum position |
| SCV003-0  | 3/3/2023 12:16  | 20.3       | No Change                                             |
| SCV003-0  | 3/3/2023 12:21  | 4.1        | Initial reading,Closed well                           |
|           |                 |            |                                                       |
| SCV04-2A  | 3/3/2023 12:53  | 14.2       | Initial reading,Closed well,Valve at minimum position |
| SCV04-2A  | 3/3/2023 12:54  | 21.2       | No Change                                             |
| SCV04-2A  | 3/16/2023 10:10 | 14.5       | Initial reading,Closed well                           |
| SCV04-2A  | 3/16/2023 10:12 | 12.6       | No Change                                             |
| SCV04-2A  | 3/30/2023 13:08 | 0.1        | Initial reading,Opened well                           |
|           |                 |            |                                                       |
| SCV045-A  | 6/14/2023 15:40 | 21.3       | Initial reading,No Change                             |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                |
|-----------|-----------------|------------|---------------------------------------------------------|
| SCV045-A  | 6/14/2023 16:13 | 0.5        | Initial reading,No Change                               |
|           |                 |            |                                                         |
| SCV049-A  | 3/22/2023 10:39 | 8.5        | Initial reading,Closed well                             |
| SCV049-A  | 3/22/2023 10:41 | 4.8        | No Change                                               |
|           |                 |            |                                                         |
| SCV050-A  | 2/1/2023 9:45   | 6.1        | Initial reading,Closed well                             |
| SCV050-A  | 2/1/2023 9:47   | 5.0        | No Change                                               |
|           |                 |            |                                                         |
| SCV050-A  | 3/10/2023 11:05 | 6.4        | Initial reading,Closed well                             |
| SCV050-A  | 3/10/2023 11:08 | 6.1        | No Change                                               |
| SCV050-A  | 3/31/2023 8:31  | 6.3        | Initial reading,Closed well                             |
| SCV050-A  | 3/31/2023 8:32  | 6.3        | No Change                                               |
| SCV050-A  | 4/12/2023 14:48 | 2.9        | No Change                                               |
|           |                 |            |                                                         |
| SCV050-A  | 4/25/2023 11:49 | 6.7        | Initial reading,Closed well                             |
| SCV050-A  | 4/25/2023 11:50 | 5.7        | No Change                                               |
| SCV050-A  | 5/9/2023 13:12  | 0.0        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCV050-A  | 6/15/2023 13:42 | 6.0        | Follow up reading,Closed well,Valve at minimum position |
| SCV050-A  | 6/19/2023 15:51 | 4.5        | Initial reading,Closed well                             |
|           |                 |            |                                                         |
| SCV050-A  | 7/14/2023 6:54  | 11.1       | No ChangeValve at minimum position                      |
| SCV050-A  | 7/18/2023 12:56 | 4.1        | No ChangeValve at minimum position                      |
|           |                 |            |                                                         |
| SCV051-A  | 4/25/2023 11:55 | 5.2        | Initial reading,Closed well                             |
| SCV051-A  | 4/25/2023 11:57 | 5.2        | No Change                                               |
| SCV051-A  | 5/9/2023 13:22  | 0.0        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCV051-A  | 6/15/2023 13:31 | 5.6        | Initial reading,Valve at minimum position               |
| SCV051-A  | 6/15/2023 13:33 | 5.9        | Follow up reading,No Change                             |
| SCV051-A  | 6/19/2023 15:57 | 3.8        | Initial reading,Closed well                             |
|           |                 |            |                                                         |
| SCV051-A* | 7/14/2023 6:59  | 10.1       | No ChangeValve at minimum position                      |
| SCV051-A* | 7/18/2023 13:00 | 6.9        | No ChangeValve at minimum position                      |
| SCV051-A* | 7/20/2023 10:44 | 7.3        | No ChangeValve at minimum position                      |
|           |                 |            |                                                         |
| SCV057-0  | 3/31/2023 10:00 | 5.2        | Initial reading,Valve at minimum position               |
| SCV057-0  | 3/31/2023 10:02 | 2.1        | No Change                                               |
|           |                 |            |                                                         |
| SCV057-0  | 6/14/2023 15:28 | 21.1       | Initial reading,No ChangeValve at minimum position      |
| SCV057-0  | 6/19/2023 14:28 | 0.1        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCV064-0  | 2/24/2023 15:41 | 10.3       | Initial reading,No ChangeValve at minimum position      |
| SCV064-0  | 2/24/2023 15:44 | 10.3       | Follow up reading,No ChangeValve at minimum position    |
| SCV064-0  | 3/6/2023 9:26   | 0.7        | Initial reading,No Change                               |
|           |                 |            |                                                         |
| SCV064-0  | 3/17/2023 10:40 | 8.7        | Initial reading,Valve at minimum position               |
| SCV064-0  | 3/17/2023 10:43 | 5.9        | No Change                                               |
| SCV064-0  | 4/3/2023 10:15  | 1.8        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCV064-5  | 3/17/2023 10:54 | 15.4       | Initial reading,Valve at minimum position               |
| SCV064-5  | 3/17/2023 10:56 | 18.0       | No Change                                               |
| SCV064-5  | 4/3/2023 10:09  | 2.5        | Initial reading,Opened well                             |
|           |                 |            |                                                         |
| SCV066-5  | 3/6/2023 8:57   | 7.4        | Initial reading,No ChangeValve at minimum position      |
| SCV066-5  | 3/6/2023 8:59   | 7.6        | Follow up reading,No Change                             |
| SCV066-5  | 3/17/2023 10:10 | 7.8        | Initial reading,Valve at minimum position               |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID  | Date and Time   | Oxygen (%) | Comments                                              |
|----------|-----------------|------------|-------------------------------------------------------|
| SCV066-5 | 3/17/2023 10:11 | 9.2        | No Change                                             |
| SCV066-5 | 4/3/2023 10:50  | 0.0        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV066-5 | 7/20/2023 7:18  | 6.0        | No ChangeValve at minimum position                    |
| SCV066-5 | 7/20/2023 7:24  | 2.1        | No ChangeValve at minimum position                    |
|          |                 |            |                                                       |
| SCV066-A | 3/6/2023 8:46   | 6.5        | Initial reading,Opened well                           |
| SCV066-A | 3/6/2023 8:49   | 3.1        | Follow up reading,No Change                           |
|          |                 |            |                                                       |
| SCV066-A | 3/17/2023 10:15 | 6.2        | Initial reading,Valve at minimum position             |
| SCV066-A | 3/17/2023 10:18 | 5.6        | No Change                                             |
| SCV066-A | 4/3/2023 11:02  | 4.2        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV067-5 | 3/17/2023 9:50  | 10.3       | Initial reading,Closed well                           |
| SCV067-5 | 3/17/2023 9:53  | 6.0        | No Change                                             |
| SCV067-5 | 4/3/2023 10:41  | 0.3        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV067-A | 3/17/2023 9:59  | 17.1       | Initial reading,Valve at minimum position             |
| SCV067-A | 3/17/2023 10:00 | 20.1       | No Change                                             |
| SCV067-A | 4/3/2023 10:46  | 3.3        | No Change                                             |
|          |                 |            |                                                       |
| SCV067-A | 7/10/2023 11:24 | 5.5        | Initial reading,Closed well,Valve at minimum position |
| SCV067-A | 7/10/2023 11:26 | 19.6       | Follow up reading,No ChangeValve at minimum position  |
| SCV067-A | 7/20/2023 7:14  | 3.4        | No ChangeValve at minimum position                    |
|          |                 |            |                                                       |
| SCV074-A | 2/3/2023 9:09   | 6.1        | Initial reading,Valve at minimum position             |
| SCV074-A | 2/3/2023 9:10   | 6.2        | No Change                                             |
| SCV074-A | 2/20/2023 10:42 | 3.6        | Initial reading,Closed well                           |
|          |                 |            |                                                       |
| SCV075-A | 2/23/2023 11:13 | 7.2        | Initial reading,No Change                             |
| SCV075-A | 2/23/2023 11:16 | 6.3        | No Change                                             |
| SCV075-A | 3/6/2023 11:04  | 0.0        | Initial reading,Closed well                           |
|          |                 |            |                                                       |
| SCV075-A | 5/2/2023 12:41  | 6.5        | Initial reading,Closed well                           |
| SCV075-A | 5/2/2023 12:43  | 4.2        | No Change                                             |
|          |                 |            |                                                       |
| SCV075-A | 6/15/2023 12:28 | 20.8       | Initial reading,                                      |
| SCV075-A | 6/15/2023 12:29 | 20.8       | Follow up reading,No Change                           |
| SCV075-A | 6/22/2023 14:54 | 0.7        | Initial reading,No Change                             |
|          |                 |            |                                                       |
| SCV077-1 | 2/24/2023 11:11 | 19.2       | Initial reading,No ChangePump Needs Maintenance       |
| SCV077-1 | 2/24/2023 11:17 | 19.2       | Follow up reading,No ChangePump Needs Maintenance     |
| SCV077-1 | 3/6/2023 12:50  | 0.5        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV078-1 | 7/21/2023 10:09 | 6.6        | Initial reading,No ChangeValve at minimum position    |
| SCV078-1 | 7/21/2023 10:10 | 5.2        | Follow up reading,No ChangeValve at minimum position  |
|          |                 |            |                                                       |
| SCV079-1 | 6/23/2023 14:05 | 20.6       | Initial reading,Closed well,Lateral Vacuum loss       |
| SCV079-1 | 6/23/2023 14:12 | 20.8       | Follow up reading,No Change                           |
| SCV079-1 | 6/23/2023 14:40 | 20.5       | Initial reading,Opened well,Valve at minimum position |
| SCV079-1 | 6/23/2023 14:43 | 20.5       | Follow up reading,No Change                           |
| SCV079-1 | 7/3/2023 13:38  | 1.4        |                                                       |
|          |                 |            |                                                       |
| SCV080-0 | 2/2/2023 14:10  | 6.1        | Initial reading,Closed well                           |
| SCV080-0 | 2/2/2023 14:11  | 4.9        | No Change                                             |
|          |                 |            |                                                       |
| SCV080-0 | 6/15/2023 13:06 | 20.0       | Initial reading,Closed well                           |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                |
|-----------|-----------------|------------|---------------------------------------------------------|
| SCV080-0  | 6/15/2023 13:09 | 19.9       | Follow up reading, No Change Valve at minimum position  |
| SCV080-0  | 6/23/2023 13:37 | 20.8       | Initial reading, Closed well, Valve at minimum position |
| SCV080-0  | 6/23/2023 13:42 | 20.7       | Follow up reading, No Change                            |
| SCV080-0  | 7/11/2023 7:54  | 0.6        |                                                         |
|           |                 |            |                                                         |
| SCV081-1  | 2/3/2023 8:52   | 14.0       | Initial reading, Closed well                            |
| SCV081-1  | 2/3/2023 8:54   | 13.4       | No Change                                               |
| SCV081-1  | 2/20/2023 10:36 | 7.8        | Closed well,                                            |
| SCV081-1  | 2/20/2023 10:37 | 11.3       | No Change                                               |
| SCV081-1  | 3/6/2023 12:02  | 12.8       | Initial reading, No Change Valve at minimum position    |
| SCV081-1  | 3/9/2023 12:44  | 10.4       | Initial reading, Closed well                            |
| SCV081-1  | 3/9/2023 12:46  | 11.2       | No Change                                               |
| SCV081-1  | 3/27/2023 8:45  | 11.7       | Initial reading, Closed well                            |
| SCV081-1  | 3/27/2023 8:48  | 10.6       | No Change                                               |
| SCV081-1  | 3/29/2023 12:39 | 10.3       | Initial reading, Closed well                            |
| SCV081-1  | 3/29/2023 12:40 | 10.3       | No Change                                               |
| SCV081-1  | 4/14/2023 8:28  | 14.6       | Initial reading, Closed well                            |
| SCV081-1  | 4/14/2023 8:29  | 14.7       | No Change                                               |
| SCV081-1  | 4/17/2023 13:10 | 12.9       | Initial reading, Valve at minimum position              |
| SCV081-1  | 4/17/2023 13:11 | 12.4       | No Change                                               |
| SCV081-1  | 4/20/2023 13:27 | 0.0        | Initial reading, Opened well                            |
|           |                 |            |                                                         |
| SCV081-1  | 4/20/2023 13:29 | 15.0       | Closed well,                                            |
| SCV081-1  | 4/20/2023 13:31 | 10.1       | No Change                                               |
| SCV081-1  | 5/1/2023 13:14  | 0.0        | Initial reading, Opened well                            |
|           |                 |            |                                                         |
| SCV081-1  | 6/12/2023 11:24 | 18.2       | Initial reading, Closed well                            |
| SCV081-1  | 6/12/2023 11:25 | 20.8       | Follow up reading, No Change Valve at minimum position  |
| SCV081-1  | 6/19/2023 15:07 | 0.4        | Initial reading, No Change                              |
|           |                 |            |                                                         |
| SCV081-1  | 7/21/2023 9:54  | 11.0       | Initial reading, Closed well, Valve at minimum position |
| SCV081-1  | 7/21/2023 9:58  | 4.9        | Follow up reading, No Change                            |
|           |                 |            |                                                         |
| SCV082-1  | 2/2/2023 13:46  | 7.8        | Initial reading, Closed well                            |
| SCV082-1  | 2/2/2023 13:47  | 4.8        | No Change                                               |
|           |                 |            |                                                         |
| SCV089-B  | 3/13/2023 9:46  | 9.5        | Initial reading, Closed well                            |
| SCV089-B  | 3/13/2023 9:48  | 6.2        | No Change                                               |
| SCV089-B  | 3/16/2023 10:58 | 12.7       | Initial reading, Closed well                            |
| SCV089-B  | 3/16/2023 11:00 | 4.5        | No Change                                               |
|           |                 |            |                                                         |
| SCV091-B  | 3/13/2023 9:29  | 6.0        | Initial reading, Closed well                            |
| SCV091-B  | 3/13/2023 9:31  | 4.5        | No Change                                               |
|           |                 |            |                                                         |
| SCV092-A* | 7/11/2023 11:01 | 8.6        | Initial reading, Closed well                            |
| SCV092-A* | 7/11/2023 11:06 | 10.9       | Follow up reading, No Change                            |
| SCV092-A* | 7/13/2023 8:30  | 8.5        | Initial reading, No Change                              |
| SCV092-A* | 7/13/2023 8:36  | 7.5        | Follow up reading, No Change                            |
| SCV092-A* | 7/24/2023 7:44  | 7.4        | No Change Valve at minimum position                     |
|           |                 |            |                                                         |
| SCV093-A  | 3/13/2023 8:47  | 8.7        | Initial reading, Closed well                            |
| SCV093-A  | 3/13/2023 8:49  | 6.4        | No Change                                               |
| SCV093-A  | 3/27/2023 10:06 | 0.0        | Initial reading, Opened well                            |
|           |                 |            |                                                         |
| SCV094-A  | 3/13/2023 8:28  | 10.3       | Initial reading, Closed well                            |
| SCV094-A  | 3/13/2023 8:29  | 10.7       | No Change                                               |
| SCV094-A  | 3/27/2023 10:26 | 7.9        | Initial reading, Closed well                            |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                                    |
|-----------|-----------------|------------|-----------------------------------------------------------------------------|
| SCV094-A  | 3/27/2023 10:28 | 4.3        | No Change                                                                   |
|           |                 |            |                                                                             |
| SCV094-A* | 6/23/2023 17:54 | 7.1        | Initial reading,Valve Needs Replacement                                     |
| SCV094-A* | 6/23/2023 17:56 | 7.2        | Follow up reading,No Change                                                 |
| SCV094-A* | 7/3/2023 13:25  | 7.0        | Initial reading,No Change                                                   |
| SCV094-A* | 7/11/2023 11:41 | 8.1        |                                                                             |
| SCV094-A* | 7/24/2023 7:53  | 8.5        | No ChangeValve Needs Replacement                                            |
|           |                 |            |                                                                             |
| SCV099-A  | 3/16/2023 10:22 | 5.4        | Initial reading,Closed well                                                 |
| SCV099-A  | 3/16/2023 10:24 | 4.7        | No Change                                                                   |
|           |                 |            |                                                                             |
| SCV100-3  | 2/21/2023 9:46  | 5.4        | Initial reading,Closed well                                                 |
| SCV100-3  | 2/21/2023 9:59  | 5.5        | No Change                                                                   |
| SCV100-3  | 3/3/2023 10:42  | 5.7        | Initial reading,Closed well                                                 |
| SCV100-3  | 3/3/2023 10:45  | 8.0        | No Change                                                                   |
| SCV100-3  | 3/16/2023 10:29 | 20.8       | Initial reading,Closed well                                                 |
| SCV100-3  | 3/16/2023 10:31 | 20.7       | No Change                                                                   |
| SCV100-3  | 4/4/2023 13:32  | 0.5        | Initial reading,Opened well                                                 |
|           |                 |            |                                                                             |
| SCV100-3* | 7/25/2023 7:43  | 11.3       | Initial reading,No ChangeValve at minimum position,Lateral Vacuum loss,,,,  |
| SCV100-3* | 7/25/2023 7:45  | 12.8       | Follow up reading,No ChangeValve at minimum position                        |
|           |                 |            |                                                                             |
| SCV100-5  | 2/28/2023 12:59 | 17.2       | Initial reading,Closed well                                                 |
| SCV100-5  | 2/28/2023 13:01 | 5.7        | No Change                                                                   |
| SCV100-5  | 3/13/2023 9:23  | 18.8       | Initial reading,Closed well                                                 |
| SCV100-5  | 3/13/2023 9:25  | 13.2       | No Change                                                                   |
| SCV100-5  | 3/22/2023 8:35  | 4.3        | Initial reading,Opened well                                                 |
|           |                 |            |                                                                             |
| SCV100-5* | 7/24/2023 10:17 | 12.6       | No Change                                                                   |
|           |                 |            |                                                                             |
| SCV1007A  | 2/24/2023 12:12 | 8.0        | Initial reading,Closed well                                                 |
| SCV1007A  | 2/24/2023 12:14 | 8.2        | Follow up reading,No Change                                                 |
| SCV1007A  | 3/9/2023 13:01  | 9.5        | Initial reading,Opened well                                                 |
| SCV1007A  | 3/9/2023 13:04  | 11.1       | No Change                                                                   |
| SCV1007A  | 3/22/2023 8:45  | 5.0        | Initial reading,Closed well                                                 |
| SCV1007A  | 3/22/2023 8:47  | 4.5        | No Change                                                                   |
|           |                 |            |                                                                             |
| SCV1007A  | 4/13/2023 10:13 | 10.7       | Initial reading,Closed well                                                 |
| SCV1007A  | 4/13/2023 10:15 | 16.4       | No Change                                                                   |
| SCV1007A  | 4/25/2023 8:42  | 20.7       | Initial reading,Closed well                                                 |
| SCV1007A  | 4/25/2023 8:43  | 20.7       | No Change                                                                   |
| SCV1007A  | 5/8/2023 10:54  | 20.9       | Initial reading,No ChangeOngoing exceedance                                 |
| SCV1007A  | 5/10/2023 13:42 | 4.8        | Initial reading,Closed well                                                 |
|           |                 |            |                                                                             |
| SCV1007A  | 5/17/2023 13:24 | 8.5        | Initial reading,Closed well                                                 |
| SCV1007A  | 5/17/2023 13:25 | 9.9        | No Change                                                                   |
| SCV1007A  | 5/25/2023 9:04  | 9.3        | Initial reading,Closed well                                                 |
| SCV1007A  | 5/25/2023 9:05  | 15.2       | No Change                                                                   |
| SCV1007A  | 6/12/2023 14:47 | 14.4       | Initial reading,No ChangeValve Needs Replacement,Pump Needs Maintenance,,,, |
| SCV1007A  | 6/13/2023 10:27 | 15.6       | Initial reading,Closed well                                                 |
| SCV1007A  | 6/13/2023 10:31 | 20.6       | Follow up reading,No Change                                                 |
| SCV1007A  | 6/26/2023 16:02 | 1.0        | Initial reading,Opened well                                                 |
|           |                 |            |                                                                             |
| SCV100-A  | 2/13/2023 12:25 | 7.4        | Initial reading,No ChangeValve at minimum position                          |
| SCV100-A  | 2/13/2023 12:26 | 7.7        | Follow up reading,No Change                                                 |
| SCV100-A  | 2/21/2023 10:03 | 6.3        | Initial reading,Closed well                                                 |
| SCV100-A  | 2/21/2023 10:04 | 11.0       | No Change                                                                   |



**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                                     |
|-----------|-----------------|------------|------------------------------------------------------------------------------|
| SCV100-A  | 2/24/2023 12:21 | 0.3        | Initial reading,No Change                                                    |
|           |                 |            |                                                                              |
| SCV100-A  | 3/3/2023 10:52  | 12.7       | Initial reading,Closed well,Valve at minimum position                        |
| SCV100-A  | 3/3/2023 10:55  | 10.3       | No Change                                                                    |
| SCV100-A  | 3/16/2023 10:35 | 20.3       | Initial reading,Closed well,Valve at minimum position                        |
| SCV100-A  | 3/16/2023 10:37 | 20.8       | No Change                                                                    |
| SCV100-A  | 4/4/2023 13:40  | 9.9        | Initial reading,Opened well                                                  |
| SCV100-A  | 4/4/2023 13:42  | 12.2       | No Change                                                                    |
| SCV100-A  | 4/4/2023 13:43  | 16.6       | No Change                                                                    |
| SCV100-A  | 4/20/2023 12:13 | 15.6       | Initial reading,Valve at minimum position                                    |
| SCV100-A  | 4/20/2023 12:14 | 17.6       | No Change                                                                    |
| SCV100-A  | 4/26/2023 9:22  | 19.6       | Initial reading,Valve at minimum position                                    |
| SCV100-A  | 4/26/2023 9:23  | 19.9       | No Change                                                                    |
| SCV100-A  | 5/3/2023 12:24  | 8.4        | No Change                                                                    |
| SCV100-A  | 5/10/2023 13:18 | 6.9        | Initial reading,Closed well                                                  |
| SCV100-A  | 5/10/2023 13:19 | 11.8       | No Change                                                                    |
| SCV100-A  | 5/17/2023 10:39 | 7.8        | Initial reading,Closed well                                                  |
| SCV100-A  | 5/17/2023 10:41 | 9.0        | No Change                                                                    |
| SCV100-A  | 6/14/2023 15:24 | 13.2       |                                                                              |
| SCV100-A  | 6/14/2023 15:24 | 13.2       |                                                                              |
| SCV100-A  | 6/14/2023 15:25 | 14.5       | Follow up reading,Closed well                                                |
| SCV100-A  | 6/20/2023 12:22 | 10.8       |                                                                              |
| SCV100-A  | 6/20/2023 12:25 | 4.8        | Follow up reading,                                                           |
|           |                 |            |                                                                              |
| SCV100-A* | 7/12/2023 10:21 | 17.2       | No ChangeValve at minimum position                                           |
| SCV100-A* | 7/18/2023 13:13 | 11.6       | No ChangeValve at minimum position                                           |
| SCV100-A* | 7/25/2023 7:48  | 10.3       | Initial reading,No ChangeValve at minimum position,Lateral Vacuum loss,,,,   |
| SCV100-A* | 7/25/2023 7:50  | 11.1       | Follow up reading,No ChangeValve at minimum position,Lateral Vacuum loss,,,, |
| SCV100-A* | 7/26/2023 8:25  | 9.8        | No ChangeValve at minimum position                                           |
|           |                 |            |                                                                              |
| SCV10-1A  | 2/28/2023 12:29 | 5.7        | Initial reading,Valve at minimum position                                    |
| SCV10-1A  | 2/28/2023 12:31 | 4.9        | No Change                                                                    |
|           |                 |            |                                                                              |
| SCV10-1A  | 3/13/2023 11:12 | 20.0       | Initial reading,Closed well                                                  |
| SCV10-1A  | 3/13/2023 11:15 | 13.6       | No Change                                                                    |
| SCV10-1A  | 3/20/2023 8:24  | 19.5       | Initial reading,Valve at minimum position                                    |
| SCV10-1A  | 3/20/2023 8:25  | 12.2       | No Change                                                                    |
| SCV10-1A  | 4/11/2023 12:25 | 1.1        | Initial reading,Opened well                                                  |
|           |                 |            |                                                                              |
| SCV10-1A* | 6/14/2023 16:04 | 9.1        | ,                                                                            |
| SCV10-1A* | 6/14/2023 16:06 | 11.3       | Follow up reading,Closed well,No ChangeValve at minimum position,,,,         |
| SCV10-1A* | 6/27/2023 11:00 | 9.9        | No ChangeValve at minimum position                                           |
| SCV10-1A* | 7/17/2023 8:39  | 7.7        | No ChangeValve at minimum position                                           |
|           |                 |            |                                                                              |
| SCV103-A  | 3/22/2023 10:28 | 17.4       | Initial reading,Opened well                                                  |
| SCV103-A  | 3/22/2023 10:30 | 16.5       | No Change                                                                    |
| SCV103-A  | 4/10/2023 9:25  | 14.9       | Initial reading,Closed well                                                  |
| SCV103-A  | 4/10/2023 9:30  | 7.6        | Follow up reading,No Change                                                  |
| SCV103-A  | 4/10/2023 10:56 | 1.0        | Follow up reading,Closed well                                                |
|           |                 |            |                                                                              |
| SCOV105A  | 3/9/2023 10:16  | 6.4        | Initial reading,Closed well                                                  |
| SCOV105A  | 3/9/2023 10:18  | 3.0        | No Change                                                                    |
|           |                 |            |                                                                              |
| SCOV105A  | 3/22/2023 13:07 | 11.3       | Initial reading,Closed well                                                  |
| SCOV105A  | 3/22/2023 13:11 | 4.9        | No Change                                                                    |
|           |                 |            |                                                                              |
| SCOV106A  | 5/8/2023 15:49  | 9.6        | Initial reading,Closed well                                                  |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                             |
|-----------|-----------------|------------|------------------------------------------------------|
| SCOV106A  | 5/8/2023 15:50  | 9.7        | Follow up reading, No Change                         |
| SCOV106A  | 5/16/2023 9:42  | 6.6        | Initial reading, Closed well                         |
| SCOV106A  | 5/16/2023 9:44  | 7.2        | No Change                                            |
| SCOV106A  | 6/12/2023 16:40 | 0.0        | Initial reading, No Change Valve at minimum position |
|           |                 |            |                                                      |
| SCV109-A  | 2/13/2023 12:52 | 8.9        | Initial reading, Closed well                         |
| SCV109-A  | 2/13/2023 12:54 | 9.0        | Follow up reading, No Change                         |
| SCV109-A  | 2/21/2023 9:10  | 5.2        | Initial reading, Closed well                         |
| SCV109-A  | 2/21/2023 9:11  | 5.4        | No Change                                            |
| SCV109-A  | 3/1/2023 9:39   | 9.8        | Initial reading, Closed well                         |
| SCV109-A  | 3/1/2023 9:40   | 12.4       | No Change                                            |
| SCV109-A  | 3/17/2023 8:15  | 5.6        | Initial reading, Closed well                         |
| SCV109-A  | 3/17/2023 8:17  | 4.6        | No Change                                            |
|           |                 |            |                                                      |
| SCV109-A  | 4/25/2023 14:14 | 6.3        | Initial reading, Closed well                         |
| SCV109-A  | 4/25/2023 14:15 | 6.4        | No Change                                            |
| SCV109-A  | 5/3/2023 10:43  | 0.0        | Initial reading, Opened well                         |
|           |                 |            |                                                      |
| SCOV110A  | 3/20/2023 10:29 | 6.9        | Initial reading, Closed well                         |
| SCOV110A  | 3/20/2023 10:33 | 5.4        | No Change                                            |
| SCOV110A  | 4/13/2023 8:47  | 0.2        | Initial reading, Opened well                         |
|           |                 |            |                                                      |
| SCV113-0  | 2/21/2023 13:11 | 6.6        | Initial reading, Closed well                         |
| SCV113-0  | 2/21/2023 13:15 | 4.9        | No Change                                            |
|           |                 |            |                                                      |
| SCV113-0  | 3/22/2023 13:16 | 7.3        | Initial reading, Closed well                         |
| SCV113-0  | 3/22/2023 13:19 | 4.8        | Initial reading, No Change                           |
|           |                 |            |                                                      |
| SCV114-0  | 3/22/2023 13:30 | 7.4        | Initial reading, Closed well                         |
| SCV114-0  | 3/22/2023 13:32 | 3.5        |                                                      |
|           |                 |            |                                                      |
| SCV116-A  | 3/13/2023 9:14  | 9.4        | Initial reading, Closed well                         |
| SCV116-A  | 3/13/2023 9:16  | 9.7        | No Change                                            |
| SCV116-A  | 3/27/2023 11:01 | 0.0        | Initial reading, Opened well                         |
|           |                 |            |                                                      |
| SCV116-A  | 6/14/2023 15:38 | 11.5       |                                                      |
| SCV116-A  | 6/14/2023 15:39 | 12.6       |                                                      |
| SCV116-A  | 6/20/2023 12:13 | 4.4        |                                                      |
|           |                 |            |                                                      |
| SCV117-A  | 2/28/2023 12:22 | 5.3        | Initial reading, Closed well                         |
| SCV117-A  | 2/28/2023 12:25 | 6.0        | No Change                                            |
| SCV117-A  | 3/13/2023 11:05 | 20.5       | Initial reading, Closed well                         |
| SCV117-A  | 3/13/2023 11:07 | 20.9       | No Change                                            |
| SCV117-A  | 3/20/2023 8:19  | 20.9       | Initial reading, Valve at minimum position           |
| SCV117-A  | 3/20/2023 8:21  | 21.1       | No Change                                            |
| SCV117-A  | 4/11/2023 12:19 | 16.0       | Initial reading, Valve at minimum position           |
| SCV117-A  | 4/11/2023 12:20 | 18.4       | No Change                                            |
| SCV117-A  | 4/24/2023 8:10  | 0.1        | Initial reading, Opened well                         |
|           |                 |            |                                                      |
| SCV117-A* | 7/17/2023 8:42  | 5.7        | No Change Valve at minimum position                  |
|           |                 |            |                                                      |
| SCV120-0  | 2/1/2023 9:34   | 6.9        | Initial reading, Valve at minimum position           |
| SCV120-0  | 2/1/2023 9:35   | 7.2        | No Change                                            |
| SCV120-0  | 2/20/2023 11:11 | 0.2        | Initial reading, Opened well                         |
|           |                 |            |                                                      |
| SCV120-0  | 3/10/2023 10:54 | 13.2       | Initial reading, Closed well                         |
| SCV120-0  | 3/10/2023 10:56 | 4.7        | No Change                                            |

**Table 4. Wells with Oxygen Exceedances**  
**Sonoma County Central Landfill, Petaluma, California**  
**(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                              |
|-----------|-----------------|------------|-------------------------------------------------------|
|           |                 |            |                                                       |
| SCV120-0  | 3/31/2023 8:23  | 10.9       | Initial reading,Opened well                           |
| SCV120-0  | 3/31/2023 8:25  | 12.4       | No Change                                             |
| SCV120-0  | 4/12/2023 14:40 | 12.1       | Initial reading,Closed well                           |
| SCV120-0  | 4/12/2023 14:41 | 13.2       | No Change                                             |
| SCV120-0  | 4/25/2023 11:39 | 13.1       | Initial reading,Valve at minimum position             |
| SCV120-0  | 4/25/2023 11:40 | 9.6        | No Change                                             |
| SCV120-0  | 5/9/2023 12:59  | 4.3        | Initial reading,Valve at minimum position             |
|           |                 |            |                                                       |
| SCV120-0  | 5/18/2023 11:14 | 6.8        | Initial reading,Valve at minimum position             |
| SCV120-0  | 5/18/2023 11:15 | 7.7        | No Change                                             |
| SCV120-0  | 5/25/2023 10:03 | 4.5        | No Change                                             |
|           |                 |            |                                                       |
| SCV128-A  | 2/27/2023 9:24  | 8.0        | Initial reading,Closed well                           |
| SCV128-A  | 2/27/2023 9:25  | 0.8        | No Change                                             |
|           |                 |            |                                                       |
| SCV128-A  | 3/20/2023 10:22 | 6.2        | Initial reading,Closed well                           |
| SCV128-A  | 3/20/2023 10:24 | 6.3        | No Change                                             |
| SCV128-A  | 4/14/2023 9:04  | 0.0        | Initial reading,Opened well                           |
|           |                 |            |                                                       |
| SCV135-0  | 3/30/2023 14:55 | 5.2        | Initial reading,Opened well                           |
| SCV135-0  | 3/30/2023 14:57 | 3.3        | No Change                                             |
|           |                 |            |                                                       |
| SCV135-0  | 5/2/2023 11:45  | 5.8        | Initial reading,Closed well                           |
| SCV135-0  | 5/2/2023 11:49  | 7.7        | No Change                                             |
| SCV135-0  | 5/15/2023 10:15 | 6.8        | Initial reading,Closed well                           |
| SCV135-0  | 5/15/2023 10:18 | 20.4       | No Change                                             |
| SCV135-0  | 5/19/2023 9:16  | 21.0       | Initial reading,Closed well                           |
| SCV135-0  | 5/19/2023 9:17  | 21.0       | No Change                                             |
| SCV135-0  | 6/15/2023 11:54 | 16.1       | Initial reading,Closed well,Valve at minimum position |
| SCV135-0  | 6/15/2023 11:58 | 16.0       | Follow up reading,No ChangeValve at minimum position  |
| SCV135-0  | 6/22/2023 15:08 | 0.0        |                                                       |
|           |                 |            |                                                       |
| SCV135-0* | 7/21/2023 7:15  | 9.3        | No ChangeValve at minimum position                    |
| SCV135-0* | 7/21/2023 8:42  | 9.2        | Follow up reading,No ChangeValve at minimum position  |
|           |                 |            |                                                       |
| SCV136-0  | 6/15/2023 11:41 | 18.4       | Initial reading,Closed well                           |
| SCV136-0  | 6/15/2023 11:49 | 20.0       | Follow up reading,Closed well                         |
| SCV136-0  | 6/22/2023 15:11 | 0.8        |                                                       |
|           |                 |            |                                                       |
| SCV138-0  | 4/28/2023 15:54 | 15.5       |                                                       |
| SCV138-0  | 4/28/2023 15:55 | 17.4       | Follow up reading,Valve at minimum position           |
| SCV138-0  | 5/2/2023 11:23  | 6.1        | Initial reading,Closed well                           |
| SCV138-0  | 5/2/2023 11:25  | 6.7        | No Change                                             |
| SCV138-0  | 5/15/2023 10:03 | 13.1       | Initial reading,Closed well                           |
| SCV138-0  | 5/15/2023 10:05 | 18.6       | No Change                                             |
| SCV138-0  | 5/19/2023 8:54  | 11.6       | Initial reading,Closed well                           |
| SCV138-0  | 5/19/2023 8:56  | 11.5       | No Change                                             |
| SCV138-0  | 6/13/2023 15:02 | 10.9       | Initial reading,Closed well                           |
| SCV138-0  | 6/13/2023 15:05 | 8.1        | Follow up reading,No Change                           |
| SCV138-0  | 6/22/2023 15:20 | 0.0        |                                                       |
|           |                 |            |                                                       |
| SCV138-0* | 7/11/2023 6:23  | 13.3       | Initial reading,Closed well                           |
| SCV138-0* | 7/11/2023 6:31  | 10.8       | Follow up reading,No Change                           |
| SCV138-0* | 7/13/2023 8:10  | 11.5       | Initial reading,Closed well                           |
| SCV138-0* | 7/13/2023 8:12  | 8.7        | Follow up reading,                                    |
| SCV138-0* | 7/21/2023 6:29  | 11.0       | Initial reading,Closed well,Valve at minimum position |

**Table 4. Wells with Oxygen Exceedances  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments                                                  |
|-----------|-----------------|------------|-----------------------------------------------------------|
| SCV138-0* | 7/21/2023 6:42  | 15.6       | Follow up reading, No Change Valve at minimum position    |
| SCV138-0* | 7/21/2023 8:32  | 11.7       | Follow up reading, No Change Valve at minimum position    |
| SCV138-0* | 7/21/2023 8:39  | 9.5        | Follow up reading, No Change Valve at minimum position    |
|           |                 |            |                                                           |
| SCV139-0  | 2/3/2023 10:21  | 6.8        | Initial reading, Closed well                              |
| SCV139-0  | 2/3/2023 10:22  | 6.5        | No Change                                                 |
| SCV139-0  | 2/20/2023 12:31 | 1.4        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV139-0  | 3/6/2023 10:28  | 13.9       | Initial reading, Closed well                              |
| SCV139-0  | 3/6/2023 10:29  | 13.8       | Follow up reading, No Change                              |
| SCV139-0  | 3/17/2023 8:42  | 15.0       | Initial reading, Closed well                              |
| SCV139-0  | 3/17/2023 8:45  | 20.6       | No Change                                                 |
| SCV139-0  | 4/4/2023 11:13  | 0.0        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV139-0  | 6/13/2023 14:50 | 5.8        | Initial reading, Closed well, Valve at minimum position   |
| SCV139-0  | 6/13/2023 14:55 | 4.9        | Follow up reading, No Change                              |
|           |                 |            |                                                           |
| SCV140-0  | 2/23/2023 9:51  | 17.1       | Initial reading, Opened well                              |
| SCV140-0  | 2/23/2023 9:53  | 14.9       | No Change                                                 |
| SCV140-0  | 3/6/2023 10:17  | 9.1        | Initial reading, Closed well                              |
| SCV140-0  | 3/6/2023 10:24  | 9.1        | Follow up reading, No Change                              |
| SCV140-0  | 3/17/2023 8:29  | 6.6        | Initial reading, Closed well                              |
| SCV140-0  | 3/17/2023 8:34  | 13.9       | No Change                                                 |
| SCV140-0  | 4/4/2023 11:04  | 0.0        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV140-0  | 4/28/2023 16:23 | 17.6       | Follow up reading,                                        |
| SCV140-0  | 5/2/2023 11:09  | 17.8       | Initial reading, Closed well                              |
| SCV140-0  | 5/2/2023 11:11  | 18.0       | No Change                                                 |
| SCV140-0  | 5/15/2023 9:26  | 1.1        | Initial reading, Closed well                              |
|           |                 |            |                                                           |
| SCV140-0  | 6/13/2023 14:24 | 10.1       | Initial reading, Closed well                              |
| SCV140-0  | 6/13/2023 14:40 | 17.4       | Follow up reading, Closed well, Valve at minimum position |
| SCV140-0  | 6/22/2023 15:31 | 0.0        |                                                           |
|           |                 |            |                                                           |
| SCV141-0  | 6/14/2023 14:18 | 7.0        | Follow up reading, Closed well, Valve at minimum position |
| SCV141-0  | 6/14/2023 14:20 | 6.7        | Follow up reading, No Change                              |
| SCV141-0  | 6/19/2023 14:24 | 0.0        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV142-0  | 3/10/2023 10:21 | 5.2        | Initial reading, Closed well                              |
| SCV142-0  | 3/10/2023 10:23 | 4.9        | No Change                                                 |
|           |                 |            |                                                           |
| SCV143-0  | 4/25/2023 12:02 | 5.6        | Initial reading, Closed well                              |
| SCV143-0  | 4/25/2023 12:04 | 5.4        | No Change                                                 |
| SCV143-0  | 5/8/2023 15:01  | 0.0        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV143-0  | 7/20/2023 10:35 | 6.2        | No Change Valve at minimum position                       |
| SCV143-0  | 7/25/2023 11:59 | 0.0        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV145-0  | 6/14/2023 14:55 | 9.1        | Initial reading,                                          |
| SCV145-0  | 6/14/2023 14:58 | 8.3        | Follow up reading, Closed well, Valve at minimum position |
| SCV145-0  | 6/19/2023 14:09 | 0.6        | Initial reading, Opened well                              |
|           |                 |            |                                                           |
| SCV149-A  | 3/1/2023 9:58   | 7.2        | Initial reading, Closed well, Valve at minimum position   |
| SCV149-A  | 3/1/2023 10:00  | 4.6        | No Change                                                 |
|           |                 |            |                                                           |
| SCV149-A  | 3/16/2023 10:51 | 10.4       | Initial reading, Valve at minimum position                |
| SCV149-A  | 3/16/2023 10:53 | 14.3       | No Change                                                 |

**Table 4. Wells with Oxygen Exceedances  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID  | Date and Time   | Oxygen (%) | Comments                                                |
|----------|-----------------|------------|---------------------------------------------------------|
| SCV149-A | 4/6/2023 8:55   | 0.2        | Initial reading,Opened well                             |
|          |                 |            |                                                         |
| SCV202-0 | 2/27/2023 14:15 | 6.1        | Valve 100% open,                                        |
| SCV202-0 | 3/2/2023 16:35  | 9.1        | Initial reading,Closed well                             |
| SCV202-0 | 3/2/2023 16:36  | 11.5       | No Change                                               |
| SCV202-0 | 3/17/2023 8:57  | 16.4       | Initial reading,Valve at minimum position               |
| SCV202-0 | 3/17/2023 9:01  | 10.8       | No Change                                               |
| SCV202-0 | 4/6/2023 10:35  | 0.4        | Valve 100% open,                                        |
|          |                 |            |                                                         |
| SCV215-0 | 3/10/2023 9:20  | 5.1        | Initial reading,Closed well                             |
| SCV215-0 | 3/10/2023 9:21  | 4.2        | No Change                                               |
|          |                 |            |                                                         |
| SCV216-0 | 7/10/2023 9:27  | 5.4        | Initial reading,Closed well                             |
| SCV216-0 | 7/10/2023 9:27  | 5.4        | Initial reading,Closed well                             |
| SCV216-0 | 7/10/2023 9:30  | 8.3        | Follow up reading,No Change                             |
| SCV216-0 | 7/17/2023 12:42 | 0.1        | Initial reading,Opened well                             |
|          |                 |            |                                                         |
| SCV219-0 | 5/22/2023 9:10  | 5.7        | Initial reading,Closed well                             |
| SCV219-0 | 5/22/2023 9:11  | 6.1        | No Change                                               |
| SCV219-0 | 5/25/2023 10:36 | 6.3        | Initial reading,Closed well                             |
| SCV219-0 | 5/25/2023 10:37 | 8.4        | No Change                                               |
| SCV219-0 | 6/7/2023 14:45  | 3.0        | Initial reading,No Change                               |
|          |                 |            |                                                         |
| SCV219-0 | 7/10/2023 9:13  | 8.1        | Follow up reading,Closed well                           |
| SCV219-0 | 7/10/2023 9:16  | 7.6        | Follow up reading,No ChangeValve at minimum position    |
| SCV219-0 | 7/17/2023 12:26 | 0.3        | Initial reading,Opened well                             |
|          |                 |            |                                                         |
| SCV220-0 | 6/7/2023 14:36  | 10.0       | Initial reading,No Change                               |
| SCV220-0 | 6/7/2023 14:39  | 20.4       | Follow up reading,Closed well,Valve at minimum position |
| SCV220-0 | 6/21/2023 11:04 | 20.5       | Initial reading,No ChangeValve at minimum position      |
| SCV220-0 | 6/21/2023 11:52 | 0.0        | Initial reading,No ChangeValve at minimum position      |
|          |                 |            |                                                         |
| SCV220-0 | 7/10/2023 8:59  | 21.5       | No ChangeValve at minimum position                      |
| SCV220-0 | 7/17/2023 12:19 | 19.1       | No ChangeValve at minimum position                      |
| SCV220-0 | 7/25/2023 12:12 | 15.0       | Initial reading,No ChangeValve at minimum position      |
| SCV220-0 | 7/25/2023 12:18 | 6.9        | Follow up reading,No Change                             |
| SCV220-0 | 7/28/2023 9:28  | 0.0        | No ChangeValve at minimum position                      |
|          |                 |            |                                                         |
| SCV222-0 | 3/28/2023 12:52 | 7.7        | Initial reading,Closed well                             |
| SCV222-0 | 3/28/2023 12:54 | 8.7        | No Change                                               |
| SCV222-0 | 4/11/2023 10:11 | 16.9       | Initial reading,Closed well                             |
| SCV222-0 | 4/11/2023 10:12 | 18.8       | No Change                                               |
| SCV222-0 | 4/24/2023 10:31 | 0.3        | Initial reading,Opened well                             |
|          |                 |            |                                                         |
| SCV222-0 | 5/22/2023 8:40  | 11.2       | Initial reading,Valve at minimum position               |
| SCV222-0 | 5/22/2023 8:46  | 0.7        | No Change                                               |
|          |                 |            |                                                         |
| SCV222-0 | 6/20/2023 12:15 | 14.6       |                                                         |
| SCV222-0 | 6/20/2023 12:20 | 0.3        | Follow up reading,Valve at minimum position             |
|          |                 |            |                                                         |
| SCV222-0 | 7/10/2023 8:47  | 17.9       | No ChangeValve at minimum position                      |
| SCV222-0 | 7/13/2023 7:44  | 0.0        | No ChangeValve at minimum position                      |
|          |                 |            |                                                         |
| SCV223-0 | 5/19/2023 13:26 | 8.7        | Initial reading,Closed well                             |
| SCV223-0 | 5/19/2023 13:27 | 2.4        | No Change                                               |
|          |                 |            |                                                         |
| SCV226-0 | 3/28/2023 12:35 | 20.5       | Initial reading,Valve at minimum position               |

**Table 4. Wells with Oxygen Exceedances  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID  | Date and Time   | Oxygen (%) | Comments                                              |
|----------|-----------------|------------|-------------------------------------------------------|
| SCV226-0 | 3/28/2023 12:36 | 14.9       | No Change                                             |
| SCV226-0 | 4/11/2023 9:57  | 0.3        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV228-0 | 2/1/2023 13:45  | 16.1       | Initial reading,Valve at minimum position             |
| SCV228-0 | 2/1/2023 13:46  | 17.1       | No Change                                             |
| SCV228-0 | 2/20/2023 13:26 | 17.7       | Initial reading,Closed well                           |
| SCV228-0 | 2/27/2023 9:36  | 1.0        | Initial reading,Closed well                           |
|          |                 |            |                                                       |
| SCV228-0 | 5/19/2023 13:14 | 9.1        | Initial reading,Closed well                           |
| SCV228-0 | 5/19/2023 13:15 | 2.0        | No Change                                             |
|          |                 |            |                                                       |
| SCV230-0 | 3/28/2023 12:15 | 17.5       | Initial reading,Valve at minimum position             |
| SCV230-0 | 3/28/2023 12:17 | 20.9       | No Change                                             |
| SCV230-0 | 4/6/2023 13:27  | 0.0        | No Change                                             |
|          |                 |            |                                                       |
| SCV230-0 | 4/24/2023 12:52 | 19.5       | Initial reading,Valve at minimum position             |
| SCV230-0 | 4/24/2023 12:53 | 20.4       | No Change                                             |
| SCV230-0 | 5/5/2023 10:39  | 0.0        | No Change                                             |
|          |                 |            |                                                       |
| SCV232-0 | 5/5/2023 10:27  | 5.2        | No Change                                             |
| SCV232-0 | 5/10/2023 14:11 | 1.7        | Initial reading,Opened well                           |
|          |                 |            |                                                       |
| SCV234-0 | 3/13/2023 11:55 | 7.6        | Initial reading,Closed well                           |
| SCV234-0 | 3/13/2023 11:57 | 8.3        | No Change                                             |
| SCV234-0 | 3/28/2023 11:53 | 0.9        | Initial reading,Closed well                           |
|          |                 |            |                                                       |
| SCV234-0 | 7/10/2023 8:31  | 5.2        | Initial reading,Closed well,Valve at minimum position |
| SCV234-0 | 7/10/2023 8:33  | 5.2        | Follow up reading,No ChangeValve at minimum position  |
| SCV234-0 | 7/17/2023 11:49 | 0.0        | No Change                                             |
|          |                 |            |                                                       |
| SCV236-0 | 3/2/2023 16:52  | 5.7        | Initial reading,Valve at minimum position             |
| SCV236-0 | 3/2/2023 16:54  | 6.9        | No Change                                             |
| SCV236-0 | 3/16/2023 8:42  | 20.5       | Initial reading,Closed well                           |
| SCV236-0 | 3/16/2023 8:43  | 20.7       | No Change                                             |
| SCV236-0 | 4/6/2023 10:20  | 18.4       | Initial reading,Closed well                           |
| SCV236-0 | 4/6/2023 10:22  | 18.8       | No Change                                             |
| SCV236-0 | 4/20/2023 13:58 | 20.8       | Initial reading,Valve at minimum position             |
| SCV236-0 | 4/20/2023 13:59 | 20.8       | No Change                                             |
| SCV236-0 | 5/2/2023 11:00  | 21.1       | Initial reading,Valve at minimum position             |
| SCV236-0 | 5/2/2023 11:01  | 21.1       | No Change                                             |
| SCV236-0 | 5/15/2023 11:33 | 4.1        | No Change                                             |
|          |                 |            |                                                       |
| SCV242-0 | 2/8/2023 8:51   | 7.7        | Initial reading,Valve at minimum position             |
| SCV242-0 | 2/8/2023 8:53   | 4.6        | No Change                                             |
|          |                 |            |                                                       |
| SCV242-0 | 2/20/2023 13:56 | 7.3        | Initial reading,Closed well                           |
| SCV242-0 | 2/20/2023 13:57 | 12.4       | No Change                                             |
| SCV242-0 | 3/9/2023 12:13  | 15.2       | Initial reading,Closed well                           |
| SCV242-0 | 3/9/2023 12:15  | 5.0        | No Change                                             |
| SCV242-0 | 3/28/2023 13:00 | 10.0       | Initial reading,Valve at minimum position             |
| SCV242-0 | 3/28/2023 13:02 | 12.1       | No Change                                             |
| SCV242-0 | 4/11/2023 10:16 | 15.8       | Initial reading,Valve at minimum position             |
| SCV242-0 | 4/11/2023 10:17 | 16.1       | No Change                                             |
| SCV242-0 | 4/24/2023 10:36 | 11.3       | Valve at minimum position,                            |
| SCV242-0 | 4/24/2023 10:37 | 10.6       | No Change                                             |
| SCV242-0 | 5/4/2023 9:48   | 20.6       | Initial reading,Valve at minimum position             |
| SCV242-0 | 5/4/2023 9:49   | 20.6       | No Change                                             |

**Table 4. Wells with Oxygen Exceedances  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID  | Date and Time   | Oxygen (%) | Comments                                                       |
|----------|-----------------|------------|----------------------------------------------------------------|
| SCV242-0 | 5/18/2023 8:26  | 14.0       | Initial reading,Closed well                                    |
| SCV242-0 | 5/18/2023 8:27  | 14.1       | No Change                                                      |
| SCV242-0 | 5/22/2023 8:53  | 18.7       | Initial reading,Valve at minimum position                      |
| SCV242-0 | 5/22/2023 8:54  | 18.9       | No Change                                                      |
| SCV242-0 | 6/7/2023 14:10  | 19.8       | Initial reading,No Change                                      |
| SCV242-0 | 6/7/2023 14:17  | 20.0       | Follow up reading,Valve at minimum position,Ongoing exceedance |
| SCV242-0 | 6/19/2023 16:39 | 1.9        | Initial reading,No Change                                      |
|          |                 |            |                                                                |
| SCV242-0 | 7/10/2023 8:51  | 19.8       | No ChangeValve at minimum position                             |
| SCV242-0 | 7/17/2023 12:11 | 5.6        | No ChangeValve at minimum position                             |
| SCV242-0 | 7/25/2023 12:31 | 2.2        | No Change                                                      |
|          |                 |            |                                                                |
| SCV49-1A | 3/22/2023 10:48 | 16.1       | Initial reading,Closed well                                    |
| SCV49-1A | 3/22/2023 10:53 | 10.7       | No Change                                                      |
| SCV49-1A | 4/10/2023 9:43  | 0.7        | Initial reading,No ChangeValve Needs Replacement               |
|          |                 |            |                                                                |
| SCEW2002 | 2/28/2023 15:39 | 6.8        | Initial reading,Closed well                                    |
| SCEW2002 | 2/28/2023 15:55 | 20.2       | No Change                                                      |
| SCEW2002 | 3/7/2023 11:24  | 4.3        | Initial reading,Closed well                                    |
|          |                 |            |                                                                |
| SCEW2006 | 3/20/2023 9:37  | 5.4        | Initial reading,Closed well                                    |
| SCEW2006 | 3/20/2023 9:40  | 3.9        | No Change                                                      |
|          |                 |            |                                                                |
| SCEW2007 | 3/20/2023 9:23  | 21.0       | Initial reading,Closed well                                    |
| SCEW2007 | 3/20/2023 9:25  | 6.9        | No Change                                                      |
| SCEW2007 | 4/13/2023 12:57 | 0.0        | Initial reading,Opened well                                    |
|          |                 |            |                                                                |
| SCEW2009 | 2/28/2023 13:48 | 5.8        | Initial reading,Closed well                                    |
| SCEW2009 | 2/28/2023 13:49 | 1.6        | No Change                                                      |
|          |                 |            |                                                                |
| SCEW2011 | 3/20/2023 12:00 | 5.8        | Initial reading,Closed well                                    |
| SCEW2011 | 3/20/2023 12:02 | 2.2        | No Change                                                      |
|          |                 |            |                                                                |
| SCEW2013 | 3/7/2023 8:56   | 6.7        | Initial reading,Closed well                                    |
| SCEW2013 | 3/7/2023 8:58   | 6.3        | No Change                                                      |
| SCEW2013 | 3/20/2023 10:02 | 6.1        | Initial reading,Closed well                                    |
| SCEW2013 | 3/20/2023 10:04 | 5.0        | No Change                                                      |
| SCEW2013 | 4/14/2023 9:10  | 0.0        | Initial reading,Opened well                                    |
|          |                 |            |                                                                |
| SCEW2017 | 4/13/2023 9:03  | 7.1        | Initial reading,Closed well                                    |
| SCEW2017 | 4/13/2023 9:04  | 4.0        | No Change                                                      |
|          |                 |            |                                                                |
| SCEW2101 | 6/29/2023 12:45 | 5.5        | Follow up reading,No Change                                    |
| SCEW2101 | 6/29/2023 12:45 | 5.5        | Follow up reading,No Change                                    |
| SCEW2101 | 7/3/2023 13:59  | 1.1        |                                                                |
|          |                 |            |                                                                |
| SCEW2201 | 4/11/2023 11:41 | 19.5       |                                                                |
| SCEW2201 | 4/11/2023 11:42 | 0.3        |                                                                |
|          |                 |            |                                                                |
| SCEW2210 | 3/22/2023 10:21 | 20.9       |                                                                |
| SCEW2210 | 3/22/2023 10:22 | 20.9       |                                                                |
| SCEW2210 | 4/4/2023 10:16  | 0.3        |                                                                |
|          |                 |            |                                                                |
| SCEW2206 | 3/22/2023 13:36 | 6.0        |                                                                |
| SCEW2206 | 3/22/2023 13:37 | 2.4        |                                                                |
|          |                 |            |                                                                |
| SCEW2207 | 3/22/2023 14:00 | 8.3        |                                                                |

**Table 4. Wells with Oxygen Exceedances  
Sonoma County Central Landfill, Petaluma, California  
(February 1, 2023 through July 31, 2023)**

| Well ID   | Date and Time   | Oxygen (%) | Comments |
|-----------|-----------------|------------|----------|
| SCEW2207  | 3/27/2023 9:04  | 2.8        |          |
|           |                 |            |          |
| SCEW2208  | 2/16/2023 15:25 | 14.6       |          |
| SCEW2208  | 2/16/2023 15:26 | 3.6        |          |
|           |                 |            |          |
| SCEW2208  | 3/13/2023 8:39  | 8.8        |          |
| SCEW2208  | 3/13/2023 8:40  | 9.0        |          |
| SCEW2208  | 3/27/2023 10:18 | 0.0        |          |
|           |                 |            |          |
| SCEW2208  | 4/20/2023 12:42 | 5.4        |          |
| SCEW2208  | 4/20/2023 12:43 | 9.6        |          |
| SCEW2208  | 5/10/2023 13:29 | 14.7       |          |
| SCEW2208  | 5/10/2023 13:31 | 2.8        |          |
|           |                 |            |          |
| SCEW2208* | 5/17/2023 12:30 | 8.5        |          |
| SCEW2208* | 5/17/2023 12:31 | 19.4       |          |
| SCEW2208* | 5/25/2023 8:54  | 20.1       |          |
| SCEW2208* | 5/25/2023 8:55  | 20.2       |          |
| SCEW2208* | 6/27/2023 13:26 | 20.6       |          |
| SCEW2208* | 7/11/2023 11:28 | 6.3        |          |
| SCEW2208* | 7/11/2023 11:30 | 8.7        |          |
|           |                 |            |          |
| SCEW2209  | 3/22/2023 11:00 | 18.9       |          |
| SCEW2209  | 3/22/2023 11:02 | 17.7       |          |
| SCEW2209  | 4/25/2023 9:13  | 0.2        |          |

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**  
**(February 1, 2023 through July 31, 2023)**

| Well ID          | Date and Time   | Initial Temp [°F] | Adjusted Temp [°F] | Comments                                                | Corrective Action |
|------------------|-----------------|-------------------|--------------------|---------------------------------------------------------|-------------------|
| SCEC0009         | 3/6/2023 12:57  | 404.8             | 418.0              | <i>Invalid reading, equipment error</i> Valve 100% open | N/A               |
| SCEC0009         | 3/9/2023 12:24  | 0.0               | 0.0                | <i>Invalid reading, equipment error</i> Valve 100% open |                   |
| SCEC0009         | 3/29/2023 10:06 | 46.9              | 46.9               | Valve 100% open                                         |                   |
|                  |                 |                   |                    |                                                         |                   |
| <b>SCV095-A*</b> | 7/11/2023 11:54 | 133.1             | 133.0              |                                                         | N/A               |
| <b>SCV095-A*</b> | 7/24/2023 8:03  | 132.0             | 131.9              | No Change                                               |                   |
| <b>SCV095-A*</b> | 7/25/2023 12:42 | 132.9             | 132.9              | No Change                                               |                   |
|                  |                 |                   |                    |                                                         |                   |
| SCV103-A         | 5/8/2023 10:03  | 130.5             | 131.2              | Initial reading,Closed well                             | N/A               |
| SCV103-A         | 5/8/2023 10:08  | 131.0             | 130.9              | Follow up reading,No Change                             |                   |
|                  |                 |                   |                    |                                                         |                   |
| SCOV108A         | 6/26/2023 16:28 | 132.1             | 131.9              | Initial reading,Closed well                             | N/A               |
| SCOV108A         | 6/26/2023 16:29 | 129.9             | 130.2              | Follow up reading,No Change                             |                   |
|                  |                 |                   |                    |                                                         |                   |
| SCOV110A*        | 7/25/2023 6:31  | 131.1             | 131.1              | No Change                                               | N/A               |
|                  |                 |                   |                    |                                                         |                   |
| SCV125A0         | 6/6/2023 13:32  | 132.5             | 132.6              |                                                         | N/A               |
| SCV125A0         | 6/12/2023 16:15 | 105.3             | 112.0              | Initial reading,Opened well                             |                   |
|                  |                 |                   |                    |                                                         |                   |
| <b>SCV125A0*</b> | 6/27/2023 8:47  | 131.7             | 131.9              | Initial reading,Closed well                             | RCA               |
| <b>SCV125A0*</b> | 6/27/2023 8:47  | 131.7             | 131.9              | Initial reading,Closed well                             |                   |
| <b>SCV125A0*</b> | 6/27/2023 8:49  | 132.0             | 132.1              | Follow up reading,No Change                             |                   |
| <b>SCV125A0*</b> | 6/27/2023 8:49  | 132.0             | 132.1              | Follow up reading,No Change                             |                   |
| <b>SCV125A0*</b> | 7/3/2023 13:48  | 133.2             | 133.3              |                                                         |                   |
| <b>SCV125A0*</b> | 7/12/2023 11:10 | 133.3             | 133.3              | Initial reading,Opened well                             |                   |
| <b>SCV125A0*</b> | 7/12/2023 11:13 | 133.3             | 133.3              | Follow up reading,No Change                             |                   |
| <b>SCV125A0*</b> | 7/24/2023 10:43 | 133.5             | 133.5              | No Change                                               |                   |

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

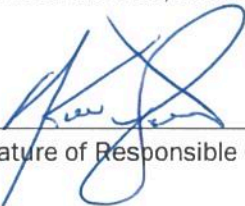
Temperature exceedance were corrected within 15 days except for the wells noted in ***bold italics*** . Root cause analysis forms were completed for these wells.  
Wells noted with an asterisk (\*) remained in exceedance at the end of the reporting period.

## 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:

  
\_\_\_\_\_  
Signature of Responsible Official

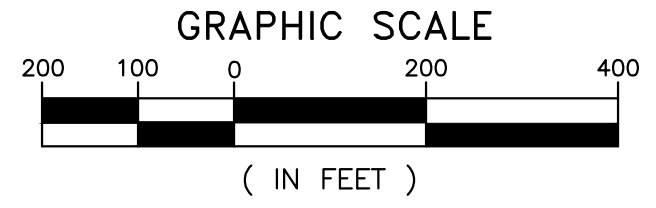
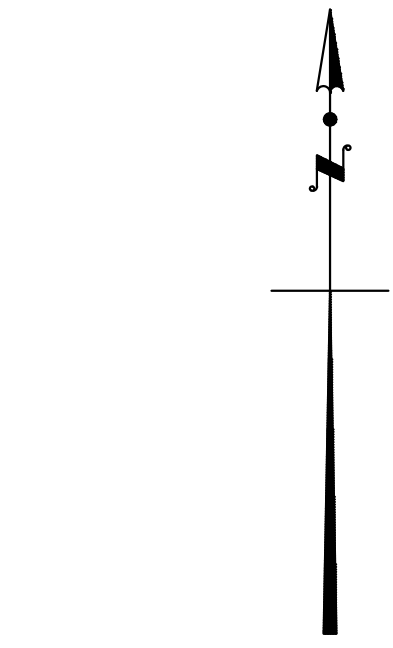
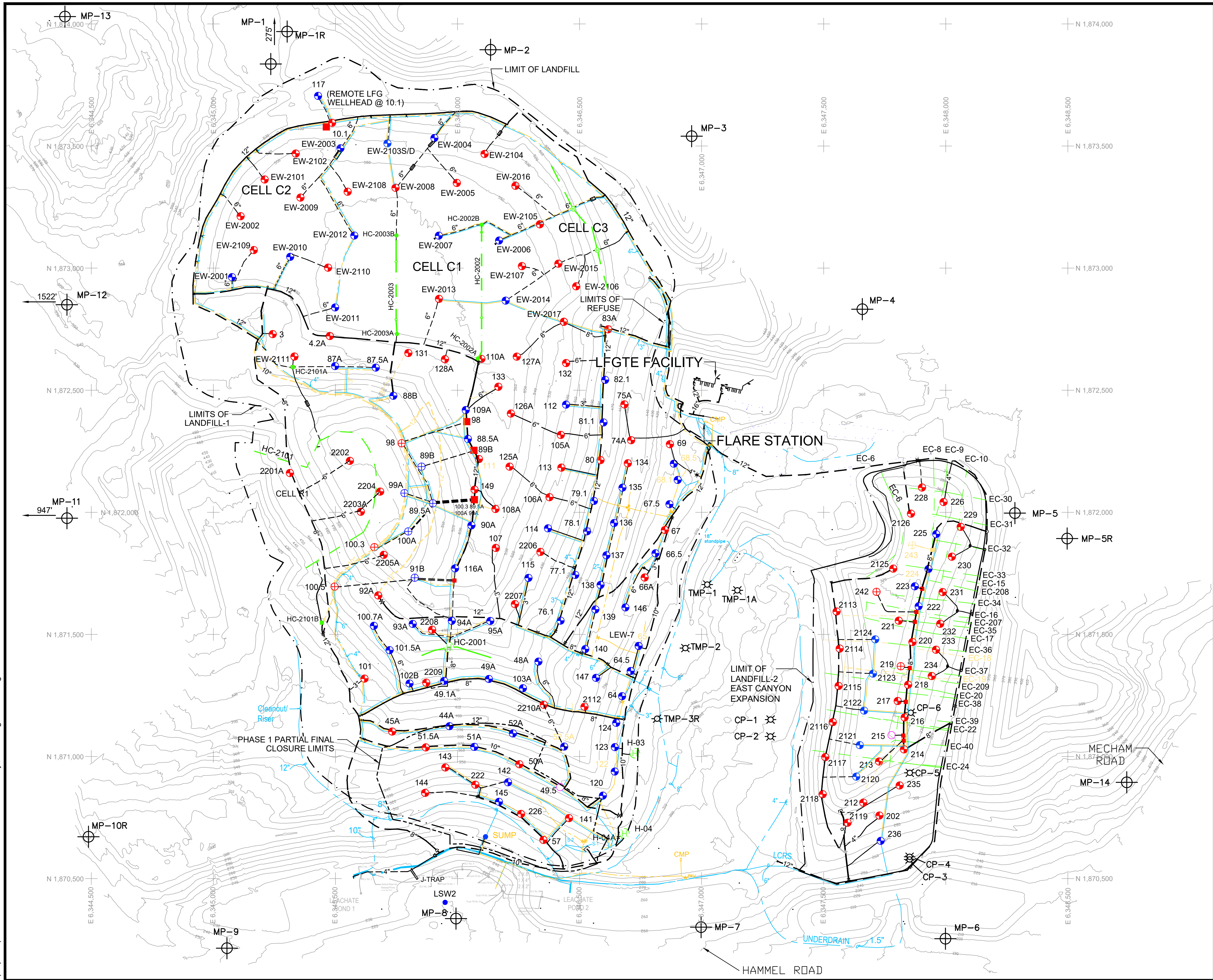
8-17-2023  
\_\_\_\_\_  
Date

Ken Lewis  
\_\_\_\_\_  
Name of Responsible Official

## Appendix B – Existing GCCS Layout



X:\PROJECTS\SONOMA (Republic)\230015 - 2023 GCCS EVAL AND DESIGN\Project Drawings\C-101.dwg 2/10/23 13:24:48 KACEY ABUSHABAN



#### LEGEND

- EXISTING GAS HEADER LINE ABOVE GRADE (8" & LARGER)
- EXISTING GAS HEADER LINE BELOW GRADE (8" & LARGER)
- EXISTING GAS LATERAL LINE (6" & SMALLER)
- EXISTING GAS LINE BELOW GRADE (6" & SMALLER)
- EXISTING HORIZONTAL GAS COLLECTOR
- LIMITS OF WASTE
- PHASE 1 PARTIAL FINAL CLOSURE LIMIT
- COMPRESSED AIR LINE
- LEACHATE/CONDENSATE CONVEYANCE LINE
- 126 (red circle with cross) EXISTING VERTICAL GAS EXTRACTION WELL
- 126 (blue circle with cross) EXISTING VERTICAL GAS WELL WITH PUMP
- 126 (red circle with cross) EXISTING REMOTE WELL GAS LOCATION
- 126 (blue circle with cross) EXISTING REMOTE GAS WELL WITH PUMP
- 1 (green circle with cross) EXISTING HORIZONTAL WELLHEAD LOCATION
- EXISTING REMOTE WELLHEAD LOCATION
- CP/TMP/MP-6 (cross symbol) EXISTING LFG MONITORING PROBE
- 126 (pink circle) EXISTING VERTICAL LFG EXTRACTION WELL (OFFLINE)

#### TOPOGRAPHIC MAP

- TOPOGRAPHIC WAS PROVIDED BY FIRMATEK, LLC, DATED JANUARY 17, 2023

DRAFT - NOT FOR CONSTRUCTION

SONOMA CENTRAL LANDFILL  
2022 GCCS IMPROVEMENTS  
AS-BUILT

|               |         |         |           |
|---------------|---------|---------|-----------|
| DESIGNED BY : | KJA     | SCALE : | AS SHOWN  |
| DRAWN BY :    | JKK/KJA | DATE :  | 2/10/2023 |
| CHECKED BY :  | SNA     | DATE :  | 2/10/2023 |
| APPROVED BY : | AMN     | DATE :  | 2/10/2023 |
| FILE NO. :    | C-101   | SHEET   | C-101     |



WASTE COLLECTION • RECYCLING • TRANSFER • DISPOSAL



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



## Appendix C – LFGTE Facility Downtime Logs

**Appendix C. LFGTE Facility Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(Febraury 1, 2023 through July 31, 2023)**

| Shutdown Date/Time | Startup Date/Time | Duration (Hours) | Engine(s) | Reason for Downtime                                   |
|--------------------|-------------------|------------------|-----------|-------------------------------------------------------|
| 2/3/2023 9:34      | 2/3/2023 11:12    | 1.63             | 1 (S-4)   | Wellfield issues / detonation                         |
| 2/7/2023 7:58      | 2/7/2023 11:18    | 3.33             | 1 (S-4)   | Wellfield issues / detonation                         |
| 2/16/2023 5:46     | 2/16/2023 13:40   | 7.90             | 1 (S-4)   | High voltage work                                     |
| 2/21/2023 6:16     | 2/23/2023 12:42   | 54.43            | 1 (S-4)   | PG&E outage                                           |
| 3/3/2023 21:42     | 3/7/2023 8:46     | 83.07            | 1 (S-4)   | Detonation                                            |
| 3/22/2023 5:26     | 3/22/2023 9:30    | 4.07             | 1 (S-4)   | Switchgear work                                       |
| 3/23/2023 5:34     | 3/23/2023 14:14   | 8.67             | 1 (S-4)   | Wellfield issue                                       |
| 3/30/2023 8:04     | 3/31/2023 14:00   | 29.93            | 1 (S-4)   | Wellfield issue                                       |
| 3/31/2023 14:24    | 4/3/2023 10:30    | 68.10            | 1 (S-4)   | Wellfield issue                                       |
| 4/11/2023 10:34    | 4/11/2023 14:20   | 3.77             | 1 (S-4)   | Detonation and service                                |
| 5/8/2023 10:02     | 5/11/2023 10:56   | 72.90            | 1 (S-4)   | Leak repairs                                          |
| 5/12/2023 8:18     | 5/12/2023 10:56   | 2.63             | 1 (S-4)   | Testing and repairs                                   |
| 5/12/2023 12:26    | 5/12/2023 12:42   | 0.27             | 1 (S-4)   | Retesting and repairs                                 |
| 5/12/2023 12:52    | 5/17/2023 10:46   | 117.90           | 1 (S-4)   | Repairs and waiting on parts                          |
| 5/18/2023 15:18    | 5/24/2023 10:26   | 139.13           | 1 (S-4)   | New leaks                                             |
| 6/28/2023 9:08     | 6/28/2023 14:18   | 5.17             | 1 (S-4)   | KW meter Outage and service                           |
| 6/28/2023 14:24    | 6/28/2023 14:30   | 0.10             | 1 (S-4)   | Tuning                                                |
| 6/28/2023 14:32    | 6/28/2023 14:36   | 0.07             | 1 (S-4)   | Tuning                                                |
| 6/29/2023 8:10     | 6/29/2023 14:28   | 6.30             | 1 (S-4)   | KW meter outage                                       |
| 6/30/2023 8:58     | 6/30/2023 12:02   | 3.07             | 1 (S-4)   | KW meter outage                                       |
| 7/12/2023 9:34     | 7/12/2023 12:30   | 2.93             | 1 (S-4)   | Tuning                                                |
| 7/12/2023 13:10    | 7/25/2023 9:14    | 308.07           | 1 (S-4)   | Broken water line                                     |
| 7/25/2023 10:00    | 7/25/2023 10:24   | 0.40             | 1 (S-4)   | Detonation                                            |
| 2/3/2023 9:34      | 2/3/2023 11:26    | 1.87             | 2 (S-5)   | Wellfield issues / detonation                         |
| 2/7/2023 7:58      | 2/7/2023 11:48    | 3.83             | 2 (S-5)   | Wellfield issues / detonation                         |
| 2/15/2023 9:28     | 2/15/2023 9:38    | 0.17             | 2 (S-5)   | Detonation and tuning                                 |
| 2/16/2023 5:46     | 2/16/2023 13:42   | 7.93             | 2 (S-5)   | High voltage work                                     |
| 2/16/2023 22:46    | 2/23/2023 12:40   | 157.90           | 2 (S-5)   | Broken valve                                          |
| 2/24/2023 1:38     | 2/24/2023 11:32   | 9.90             | 2 (S-5)   | Detonation and tuning                                 |
| 3/8/2023 8:06      | 3/8/2023 10:10    | 2.07             | 2 (S-5)   | Detonation and service                                |
| 3/9/2023 0:20      | 8/1/2023 0:00     | 3479.67          | 2 (S-5)   | Out of service pending troubleshooting                |
| 2/1/2023 0:00      | 2/15/2023 9:44    | 345.73           | 3 (S-6)   | Ignition issues and repairs                           |
| 2/16/2023 5:46     | 2/16/2023 13:50   | 8.07             | 3 (S-6)   | High voltage work                                     |
| 2/21/2023 6:16     | 2/23/2023 12:36   | 54.33            | 3 (S-6)   | PG&E outage                                           |
| 3/22/2023 5:26     | 3/22/2023 9:36    | 4.17             | 3 (S-6)   | Switchgear work                                       |
| 3/23/2023 5:34     | 3/23/2023 13:34   | 8.00             | 3 (S-6)   | Wellfield issue                                       |
| 3/23/2023 13:38    | 3/23/2023 14:18   | 0.67             | 3 (S-6)   | Wellfield issue                                       |
| 3/30/2023 8:04     | 4/3/2023 10:36    | 98.53            | 3 (S-6)   | Wellfield Issues                                      |
| 4/11/2023 10:34    | 4/11/2023 14:24   | 3.83             | 3 (S-6)   | Detonation and service                                |
| 4/18/2023 8:34     | 4/18/2023 9:00    | 0.43             | 3 (S-6)   | Wellfield Issues                                      |
| 5/8/2023 13:16     | 5/11/2023 11:16   | 70.00            | 3 (S-6)   | Leak repairs                                          |
| 5/12/2023 12:52    | 5/17/2023 11:26   | 118.57           | 3 (S-6)   | Retest, new leaks, Full service, and waiting on parts |
| 5/18/2023 15:18    | 5/24/2023 10:30   | 139.20           | 3 (S-6)   | New leaks and waiting on parts                        |

**Appendix C. LFGTE Facility Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(Febraury 1, 2023 through July 31, 2023)**

| Shutdown Date/Time | Startup Date/Time | Duration (Hours) | Engine(s) | Reason for Downtime                     |
|--------------------|-------------------|------------------|-----------|-----------------------------------------|
| 6/28/2023 9:08     | 6/28/2023 14:30   | 5.37             | 3 (S-6)   | KW meter Outage and service             |
| 6/28/2023 14:32    | 6/28/2023 14:42   | 0.17             | 3 (S-6)   | Tuning                                  |
| 6/29/2023 8:12     | 6/29/2023 14:30   | 6.30             | 3 (S-6)   | KW meter outage                         |
| 6/30/2023 8:58     | 6/30/2023 12:02   | 3.07             | 3 (S-6)   | KW meter outage                         |
| 7/20/2023 10:56    | 7/20/2023 11:36   | 0.67             | 3 (S-6)   | Detonation                              |
| 7/24/2023 6:40     | 7/25/2023 9:30    | 26.83            | 3 (S-6)   | Tuning                                  |
| 7/28/2023 9:26     | 7/28/2023 11:22   | 1.93             | 3 (S-6)   | Detonation                              |
| 2/1/2023 0:00      | 7/6/2023 8:52     | 3728.87          | 4 (S-7)   | Out of service pending overhaul         |
| 7/6/2023 14:22     | 7/7/2023 9:04     | 18.70            | 4 (S-7)   | Detonation                              |
| 7/8/2023 7:34      | 7/10/2023 10:32   | 50.97            | 4 (S-7)   | Detonation                              |
| 7/10/2023 11:36    | 7/10/2023 11:52   | 0.27             | 4 (S-7)   | Detonation                              |
| 7/24/2023 6:40     | 7/25/2023 9:36    | 26.93            | 4 (S-7)   | Tuning                                  |
| 2/1/2023 0:00      | 3/8/2023 9:06     | 849.10           | 5 (S-9)   | Out of service pending overhaul         |
| 3/8/2023 9:10      | 3/8/2023 9:40     | 0.50             | 5 (S-9)   | Completion of overhaul                  |
| 3/23/2023 5:32     | 3/23/2023 14:00   | 8.47             | 5 (S-9)   | Detonation                              |
| 3/30/2023 8:06     | 3/31/2023 13:52   | 29.77            | 5 (S-9)   | Wellfield issue                         |
| 3/31/2023 14:24    | 4/3/2023 10:28    | 68.07            | 5 (S-9)   | Wellfield Issues                        |
| 4/11/2023 10:32    | 4/11/2023 14:10   | 3.63             | 5 (S-9)   | Wellfield Issues and service            |
| 5/9/2023 2:42      | 5/9/2023 9:30     | 6.80             | 5 (S-9)   | Main breaker Outage, Overcurrent trip   |
| 5/9/2023 11:34     | 5/10/2023 13:24   | 25.83            | 5 (S-9)   | Gas cooler motor failure                |
| 5/17/2023 8:44     | 5/17/2023 9:10    | 0.43             | 5 (S-9)   | Leak testing and repairs                |
| 5/17/2023 11:44    | 5/17/2023 12:16   | 0.53             | 5 (S-9)   | Leak testing and repairs                |
| 5/18/2023 7:54     | 5/18/2023 11:00   | 3.10             | 5 (S-9)   | Leak testing and repairs                |
| 5/18/2023 14:44    | 5/19/2023 13:22   | 22.63            | 5 (S-9)   | Leak testing, repairs, and full service |
| 6/28/2023 9:06     | 6/28/2023 14:52   | 5.77             | 5 (S-9)   | KW meter outage                         |
| 6/29/2023 8:08     | 6/29/2023 14:44   | 6.60             | 5 (S-9)   | KW meter outage                         |
| 6/30/2023 9:00     | 6/30/2023 12:14   | 3.23             | 5 (S-9)   | KW meter outage                         |
| 7/24/2023 6:36     | 7/25/2023 9:48    | 27.20            | 5 (S-9)   | Detonation and Service                  |
| 7/28/2023 17:14    | 7/29/2023 4:44    | 11.50            | 5 (S-9)   | Tuning                                  |
| 2/3/2023 9:32      | 2/3/2023 10:54    | 1.37             | 6 (S-10)  | Wellfield issues / detonation           |
| 2/7/2023 8:30      | 2/7/2023 11:38    | 3.13             | 6 (S-10)  | Wellfield issues / detonation           |
| 2/16/2023 5:20     | 2/17/2023 11:50   | 30.50            | 6 (S-10)  | Wellfield issues / detonation           |
| 2/17/2023 13:08    | 2/17/2023 13:14   | 0.10             | 6 (S-10)  | Detonation and tuning                   |
| 2/18/2023 15:38    | 2/27/2023 13:30   | 213.87           | 6 (S-10)  | Fuels pressure issues                   |
| 3/21/2023 10:06    | 3/21/2023 10:26   | 0.33             | 6 (S-10)  | Detonation                              |
| 3/23/2023 5:32     | 3/23/2023 13:54   | 8.37             | 6 (S-10)  | Wellfield issue                         |
| 3/23/2023 14:10    | 3/23/2023 14:20   | 0.17             | 6 (S-10)  | Wellfield issue                         |
| 3/27/2023 11:34    | 3/27/2023 11:48   | 0.23             | 6 (S-10)  | Wellfield issue                         |
| 3/29/2023 9:54     | 3/29/2023 13:22   | 3.47             | 6 (S-10)  | Service                                 |
| 3/29/2023 13:26    | 3/29/2023 13:36   | 0.17             | 6 (S-10)  | Detonation                              |
| 3/30/2023 8:06     | 8/1/2023 0:00     | 2967.90          | 6 (S-10)  | Out of service pending overhaul         |
| 2/1/2023 0:00      | 8/1/2023 0:00     | 4344.00          | 7 (S-11)  | Out of service pending overhaul         |
| 2/3/2023 9:32      | 2/3/2023 10:52    | 1.33             | 8 (S-12)  | Wellfield issues / detonation           |



**Appendix C. LFGTE Facility Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(Febraury 1, 2023 through July 31, 2023)**

| Shutdown Date/Time                | Startup Date/Time | Duration (Hours) | Engine(s) | Reason for Downtime                       |
|-----------------------------------|-------------------|------------------|-----------|-------------------------------------------|
| 2/7/2023 8:16                     | 2/7/2023 11:16    | 3.00             | 8 (S-12)  | Wellfield issues / detonation             |
| 2/7/2023 11:54                    | 2/7/2023 12:04    | 0.17             | 8 (S-12)  | Detonation and tuning                     |
| 2/10/2023 12:08                   | 2/10/2023 12:32   | 0.40             | 8 (S-12)  | Detonation and tuning                     |
| 2/15/2023 10:10                   | 2/15/2023 10:22   | 0.20             | 8 (S-12)  | Detonation and tuning                     |
| 2/15/2023 15:44                   | 2/17/2023 12:00   | 44.27            | 8 (S-12)  | Wellfield issues / detonation             |
| 2/17/2023 13:04                   | 2/17/2023 13:14   | 0.17             | 8 (S-12)  | Detonation and tuning                     |
| 2/18/2023 15:38                   | 2/27/2023 13:22   | 213.73           | 8 (S-12)  | Fuels pressure issues                     |
| 3/14/2023 6:56                    | 3/14/2023 7:18    | 0.37             | 8 (S-12)  | Detonation                                |
| 3/14/2023 11:28                   | 3/14/2023 11:48   | 0.33             | 8 (S-12)  | Detonation                                |
| 3/22/2023 16:28                   | 3/29/2023 10:46   | 162.30           | 8 (S-12)  | Voltage issue                             |
| 3/29/2023 10:54                   | 3/29/2023 11:02   | 0.13             | 8 (S-12)  | Detonation                                |
| 3/29/2023 12:04                   | 3/29/2023 12:12   | 0.13             | 8 (S-12)  | Detonation                                |
| 3/30/2023 8:06                    | 3/31/2023 14:12   | 30.10            | 8 (S-12)  | Wellfield issue                           |
| 3/31/2023 14:24                   | 4/1/2023 0:00     | 9.60             | 8 (S-12)  | Wellfield issue                           |
| 4/1/2023 0:00                     | 4/3/2023 10:24    | 58.40            | 8 (S-12)  | Wellfield Issues                          |
| 4/11/2023 10:32                   | 4/11/2023 14:12   | 3.67             | 8 (S-12)  | Wellfield Issues                          |
| 5/3/2023 8:58                     | 5/3/2023 9:10     | 0.20             | 8 (S-12)  | Tuning                                    |
| 5/5/2023 9:02                     | 5/5/2023 9:18     | 0.27             | 8 (S-12)  | Tuning and checking leaks                 |
| 5/9/2023 2:42                     | 5/9/2023 9:32     | 6.83             | 8 (S-12)  | Main breaker Outage, Overcurrent trip     |
| 5/9/2023 11:34                    | 5/10/2023 13:18   | 25.73            | 8 (S-12)  | Gas cooler motor failure and full service |
| 5/11/2023 12:40                   | 5/11/2023 12:46   | 0.10             | 8 (S-12)  | Tuning                                    |
| 5/12/2023 14:20                   | 5/12/2023 14:26   | 0.10             | 8 (S-12)  | Tuning                                    |
| 5/18/2023 14:44                   | 5/19/2023 13:22   | 22.63            | 8 (S-12)  | Leak testing and repairs                  |
| 5/22/2023 14:08                   | 5/22/2023 14:20   | 0.20             | 8 (S-12)  | Detonation, wet fuel                      |
| 5/31/2023 10:20                   | 5/31/2023 10:44   | 0.40             | 8 (S-12)  | Detonation, wet fuel                      |
| 6/1/2023 9:58                     | 6/1/2023 10:18    | 0.33             | 8 (S-12)  | Detonation and tuning                     |
| 6/17/2023 10:44                   | 6/18/2023 9:56    | 23.20            | 8 (S-12)  | Service                                   |
| 6/28/2023 9:04                    | 6/28/2023 14:48   | 5.73             | 8 (S-12)  | KW meter outage                           |
| 6/29/2023 8:08                    | 6/29/2023 14:36   | 6.47             | 8 (S-12)  | KW meter outage                           |
| 6/30/2023 9:00                    | 6/30/2023 12:12   | 3.20             | 8 (S-12)  | KW meter outage                           |
| 7/1/2023 11:40                    | 7/2/2023 7:18     | 19.63            | 8 (S-12)  | Detonation                                |
| 7/9/2023 14:40                    | 7/10/2023 9:00    | 18.33            | 8 (S-12)  | Detonation                                |
| 7/10/2023 13:04                   | 7/10/2023 13:10   | 0.10             | 8 (S-12)  | Detonation                                |
| 7/22/2023 11:08                   | 7/25/2023 9:50    | 70.70            | 8 (S-12)  | Radiator repairs                          |
| 7/25/2023 10:32                   | 7/25/2023 11:04   | 0.53             | 8 (S-12)  | Detonation                                |
| 7/25/2023 11:06                   | 7/25/2023 12:10   | 1.07             | 8 (S-12)  | Detonation                                |
| 7/27/2023 5:08                    | 7/27/2023 5:34    | 0.43             | 8 (S-12)  | Detonation                                |
| 7/28/2023 13:02                   | 7/28/2023 13:12   | 0.17             | 8 (S-12)  | Detonation                                |
| 2/1/2023 0:00                     | 8/1/2023 0:00     | 4344.00          | 9 (S-13)  | Out of service pending overhaul           |
| 2/1/2023 0:00                     | 8/1/2023 0:00     | 4344.00          | 10 (S-14) | Long-term standby                         |
| <b>TOTAL DOWNTIME<sup>1</sup></b> |                   | <b>217.47</b>    |           |                                           |

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

**Appendix C. LFGTE Facility Downtime**  
**Sonoma County Central Landfill, Petaluma, California**  
**(Febraury 1, 2023 through July 31, 2023)**

| Shutdown Date/Time | Startup Date/Time | Duration<br>(Hours) | Engine(s) | Reason for Downtime |
|--------------------|-------------------|---------------------|-----------|---------------------|
|--------------------|-------------------|---------------------|-----------|---------------------|

\*The engine was offline at the end and/or beginning of the reporting period, therefore downtime is calculated as of February 1, 2023 at 0:00 and August 1, 2023 at 0:00, respectively.

## Appendix D – Source Test Results

**Republic Services of Sonoma County, Inc.**

**BAAQMD Plant # 22987**

**Compliance Emissions Test Report #23011**

**Enclosed Landfill Gas Flare (A-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 #600

San Francisco, CA 94105

Attn: Marco Hernandez and Gloria Espena

mhernandez@baaqmd.gov / gespena@baaqmd.gov

Testing Performed on:

**January 12, 2023**

Final Report Submitted on:

**March 6, 2023**

Performed and Reported by:

**Blue Sky Environmental, Inc.**

2273 Lobert Street

Castro Valley, CA 94546

bluesky@blueskyenvironmental.com

Office (510) 525-1261 / Mobile (810) 923-3181



**Blue Sky Environmental, Inc.**

**2273 Lobert Street**

**Castro Valley, CA 94546**

*Office (510) 525-1261*

*Cell (810) 923-3181*

*bluesky@blueskyenvironmental.com*

March 6, 2023

Republic Services of Sonoma County, Inc  
500 Mecham Road  
Petaluma, CA 94952

Attn.: Derek Cheney

**Subject:** Source emissions test report for Flare A-4, located at the Central Landfill in Petaluma, California to determine compliance with condition 4044 of Bay Area Air Quality Management District (BAAQMD) permit to operate A2254 for Facility 22987.

Flare A-4 – 91.26 MMBtu/hr John Zink ZTOF enclosed landfill gas-fired flare

**Test Date:** Testing was conducted on January 12, 2023.

**Sampling Location:** Sampling was conducted at the exhaust stack of the enclosed flare through ports that were accessible using scissor-lift. Sampling port locations met minimum EPA Method 1 criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

**Sampling Personnel:** Testing was performed by Jeramie Richardson and Timothy Eandi of Blue Sky Environmental, Inc. Matt Beat and Derek Cheney of Republic Services were on-site to coordinate flare operations.

**Observing Personnel:** BAAQMD was notified of the scheduled source test in a source test protocol submitted on January 4, 2023 (NST-8035). No agency observers from the district were present during testing.

**Process Description:** Sonoma County Central Landfill is an active multi-material landfill with a gas collection system abated by an industrial landfill gas flare (A-4). 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 91.26 MMBtu/hr flare (A-4) is used as necessary to combust excess gas when the flow of landfill gas exceeds the capacity of the IC engines in service. The landfill gas flow rate and flare operating temperature are continuously recorded on a Yokogawa system.

**Test Program:** This source test was conducted on the site's landfill gas flare to evaluate emissions and determine compliance with BAAQMD permit to operate A2254 for Facility 22987.

Three consecutive 30-minute gaseous emissions tests were performed for oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), oxygen (O<sub>2</sub>), methane (CH<sub>4</sub>) and non-methane organic compounds (NMOC) at the exhaust stack of the flare.



**Instrumentation:** The following continuous emissions analyzers were used:

| Instrument          | Analyte               | Principle                 |
|---------------------|-----------------------|---------------------------|
| Servomex Model 1400 | O <sub>2</sub>        | Paramagnetic              |
| Servomex Model 1400 | CO <sub>2</sub>       | Infrared (IR)             |
| TECO Model 42C      | NO <sub>x</sub>       | Chemiluminescence         |
| TECO Model 48C      | CO                    | Gas Filter Correlation/IR |
| TECO Model 55C      | CH <sub>4</sub> /NMOC | Flame Ionization (FID)    |

**Test Results:** The compliance summary is presented below. Detailed source test emission results including the full list of AP42 2.4-1 toxic air contaminants in fuel are provided in Tables 1 and 2. The flare met all compliance criteria.

| Emission Parameter                        | Average Results<br>(Flare A-4) | Permit<br>Limits | Compliance<br>Status |
|-------------------------------------------|--------------------------------|------------------|----------------------|
| Total Reduced Sulfur (TRS), ppmvd in LFG  | 104                            | 300              | In Compliance        |
| NO <sub>x</sub> , lb/MMBtu                | 0.0287                         | 0.05             | In Compliance        |
| CO, lb/MMBtu                              | 0.0061                         | 0.20             | In Compliance        |
| NMOC, ppmvd @ 3% O <sub>2</sub>           | <1.7                           | 30               | In Compliance        |
| NMOC Destruction Efficiency, %            | >99.46%                        | >98%             | In Compliance        |
| CH <sub>4</sub> Destruction Efficiency, % | >99.98%                        | >99%             | In Compliance        |
| THC Destruction Efficiency, %             | >99.98%                        | >99%             | In Compliance        |

The appendices are organized as follows:

Calculations

Calculations performed using the continuous emissions monitoring (CEM) data and flow rate calculations.

Laboratory Reports

Laboratory reports and chain-of-custody documents.

Field Data Sheets

CEMS data transcribed from strip charts and other sampling data records.

Process Information

Relevant and available facility process operating documentation.

Calibration Gas Certificates

Certificates for the calibration gas standards.

Stack Diagram

Sketch or photographs of the sampling location and stack configuration.

Sample System Diagram

Schematic of the sampling system configuration.

TABLE #1

Sonoma-Central Landfill  
Flare (A-4)  
1,650°F

| Parameter                                                     | Run 1     | Run 2     | Run 3     | Average Results | Permit Limits |
|---------------------------------------------------------------|-----------|-----------|-----------|-----------------|---------------|
| Test Date                                                     | 1/12/23   | 1/12/23   | 1/12/23   |                 |               |
| Test Time                                                     | 1205-1307 | 1325-1412 | 1451-1538 |                 |               |
| Standard Temperature, °F                                      | 70        | 70        | 70        |                 |               |
| <b>Fuel:</b>                                                  |           |           |           |                 |               |
| Flare Temperature, °F                                         | 1,654     | 1,643     | 1,652     | 1,650           |               |
| Fuel Flow Rate, DSCFM                                         | 856       | 863       | 853       | 857             |               |
| Fuel Heat Input, MMBtu/hr                                     | 26.8      | 26.8      | 27.1      | 26.9            |               |
| Inlet TRS, ppmvd ( <i>ASTM D5504</i> )                        | 132       | 70.3      | 111       | 104             | 300           |
| <b>Stack Gas:</b>                                             |           |           |           |                 |               |
| Exhaust Flow Rate, DSCFM ( <i>EPA Method 19</i> )             | 7,523     | 7,548     | 7,521     | 7,530           |               |
| Oxygen (O <sub>2</sub> ), % volume dry                        | 9.2       | 9.2       | 9.0       | 9.1             |               |
| Carbon Dioxide (CO <sub>2</sub> ), % volume dry               | 3.5       | 3.6       | 3.7       | 3.6             |               |
| CO <sub>2</sub> , lb/hr                                       | 1,822     | 1,836     | 1,913     | 1,857           |               |
| Water Vapor (H <sub>2</sub> O), % volume                      | 8.3       | 8.8       | 10.5      | 9.2             |               |
| SO <sub>2</sub> , ppmvd ( <i>calculated</i> )                 | 15.0      | 8.0       | 12.6      | 11.9            |               |
| <b>NO<sub>x</sub> Emissions (reported as NO<sub>2</sub>):</b> |           |           |           |                 |               |
| NO <sub>x</sub> , ppmvd                                       | 14.2      | 14.3      | 14.6      | 14.3            |               |
| NO <sub>x</sub> , ppmvd @ 15% O <sub>2</sub>                  | 7.15      | 7.17      | 7.23      | 7.18            |               |
| NO <sub>x</sub> , lb/hr                                       | 0.764     | 0.768     | 0.782     | 0.771           |               |
| NO <sub>x</sub> , lb/day                                      | 18.3      | 18.4      | 18.8      | 18.5            |               |
| NO <sub>x</sub> , lb/MMBtu                                    | 0.0285    | 0.0286    | 0.0288    | 0.0287          | 0.05          |
| <b>CO Emissions:</b>                                          |           |           |           |                 |               |
| CO, ppmvd                                                     | 5.4       | 5.3       | 4.4       | 5.0             |               |
| CO, ppmvd @ 15% O <sub>2</sub>                                | 2.7       | 2.7       | 2.2       | 2.5             |               |
| CO, lb/hr                                                     | 0.18      | 0.17      | 0.14      | 0.16            |               |
| CO, lb/day                                                    | 4.2       | 4.2       | 3.5       | 3.9             |               |
| CO, lb/MMBtu                                                  | 0.0066    | 0.0065    | 0.0053    | 0.0061          | 0.20          |
| <b>THC Emissions (reported as CH<sub>4</sub>):</b>            |           |           |           |                 |               |
| THC, ppmv wet ( <i>EPA Method 25A</i> )                       | <11.0     | <11.0     | <11.0     | <11.0           |               |
| THC, ppmvd                                                    | <12.0     | <12.1     | <12.3     | <12.1           |               |
| THC, lb/hr                                                    | <0.224    | <0.226    | <0.229    | <0.226          |               |
| <b>Methane (CH<sub>4</sub>) Emissions:</b>                    |           |           |           |                 |               |
| CH <sub>4</sub> , ppmv wet ( <i>EPA Method 25A</i> )          | <10.0     | <10.0     | <10.0     | <10.0           |               |
| CH <sub>4</sub> , ppmvd                                       | <10.9     | <11.0     | <11.2     | <11.0           |               |
| CH <sub>4</sub> , lb/hr                                       | <0.204    | <0.205    | <0.209    | <0.206          |               |
| <b>NMOC Emissions (reported as CH<sub>4</sub>):</b>           |           |           |           |                 |               |
| NMOC, ppmv wet ( <i>EPA Method 25A</i> )                      | <1.0      | <1.0      | <1.0      | <1.0            |               |
| NMOC, ppmvd                                                   | <1.1      | <1.1      | <1.1      | <1.1            |               |
| NMOC, ppmvd @ 3% O <sub>2</sub>                               | <1.7      | <1.7      | <1.7      | <1.7            | 30*           |
| NMOC, lb/hr                                                   | <0.020    | <0.021    | <0.021    | <0.021          |               |
| <b>Inlet Hydrocarbons (reported as CH<sub>4</sub>):</b>       |           |           |           |                 |               |
| Inlet NMOC, ppmvd ( <i>EPA Method 25C</i> )                   | 1,583     | 1,599     | 1,492     | 1,558           |               |
| Inlet NMOC, lb/hr                                             | 3.36      | 3.42      | 3.16      | 3.82            |               |
| <b>NMOC Destruction Efficiency, %</b>                         | >99.39%   | >99.40%   | >99.34%   | >99.46%         | >98%*         |
| Inlet CH <sub>4</sub> , ppmvd ( <i>EPA Method 25C</i> )       | 523,000   | 520,000   | 532,000   | 525,000         |               |
| Inlet CH <sub>4</sub> , lb/hr                                 | 1,111     | 1,113     | 1,127     | 1,287           |               |
| <b>CH<sub>4</sub> Destruction Efficiency, %</b>               | >99.98%   | >99.98%   | >99.98%   | >99.98%         | >99%          |
| Inlet THC, ppmvd                                              | 524,583   | 521,599   | 533,492   | 526,558         |               |
| Inlet THC, lb/hr                                              | 1,115     | 1,117     | 1,130     | 1,291           |               |
| <b>THC Destruction Efficiency, %</b>                          | >99.98%   | >99.98%   | >99.98%   | >99.98%         | >99%          |

\* NMOC permit limits are 30 ppm @ 3% O<sub>2</sub> 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<sub>x</sub> = oxides of nitrogen, reported as NO<sub>2</sub> (MW = 46)

CO = carbon monoxide (MW = 28)

CH<sub>4</sub> = methane (MW = 16)

THC = total hydrocarbons reported as CH<sub>4</sub> (MW = 16)

NMOC = non-methane organic compounds reported as CH<sub>4</sub> (MW = 16)

**CALCULATIONS,**

ppm @ 15% O<sub>2</sub> = ppm · 5.9 / (20.9 - %O<sub>2</sub>)

ppm @ 3% O<sub>2</sub> = ppm · 17.9 / (20.9 - %O<sub>2</sub>)

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<sub>2</sub>)

Destruction Efficiency = (inlet, lb/hr - outlet, lb/hr) / inlet, lb/hr

SO<sub>2</sub>, ppm calculated = Inlet TRS, ppm · Inlet Fuel, DSCFM / Exhaust, DSCFM

<Value = 2% Value of Analyzer Range



**TABLE #2**  
**Landfill Gas Toxic Air Contaminants in LFG (AP42 Table 2.4-1)**

**Sonoma-Central Landfill**  
**Flare (A-4)**

| Analyte                                           | Method           | Units | Average Results | Permit Limits |
|---------------------------------------------------|------------------|-------|-----------------|---------------|
| 1,1,1-Trichloroethane                             | EPA TO-15        | ppb   | <40.0           |               |
| 1,1,2,2-Tetrachloroethane                         | EPA TO-15        | ppb   | <40.0           |               |
| 1,1-Dichloroethane (Ethylidene Dichloride)        | EPA TO-15        | ppb   | 48.0            |               |
| 1,1-Dichloroethene (1,1-Dichloroethylene)         | EPA TO-15        | ppb   | <40.0           |               |
| 1,2-Dichloroethane (Ethylene Dichloride)          | EPA TO-15        | ppb   | 386             |               |
| 1,2-Dichloropropane                               | EPA TO-15        | ppb   | 47.2            |               |
| 2-Propanol (Isopropyl Alcohol, IPA)               | EPA TO-15        | ppb   | 7,720           |               |
| Acrylonitrile                                     | EPA TO-15        | ppb   | <40.0           |               |
| Bromodichloromethane                              | EPA TO-15        | ppb   | <40.0           |               |
| Butane                                            | EPA 18/ASTM 1945 | ppm   | 8.8             |               |
| Carbon Disulfide                                  | EPA TO-15        | ppb   | <0.092          |               |
| Carbon Monoxide                                   | EPA 3C/ASTM 1945 | %     | <0.2            |               |
| Carbon Tetrachloride                              | EPA TO-15        | ppb   | <40.0           |               |
| Carbonyl sulfide (COS)                            | ASTM D-5504      | ppm   | <0.078          |               |
| Chlorobenzene                                     | EPA TO-15        | ppb   | <40.0           |               |
| Chlorodifluoromethane                             | EPA TO-15        | ppb   | 150             |               |
| Chloroethane                                      | EPA TO-15        | ppb   | 150             |               |
| Chloroform                                        | EPA TO-15        | ppb   | <40.0           |               |
| Chloromethane                                     | EPA TO-15        | ppb   | <40.0           |               |
| 1,3-Dichlorobenzene                               | EPA TO-15        | ppb   | <40.0           |               |
| 1,4-Dichlorobenzene                               | EPA TO-15        | ppb   | 281             |               |
| 1,2-Dichlorobenzene                               | EPA TO-15        | ppb   | <40.0           |               |
| Dichlorodifluoromethane                           | EPA TO-15        | ppb   | 98.4            |               |
| Dichlorofluoromethane                             | EPA TO-15        | ppb   | 129             |               |
| <b>Dichloromethane (Methylene Chloride)</b>       | EPA TO-15        | ppb   | <b>242</b>      | <b>20,000</b> |
| Dimethyl Sulfide                                  | ASTM D-5504      | ppm   | 2.64            |               |
| Ethane                                            | EPA 18/ASTM 1945 | ppm   | 12.1            |               |
| Ethanol                                           | EPA TO-15        | ppb   | 33,200          |               |
| Ethyl Mercaptan                                   | ASTM D-5504      | ppm   | <0.121          |               |
| Ethyl Benzene                                     | EPA TO-15        | ppb   | 1,490           |               |
| 1,2 Dibromoethane (Ethylene Dibromide)            | EPA TO-15        | ppb   | <40.0           |               |
| Trichlorofluoromethane                            | EPA TO-15        | ppb   | <40.0           |               |
| Hexane                                            | EPA TO-15        | ppb   | 534             |               |
| <b>Hydrogen sulfide</b>                           | ASTM D-5504      | ppm   | <b>99.0</b>     | <b>300</b>    |
| 2-Butanone (MEK)                                  | EPA TO-15        | ppb   | 9,830           |               |
| Methyl isoButyl Ketone (MiBK)                     | EPA TO-15        | ppb   | <40.0           |               |
| Pentane                                           | EPA 18/ASTM 1945 | ppm   | 23.7            |               |
| <b>Tetrachloroethylene (Perchloroethylene)</b>    | EPA TO-15        | ppb   | <b>153</b>      | <b>3,000</b>  |
| Propane                                           | EPA 18/ASTM 1945 | ppm   | 29.9            |               |
| trans-1,2-Dichloroethene (t-1,2-Dichloroethylene) | EPA TO-15        | ppb   | <40.0           |               |
| <b>Trichloroethylene (Trichloroethene)</b>        | EPA TO-15        | ppb   | <b>82.4</b>     | <b>3,000</b>  |
| <b>Vinyl Chloride</b>                             | EPA TO-15        | ppb   | <b>110</b>      | <b>2,500</b>  |
| m,p-Xylene                                        | EPA TO-15        | ppb   | 3,870           |               |
| o-Xylene                                          | EPA TO-15        | ppb   | 1,350           |               |
| <b>Benzene</b>                                    | EPA TO-15        | ppb   | <b>883</b>      | <b>2,500</b>  |
| Chlorobenzene                                     | EPA TO-15        | ppb   | <40.0           |               |
| Toluene                                           | EPA TO-15        | ppb   | 4,260           |               |

## Appendix E – Surface Emission and GCCS Component Leak Monitoring Results

February 27, 2023  
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 2022.

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 2022. 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 2022

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 27, 2023

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 2022**

#### **INTRODUCTION**

This letter provides results of the October 5, 6, 7, 12, 14 and November 4, 2022, 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 October 5, 6, 7, 12, 14 and November 4, 2022, SCS performed fourth quarter 2022 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that twenty (20) location exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that the location 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 no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results, no 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, fifteen (15) locations were observed to exceed the 200 ppmv, reporting threshold, in addition to the location noted above. 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 October 5, 6, 7, 12, 14 and November 4, 2022, 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 October 5, 6, 7, 12, 14 and November 4, 2022, SCS performed fourth quarter 2022 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that twenty (20) location exceeded the 500 ppmv maximum concentration. The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on October 14 and November 4, 2022, respectively, indicated that the location 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 no areas exceeded the 25-ppmv requirement during this monitoring event. Based on these monitoring results no 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 2023.

## **PRESSURIZED PIPE AND COMPONENT LEAK MONITORING**

On October 5, and 12, 2022, 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 exceeded the 500 ppmv threshold was observed during our monitoring event at the Power Facility. The maximum reading, which was 2,300 ppmv, was above the required exceedance thresholds (see Table 1 for component results). SCS and site personnel performed system adjustments and repair work, and the subsequent re-monitoring indicated the locations with the exceedances had returned to compliance. Therefore, based on these results all pressurized piping and components located at the LFG Power Facility were in compliance at the time of our rechecks and 7-day confirmation 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 2023 (January through March) surface emissions testing event is scheduled to be performed by the end of March 2023 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

## **STANDARD PROVISIONS**

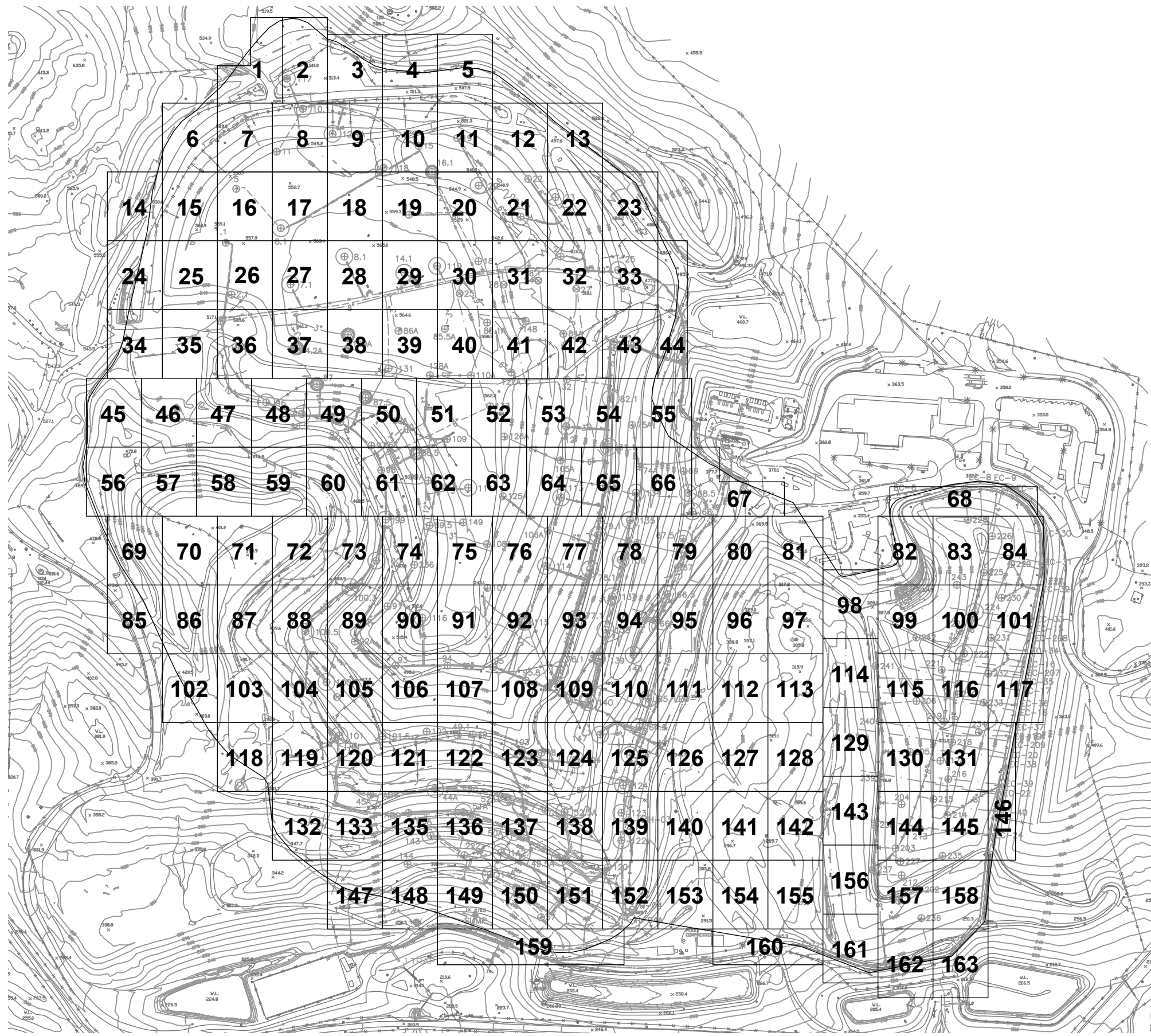
This report addresses conditions of the subject site during the testing dates only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the surface emissions at the subject site or adjacent properties.



## Attachment 1

### Landfill Grid

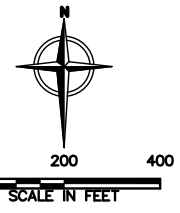
File: \\PROJECTS\SONOMA COUNTY\20127 - SEM Plan Update\Project Drawings\DISCUSS\SEM\_GRID\_MAP\_2020\_MAP\_UPDATE.dwg Layout: SIF 1 User: GERMARODRUEDES Nov. 11, 2020 - 5:31pm



**LEGEND**

- APPROXIMATE LINER BOUNDARY
- 500 EXISTING 10' CONTOUR
- EXISTING GAS PIPE, ABOVE GRADE
- EXISTING GAS PIPE, BELOW GRADE
- EXISTING HORIZONTAL GAS COLLECTOR
- AAG --- AAG --- AAG EXISTING AIR FORCE MAIN, ABOVE GRADE
- ABG --- ABG --- 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**



**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   | DIN BY | DES BY      | CHK BY | APP BY |
|-----|------------|---------------|--------|-------------|--------|--------|
| 1   | 11/11/2020 | DATE OF ISSUE |        |             |        |        |
|     |            | DRAWN BY      | GVP    | CHECKED BY  | HLV    |        |
|     |            | DESIGNED BY   | RK     | APPROVED BY |        |        |



SONOMA COUNTY CENTRAL LANDFILL  
PETALUMA, CALIFORNIA

SURFACE EMISSIONS MONITORING  
GRID MAP

SHEET NO.  
**1**

PROJECT NO.  
197-200019

## Attachment 2

### Surface Pathway



Q4 2022 LMR SEM

Monitoring Pathway  
Exempt Area

NOTES:  
1. THE 2020 TO  
SURVEYS CO.  
DATE: NAD22  
2. THE 2016 GO  
REPUBLIC SEM

N

1000 ft

**Fourth Quarter 2022**  
**LMR Surface Emissions Monitoring Pathway**  
**Sonoma Central Landfill, Petaluma, California**



## Attachment 3

# Instantaneous and Component Emissions Monitoring Results



## Fourth Quarter 2022

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

*Instantaneous Data Report for October 5, 6, 7, 12, 14 and November 4, 2022*

#### *Highest Component Readings*

| Location                              | Initial<br>Monitoring<br>(ppmv)<br>10/5/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/6/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/7/2022 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>10/14/2022 | 30-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>11/4/2022 | Latitude  | Longitude   |
|---------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------|-----------|-------------|
| SCV092-A                              | 645                                          | -                                            | -                                            | 42.8                                                            | 51.9                                                     | 38.299180 | -122.752600 |
| SCV044-A                              | 60,000                                       | -                                            | -                                            | 312                                                             | 299                                                      | 38.297730 | -122.751640 |
| SCEW2113                              | 5,478                                        | -                                            | -                                            | 34.2                                                            | 455                                                      | 38.299038 | -122.746135 |
| SCEW2115                              | 1,124                                        | -                                            | -                                            | 10.7                                                            | 266                                                      | 38.298226 | -122.746080 |
| SCEW2116                              | 603                                          | -                                            | -                                            | 12.6                                                            | 351                                                      | 38.297763 | -122.746191 |
| SCV231-0                              | 3,276                                        | -                                            | -                                            | 43.2                                                            | 386                                                      | 38.299280 | -122.744580 |
| SCV128-0                              | 571                                          | -                                            | -                                            | 71.4                                                            | 172                                                      | 38.301940 | -122.751690 |
| SCV083-A                              | -                                            | 1,000                                        | -                                            | 36.2                                                            | 399                                                      | 38.302187 | -122.749402 |
| SURFACE<br>READING<br>GRID 106 RR     | -                                            | 742                                          | -                                            | 56.8                                                            | 20.6                                                     | 38.298594 | -122.751622 |
| SURFACE<br>READING<br>GRID 121 RR     | -                                            | 586                                          | -                                            | 215                                                             | 67.3                                                     | 38.297972 | -122.751573 |
| SURFACE<br>READING<br>GRID 121<br>RR2 | -                                            | 922                                          | -                                            | 103                                                             | 32.6                                                     | 38.297982 | -122.751696 |
| SURFACE<br>READING<br>GRID 103<br>BO  | -                                            | 2,093                                        | -                                            | 59.7                                                            | 235                                                      | 38.299074 | -122.754158 |

## Fourth Quarter 2022

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

| Location                  | Initial<br>Monitoring<br>(ppmv)<br>10/5/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/6/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/7/2022 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>10/14/2022 | 30-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>11/4/2022 | Latitude  | Longitude   |
|---------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------|-----------|-------------|
| 2210A GRID<br>138 RR      | -                                            | -                                            | 536                                          | 38.3                                                            | 49.6                                                     | 38.297448 | -122.749942 |
| REEBAR<br>GRID 122 RR     | -                                            | -                                            | 512                                          | 264                                                             | 22.6                                                     | 38.298243 | -122.751089 |
| REEBAR<br>GRID 122<br>RR1 | -                                            | -                                            | 1,611                                        | 227                                                             | 21.5                                                     | 38.298236 | -122.751171 |
| REEBAR<br>GRID 122<br>RR2 | -                                            | -                                            | 758                                          | 214                                                             | 21.3                                                     | 38.298219 | -122.751346 |
| REEBAR<br>GRID 122<br>RR4 | -                                            | -                                            | 683                                          | 143                                                             | 3.2                                                      | 38.298229 | -122.751463 |
| REEBAR<br>GRID 122<br>RR5 | -                                            | -                                            | 1,411                                        | 339                                                             | 3.5                                                      | 38.298203 | -122.751626 |
| REEBAR<br>GRID 123<br>RR1 | -                                            | -                                            | 1,719                                        | 425                                                             | 352                                                      | 38.298267 | -122.750367 |
| REEBAR<br>GRID 123<br>RR2 | -                                            | -                                            | 536                                          | 69.3                                                            | 47.8                                                     | 38.298177 | -122.750310 |
| SCV220-0                  | 346                                          | -                                            | -                                            | -                                                               | -                                                        | 38.298720 | -122.745010 |
| SCV230-0                  | 251                                          | -                                            | -                                            | -                                                               | -                                                        | 38.299670 | -122.744430 |
| SCV232-0                  | 263                                          | -                                            | -                                            | -                                                               | -                                                        | 38.298920 | -122.744620 |
| SCV233-0                  | 294                                          | -                                            | -                                            | -                                                               | -                                                        | 38.298620 | -122.744660 |
| RISER G100<br>EP          | 250                                          | -                                            | -                                            | -                                                               | -                                                        | 38.297448 | -122.749942 |
| RISER G115<br>EP          | 350                                          | -                                            | -                                            | -                                                               | -                                                        | 38.299269 | -122.754532 |

## Fourth Quarter 2022

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

| Location                             | Initial<br>Monitoring<br>(ppmv)<br>10/5/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/6/2022 | Initial<br>Monitoring<br>(ppmv)<br>10/7/2022 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>10/14/2022 | 30-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>11/4/2022 | Latitude  | Longitude   |
|--------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------|-----------|-------------|
| SURFACE<br>READING<br>GRID 86<br>BO1 | -                                            | 325                                          | -                                            | -                                                               | -                                                        | 38.299269 | -122.754532 |
| SURFACE<br>READING<br>GRID 87 BO     | -                                            | 200                                          | -                                            | -                                                               | -                                                        | 38.299102 | -122.753957 |
| SURFACE<br>READING<br>GRID 87<br>BO1 | -                                            | 233                                          | -                                            | -                                                               | -                                                        | 38.299010 | -122.754048 |
| SURFACE<br>READING<br>GRID 88 BO     | -                                            | 365                                          | -                                            | -                                                               | -                                                        | 38.299301 | -122.753190 |
| SURFACE<br>READING<br>GRID 88<br>BO2 | -                                            | 201                                          | -                                            | -                                                               | -                                                        | 38.299315 | -122.753732 |
| REEBAR<br>GRID 122<br>RR3            | -                                            | -                                            | 203                                          | -                                                               | -                                                        | 38.298229 | -122.751463 |
| REEBAR<br>GRID 123<br>RR5            | -                                            | -                                            | 200                                          | -                                                               | -                                                        | 38.298073 | -122.750563 |
| REEBAR<br>GRID 123<br>RR6            | -                                            | -                                            | 200                                          | -                                                               | -                                                        | 38.298191 | -122.750822 |
| REEBAR<br>GRID 124 RR                | -                                            | -                                            | 200                                          | -                                                               | -                                                        | 38.297887 | -122.749903 |



## Fourth Quarter 2022

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

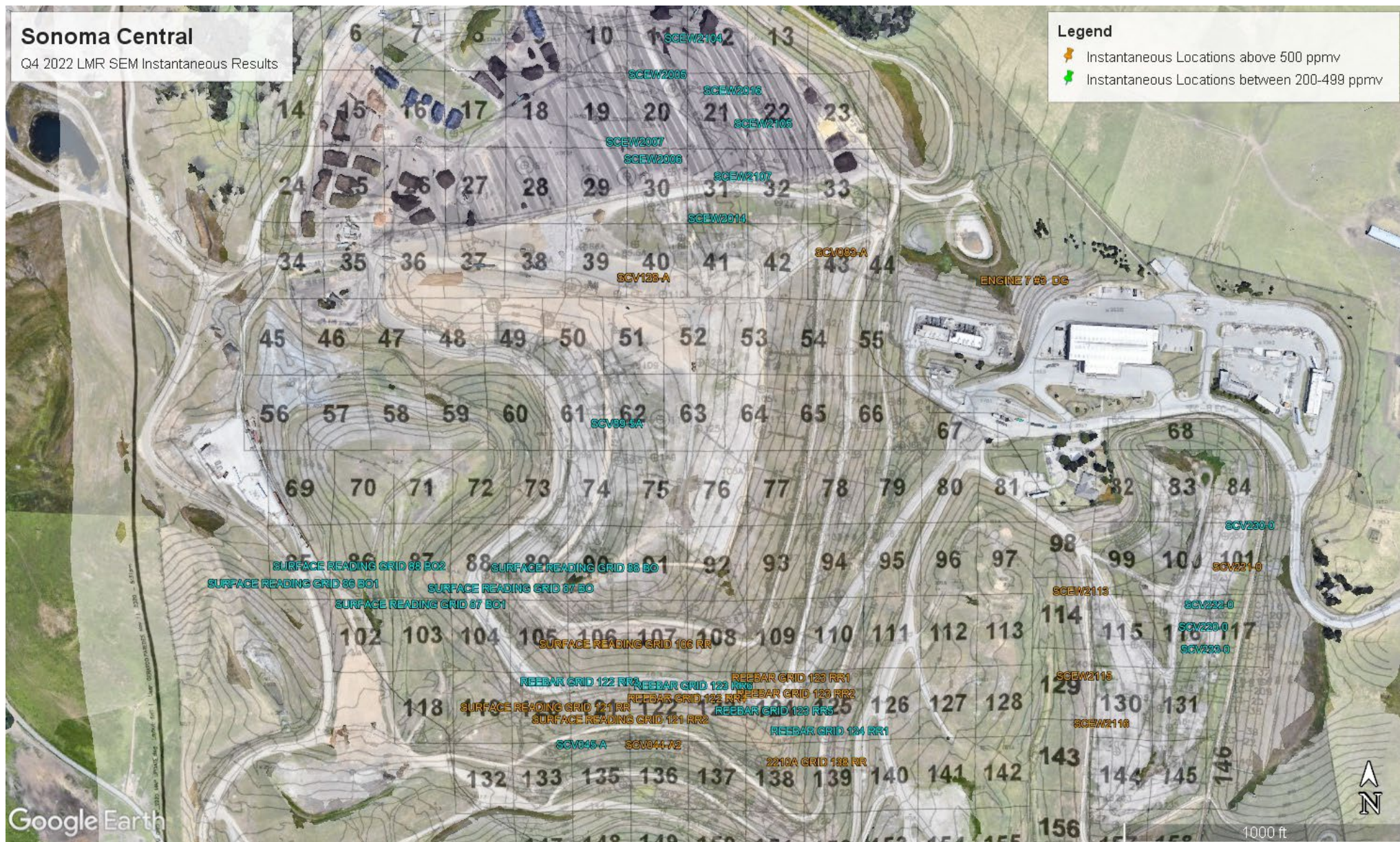
***Highest Pressurized Pipe Readings***

| Location        | Initial Monitoring (ppmv)<br>10/5/2022 | 7-Day Follow Up Monitoring (ppmv)<br>10/12/2022 |
|-----------------|----------------------------------------|-------------------------------------------------|
|                 |                                        |                                                 |
| Flare           | 83.60                                  | N/A                                             |
| PGF Engine 7 #3 | 2,300                                  | 20.3                                            |

***No additional exceedances of the 500 ppm threshold were observed during the monitoring performed during the fourth quarter 2022.***

## Sonoma Central

Q4 2022 LMR SEM Instantaneous Results



**Fourth Quarter 2022**

**Initial Emissions Monitoring Locations Greater Than 200 ppm and 500 ppmv  
Sonoma Central Landfill, Petaluma, California**



## Attachment 4

### Integrated Monitoring Results



## Fourth Quarter 2022

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments |
|------------|-------------|-------------------------|----------|
| SC001      | --          | --                      | Exempt   |
| SC002      | --          | --                      | Exempt   |
| SC003      | --          | --                      | Exempt   |
| SC004      | --          | --                      | Exempt   |
| SC005      | --          | --                      | Exempt   |
| SC006      | 10/6/2022   | 8.21                    |          |
| SC007      | 10/6/2022   | 5.67                    |          |
| SC008      | 10/6/2022   | 8.44                    |          |
| SC009      | 10/6/2022   | 13.86                   |          |
| SC010      | --          | --                      | Exempt   |
| SC011      | --          | --                      | Exempt   |
| SC012      | --          | --                      | Exempt   |
| SC013      | --          | --                      | Exempt   |
| SC014      | --          | --                      | Exempt   |
| SC015      | 10/6/2022   | 10.95                   |          |
| SC016      | 10/6/2022   | 3.21                    |          |
| SC017      | 10/6/2022   | 4.17                    |          |
| SC018      | 10/6/2022   | 9.50                    |          |
| SC019      | 10/6/2022   | 4.58                    |          |
| SC020      | --          | --                      | Exempt   |
| SC021      | --          | --                      | Exempt   |
| SC022      | --          | --                      | Exempt   |
| SC023      | --          | --                      | Exempt   |
| SC024      | --          | --                      | Exempt   |
| SC025      | 10/6/2022   | 6.50                    |          |
| SC026      | 10/6/2022   | 2.41                    |          |
| SC027      | 10/6/2022   | 4.41                    |          |
| SC028      | 10/6/2022   | 4.14                    |          |
| SC029      | --          | --                      | Exempt   |
| SC030      | --          | --                      | Exempt   |
| SC031      | --          | --                      | Exempt   |
| SC032      | --          | --                      | Exempt   |
| SC033      | --          | --                      | Exempt   |
| SC034      | --          | --                      | Exempt   |
| SC035      | 10/6/2022   | 6.12                    |          |
| SC036      | 10/6/2022   | 7.78                    |          |
| SC037      | 10/6/2022   | 7.82                    |          |
| SC038      | 10/6/2022   | 7.04                    |          |
| SC039      | 10/6/2022   | 2.04                    |          |
| SC040      | --          | --                      | Exempt   |
| SC041      | --          | --                      | Exempt   |
| SC042      | --          | --                      | Exempt   |
| SC043      | --          | --                      | Exempt   |



## Fourth Quarter 2022

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments |
|------------|-------------|-------------------------|----------|
| SC044      | --          | --                      | Exempt   |
| SC045      | --          | --                      | Exempt   |
| SC046      | 10/6/2022   | 7.56                    |          |
| SC047      | 10/6/2022   | 9.32                    |          |
| SC048      | 10/6/2022   | 12.19                   |          |
| SC049      | 10/6/2022   | 13.17                   |          |
| SC050      | 10/6/2022   | 11.64                   |          |
| SC051      | 10/6/2022   | 8.18                    |          |
| SC052      | 10/7/2022   | 10.88                   |          |
| SC053      | 10/6/2022   | 6.62                    |          |
| SC054      | 10/6/2022   | 5.13                    |          |
| SC055      | 10/6/2022   | 3.57                    |          |
| SC056      | --          | --                      | Exempt   |
| SC057      | 10/6/2022   | 3.58                    |          |
| SC058      | 10/6/2022   | 6.19                    |          |
| SC059      | 10/6/2022   | 6.81                    |          |
| SC060      | 10/6/2022   | 6.18                    |          |
| SC061      | 10/6/2022   | 8.18                    |          |
| SC062      | 10/6/2022   | 11.79                   |          |
| SC063      | 10/7/2022   | 6.51                    |          |
| SC064      | 10/6/2022   | 5.49                    |          |
| SC065      | 10/7/2022   | 4.09                    |          |
| SC066      | 10/7/2022   | 5.50                    |          |
| SC067      | 10/7/2022   | 2.31                    |          |
| SC068      | 10/5/2022   | 1.78                    |          |
| SC069      | --          | --                      | Exempt   |
| SC070      | 10/6/2022   | 3.49                    |          |
| SC071      | 10/6/2022   | 9.77                    |          |
| SC072      | 10/6/2022   | 8.92                    |          |
| SC073      | 10/6/2022   | 4.76                    |          |
| SC074      | 10/6/2022   | 10.69                   |          |
| SC075      | 10/6/2022   | 5.09                    |          |
| SC076      | 10/6/2022   | 3.05                    |          |
| SC077      | 10/6/2022   | 3.29                    |          |
| SC078      | 10/6/2022   | 2.46                    |          |
| SC079      | 10/6/2022   | 2.47                    |          |
| SC080      | --          | --                      | Exempt   |
| SC081      | --          | --                      | Exempt   |
| SC082      | 10/5/2022   | 10.88                   |          |
| SC083      | 10/5/2022   | 3.51                    |          |
| SC084      | 10/5/2022   | 1.14                    |          |
| SC085      | --          | --                      | Exempt   |
| SC086      | 10/6/2022   | 8.33                    |          |



## Fourth Quarter 2022

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments |
|------------|-------------|-------------------------|----------|
| SC087      | 10/6/2022   | 16.74                   |          |
| SC088      | 10/6/2022   | 11.09                   |          |
| SC089      | 10/6/2022   | 8.35                    |          |
| SC090      | 10/6/2022   | 12.36                   |          |
| SC091      | 10/6/2022   | 5.80                    |          |
| SC092      | 10/6/2022   | 7.38                    |          |
| SC093      | 10/6/2022   | 4.12                    |          |
| SC094      | 10/6/2022   | 2.32                    |          |
| SC095      | 10/6/2022   | 2.98                    |          |
| SC096      | --          | --                      | Exempt   |
| SC097      | --          | --                      | Exempt   |
| SC098      | --          | --                      | Exempt   |
| SC099      | 10/5/2022   | 1.32                    |          |
| SC100      | 10/5/2022   | 6.15                    |          |
| SC101      | 10/5/2022   | 3.44                    |          |
| SC102      | 10/6/2022   | 3.60                    |          |
| SC103      | 10/6/2022   | 12.02                   |          |
| SC104      | 10/6/2022   | 3.62                    |          |
| SC105      | 10/6/2022   | 8.54                    |          |
| SC106      | 10/6/2022   | 12.87                   |          |
| SC107      | 10/6/2022   | 9.99                    |          |
| SC108      | 10/6/2022   | 9.23                    |          |
| SC109      | 10/7/2022   | 3.31                    |          |
| SC110      | 10/7/2022   | 2.39                    |          |
| SC111      | 10/7/2022   | 1.25                    |          |
| SC112      | --          | --                      | Exempt   |
| SC113      | --          | --                      | Exempt   |
| SC114      | --          | --                      | Exempt   |
| SC115      | 10/5/2022   | 1.39                    |          |
| SC116      | 10/5/2022   | 7.81                    |          |
| SC117      | 10/5/2022   | 5.84                    |          |
| SC118      | 10/6/2022   | 8.10                    |          |
| SC119      | 10/6/2022   | 6.43                    |          |
| SC120      | 10/6/2022   | 8.57                    |          |
| SC121      | 10/6/2022   | 20.08                   |          |
| SC122      | 10/6/2022   | 11.86                   |          |
| SC123      | 10/6/2022   | 8.23                    |          |
| SC124      | 10/7/2022   | 8.11                    |          |
| SC125      | 10/7/2022   | 2.77                    |          |
| SC126      | 10/7/2022   | 1.36                    |          |
| SC127      | --          | --                      | Exempt   |
| SC128      | --          | --                      | Exempt   |
| SC129      | --          | --                      | Exempt   |



## Fourth Quarter 2022

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments |
|------------|-------------|-------------------------|----------|
| SC130      | 10/5/2022   | 1.39                    |          |
| SC131      | 10/5/2022   | 8.02                    |          |
| SC132      | 10/6/2022   | 1.31                    |          |
| SC133      | 10/6/2022   | 4.80                    |          |
| SC134      | --          | --                      | Exempt   |
| SC135      | 10/6/2022   | 1.90                    |          |
| SC136      | 10/6/2022   | 1.22                    |          |
| SC137      | 10/6/2022   | 1.44                    |          |
| SC138      | 10/7/2022   | 6.98                    |          |
| SC139      | 10/7/2022   | 7.27                    |          |
| SC140      | 10/7/2022   | 1.27                    |          |
| SC141      | --          | --                      | Exempt   |
| SC142      | --          | --                      | Exempt   |
| SC143      | --          | --                      | Exempt   |
| SC144      | 10/5/2022   | 2.59                    |          |
| SC145      | 10/5/2022   | 4.39                    |          |
| SC146      | 10/5/2022   | 8.95                    |          |
| SC147      | 10/6/2022   | 2.58                    |          |
| SC148      | 10/6/2022   | 1.72                    |          |
| SC149      | 10/6/2022   | 0.91                    |          |
| SC150      | 10/6/2022   | 1.20                    |          |
| SC151      | 10/7/2022   | 1.40                    |          |
| SC152      | 10/7/2022   | 1.49                    |          |
| SC153      | 10/7/2022   | 1.33                    |          |
| SC154      | --          | --                      | Exempt   |
| SC155      | --          | --                      | Exempt   |
| SC156      | --          | --                      | Exempt   |
| SC157      | 10/5/2022   | 2.47                    |          |
| SC158      | 10/7/2022   | 13.71                   |          |
| SC159      | 10/7/2022   | 1.25                    |          |
| SC160      | 10/7/2022   | 1.17                    |          |
| SC161      | --          | --                      | Exempt   |
| SC162      | 10/5/2022   | 2.38                    |          |
| SC163      | 10/5/2022   | 2.11                    |          |





## Attachment 5

### Calibration Logs

# SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 10/05/12  
Inspector(s): Don Gibson

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH      Wind Direction: 1      Barometric Pressure: 29.99 "Hg  
Air Temperature: 50 °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: 241211      Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | -0.1             | 498             | 2                             | 3                       |
| 2     | 0.0              | 497             | 3                             | 3                       |
| 3     | -0.1             | 502             | 2                             | 4                       |

Average Difference: 2.3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{2.3}{500} \times 100\% = \%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>121312</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>119056</u> |
|                 | Counters Observed for the Zero= <u>3888</u> |                 | Counters Observed for the Zero= <u>3866</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>120663</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3850</u> |                 |                                             |

Post Monitoring Calibration Check

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

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17      Reading: 2.1 ppm  
Downwind Location Description: Flare      Reading: 2.3 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: 10-5-22 Site Name: Sanoma  
Inspector(s): Emmanuel Par Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: E Barometric Pressure: 30 "Hg  
Air Temperature: 50 °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: 2364 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>504</u>      | <u>4</u>                      | <u>4</u>                |
| 2     | <u>0</u>         | <u>502</u>      | <u>2</u>                      | <u>4</u>                |
| 3     | <u>-0.3</u>      | <u>502</u>      | <u>2</u>                      | <u>4</u>                |

Average Difference: 2.6

\*Perform recalibration if average difference is greater than 10

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

= 100% - 2.6 / 500 x 100%

= 99.4 %

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>174376</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>176432</u> |
|                 | Counters Observed for the Zero= <u>4676</u> |                 | Counters Observed for the Zero= <u>4560</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>176332</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4616</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17 Reading: 2.3 ppm

Downwind Location Description: Flare Reading: 2.2 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: 10-5-22

Site Name: Sonoma

Inspector(s): Diego Romero

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH

Wind Direction: E

Barometric Pressure: 30 "Hg

Air Temperature: 50 °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: 5421

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>498</u>      | <u>2</u>                      | <u>4</u>                |
| 2     | <u>0</u>         | <u>503</u>      | <u>3</u>                      | <u>3</u>                |
| 3     | <u>0.1</u>       | <u>495</u>      | <u>5</u>                      | <u>3</u>                |

Average Difference: 3.3

\*Perform recalibration if average difference is greater than 10

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

= 100% - 3.3 / 500 x 100%

= 99.34 %

### Span Sensitivity:

#### Trial 1:

Counts Observed for the Span= 142064

Counters Observed for the Zero= 3096

#### Trial 3:

Counts Observed for the Span= 140668

Counters Observed for the Zero= 3885

#### Trial 2:

Counts Observed for the Span= 138924

Counters Observed for the Zero= 3953

### Post Monitoring Calibration Check

Zero Air Reading: 1 ppm

Cal Gas Reading: 512 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17

Reading: 2.3 ppm

Downwind Location Description: Flare

Reading: 2.3 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: 10-5-22 Site Name: Sonoma  
Inspector(s): Alfredo Gomez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: E Barometric Pressure: 30 "Hg  
Air Temperature: 50 °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: 4388 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>3</u>                |
| 2     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: .6

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.6}{500} \times 100\% = 99.8\%$$

Span Sensitivity: 148500

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>147460</u> |
|                 | Counters Observed for the Zero= <u>3627</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>149836</u> |
|                 | Counters Observed for the Zero= <u>3643</u> |

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 3:</b> | Counts Observed for the Span= <u>150700</u> |
|                 | Counters Observed for the Zero= <u>3656</u> |

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 505 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17 Reading: 2.5 ppm

Downwind Location Description: Flare Reading: 2.4 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: 10/05/22 Site Name: Sonoma  
Inspector(s): Alfreda Gomez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30.03 "Hg  
Air Temperature: 49 °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: 4388 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>497</u>      | <u>3</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>3</u>                |
| 3     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>3</u>                |

Average Difference: 2

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% \cdot 2}{500} \times 100\% = 99.5\%$$

Span Sensitivity: 158920

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>149680</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>158968</u> |
|                 | Counters Observed for the Zero= <u>3849</u> |                 | Counters Observed for the Zero= <u>3881</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>158796</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3921</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 491 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G17 Reading: 2.1 ppm  
Downwind Location Description: Flare Reading: 2.2 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: 10/05/22 Site Name: Sonoana  
Inspector(s): Ruben Rios III Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: W Barometric Pressure: 29.99 "Hg  
Air Temperature: 50 °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     | <u>0</u>         | <u>504</u>      | <u>4</u>                      | <u>4</u>                |
| 2     | <u>-6.1</u>      | <u>503</u>      | <u>3</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>4</u>                |

Average Difference: 3.3  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{3.3}{500} \times 100\% = 99.3\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>125724</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>128012</u> |
|                 | Counters Observed for the Zero= <u>3613</u> |                 | Counters Observed for the Zero= <u>3612</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>128576</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3614</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 493 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G17 Reading: 2.5 ppm  
Downwind Location Description: Plume Reading: 2.1 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

Date: 10/15/22 Site Name: Sonoma  
Inspector(s): Diego Romero Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: W Barometric Pressure: 29.99 "Hg  
Air Temperature: 50 °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: 4106 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>4</u>                |
| 3     | <u>-6.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: 3

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 3}{500} \times 100\% = 99.9\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>142400</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>141064</u> |
|                 | Counters Observed for the Zero= <u>5398</u> |                 | Counters Observed for the Zero= <u>5369</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>141064</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5379</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 496 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Air Reading: 28 ppm  
Downwind Location Description: Plaza Reading: 24 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: 10/06/22 Site Name: Sonoma  
 Inspector(s): \_\_\_\_\_ Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NE Barometric Pressure: 30.02 "Hg  
 Air Temperature: 49 °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: 4106 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>497</u>      | <u>3</u>                      | <u>4</u>                |
| 2     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>4</u>                |
| 3     | <u>-0.2</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: 2

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 2}{500} \times 100\% = 99.5\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>161352</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>155740</u> |
|                 | Counters Observed for the Zero= <u>5879</u> |                 | Counters Observed for the Zero= <u>5831</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>157812</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5837</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 487 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G17 Reading: 2.1 ppm  
 Downwind Location Description: Alarc Reading: 2.2 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: 10/06/22  
Inspector(s): Alfredo Gomez

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Wind Direction: NE

Barometric Pressure: 30.03 "Hg

Air Temperature: 49 °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: 5421

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>60</u>        | <u>444</u>      | <u>1</u>                      | <u>4</u>                |
| 2     | <u>-0.2</u>      | <u>500</u>      | <u>0</u>                      | <u>3</u>                |
| 3     | <u>-0.2</u>      | <u>501</u>      | <u>1</u>                      | <u>4</u>                |

Average Difference: .6

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% \cdot \underline{.6}}{500} \times 100\% = \underline{99.8\%}$$

## Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>149016</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>149996</u> |
|                 | Counters Observed for the Zero= <u>4196</u> |                 | Counters Observed for the Zero= <u>4223</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>149284</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4272</u> |                 |                                             |

## Post Monitoring Calibration Check

Zero Air Reading: 1.1 ppm

Cal Gas Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: E 17

Reading: 2.1 ppm

Downwind Location Description: Flare

Reading: 2.2 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: 10-6-22 Site Name: Sohema  
Inspector(s): D. Romerd Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: ESE Barometric Pressure: 30 "Hg  
Air Temperature: 46 °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: 2367 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>3</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>508</u>      | <u>0</u>                      | <u>3</u>                |

Average Difference: 0.3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{0.3}{500} \times 100\%$$

$$= \%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>167308</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>169700</u> |
|                 | Counters Observed for the Zero= <u>5008</u> |                 | Counters Observed for the Zero= <u>4996</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>169588</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5026</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 1.2 ppm Cal Gas Reading: ~~500~~ 505 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17 Reading: 2.1 ppm  
Downwind Location Description: Flare Reading: 2.2 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: 10-6-22 Site Name: Sonoma  
Inspector(s): Bryan Ochoa Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: ESE Barometric Pressure: 30 "Hg  
Air Temperature: 46 °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: 1211 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |
| 3     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>3</u>                |

Average Difference: 0.6  
\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 0.6}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>121740</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>122852</u> |
|                 | Counters Observed for the Zero= <u>3946</u> |                 | Counters Observed for the Zero= <u>3896</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>121088</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4959</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: 0.9 ppm Cal Gas Reading: 513 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17 Reading: 2.2 ppm  
Downwind Location Description: flare Reading: 2.1 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

Date: 10-6-22 Site Name: Sonoma  
 Inspector(s): Don Gibson Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: ESE Barometric Pressure: 30 "Hg  
 Air Temperature: 46 °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: 2364 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0.0</u>       | <u>503</u>      | <u>3</u>                      | <u>8</u>                |
| 2     | <u>-0.1</u>      | <u>503</u>      | <u>3</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>3</u>                |

Average Difference: 2.6  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{2.6}{500} \times 100\%$$

$$= 99.48\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>182192</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>183664</u> |
|                 | Counters Observed for the Zero= <u>4341</u> |                 | Counters Observed for the Zero= <u>4427</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>184124</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5037</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 1.2 ppm Cal Gas Reading: 509 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 17 Reading: 2.1 ppm

Downwind Location Description: Flare Reading: 2 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: 11/4/22 Site Name: Sonoma  
Inspector(s): D. Romero Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NW Barometric Pressure: 30.03 "Hg  
Air Temperature: 68 °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: 1220 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>502</u>      | <u>2</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>502</u>      | <u>2</u>                      | <u>3</u>                |

Average Difference: 1.3  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1.3}{500} \times 100\% = 99.7\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>132496</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>140504</u> |
|                 | Counters Observed for the Zero= <u>4737</u> |                 | Counters Observed for the Zero= <u>4655</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>141156</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4664</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -4.2 ppm Cal Gas Reading: 489 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: G1163 Reading: 2.1 ppm  
Downwind Location Description: G16 Reading: 2.8 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: 11/4/22 Site Name: Sonoma  
Inspector(s): B. Ochoa Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NW Barometric Pressure: 30.03 "Hg  
Air Temperature: 68 °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: 1211 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 2     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>2</u>                |

Average Difference: .3  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.3}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>134156</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>128956</u> |
|                 | Counters Observed for the Zero= <u>4822</u> |                 | Counters Observed for the Zero= <u>4723</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>132348</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4725</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 4.1 ppm Cal Gas Reading: 511 ppm

## BACKGROUND CONCENTRATIONS CHECKS

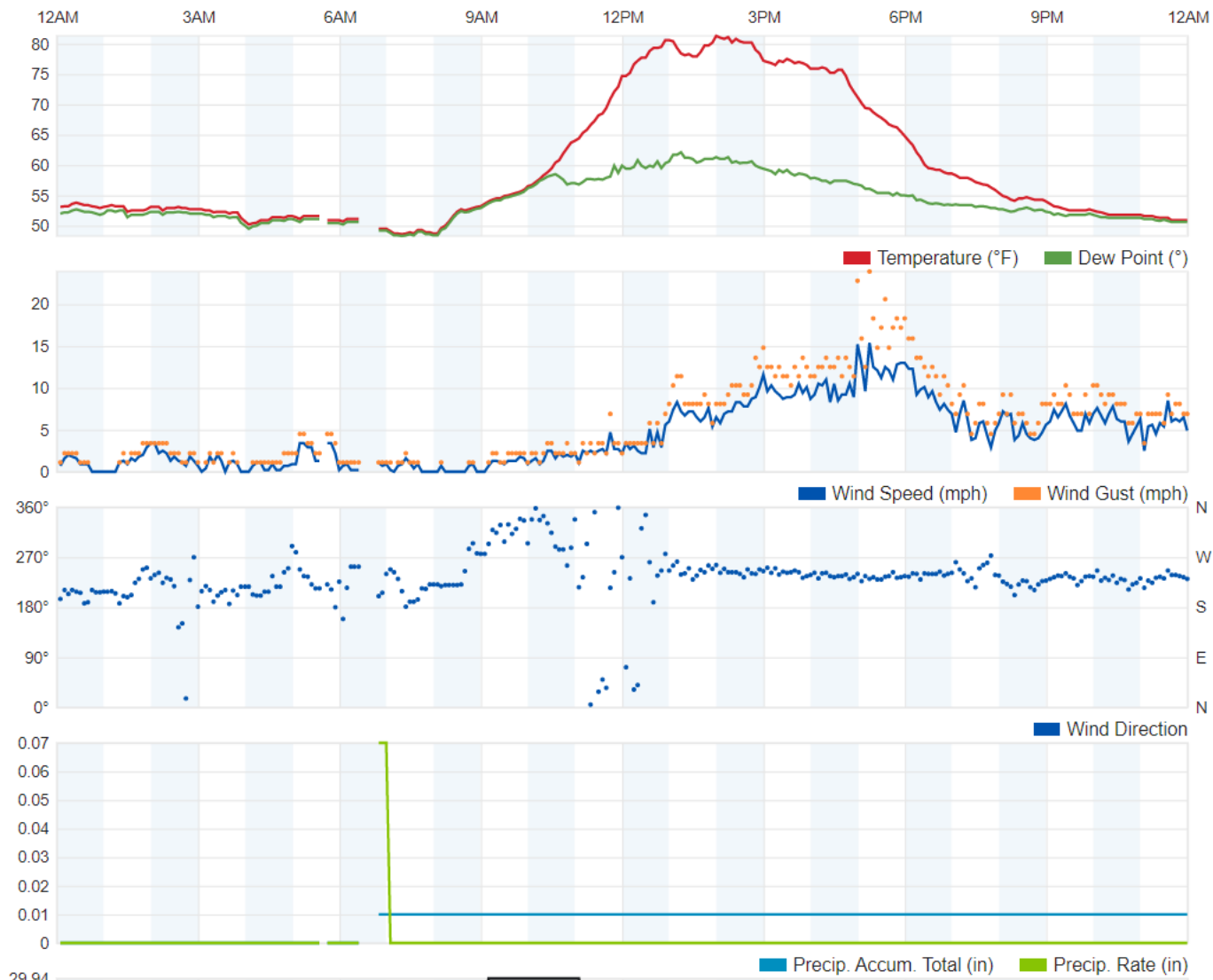
Upwind Location Description: C7163 Reading: 2.2 ppm  
Downwind Location Description: C76 Reading: 2.8 ppm

**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

October 5, 2022

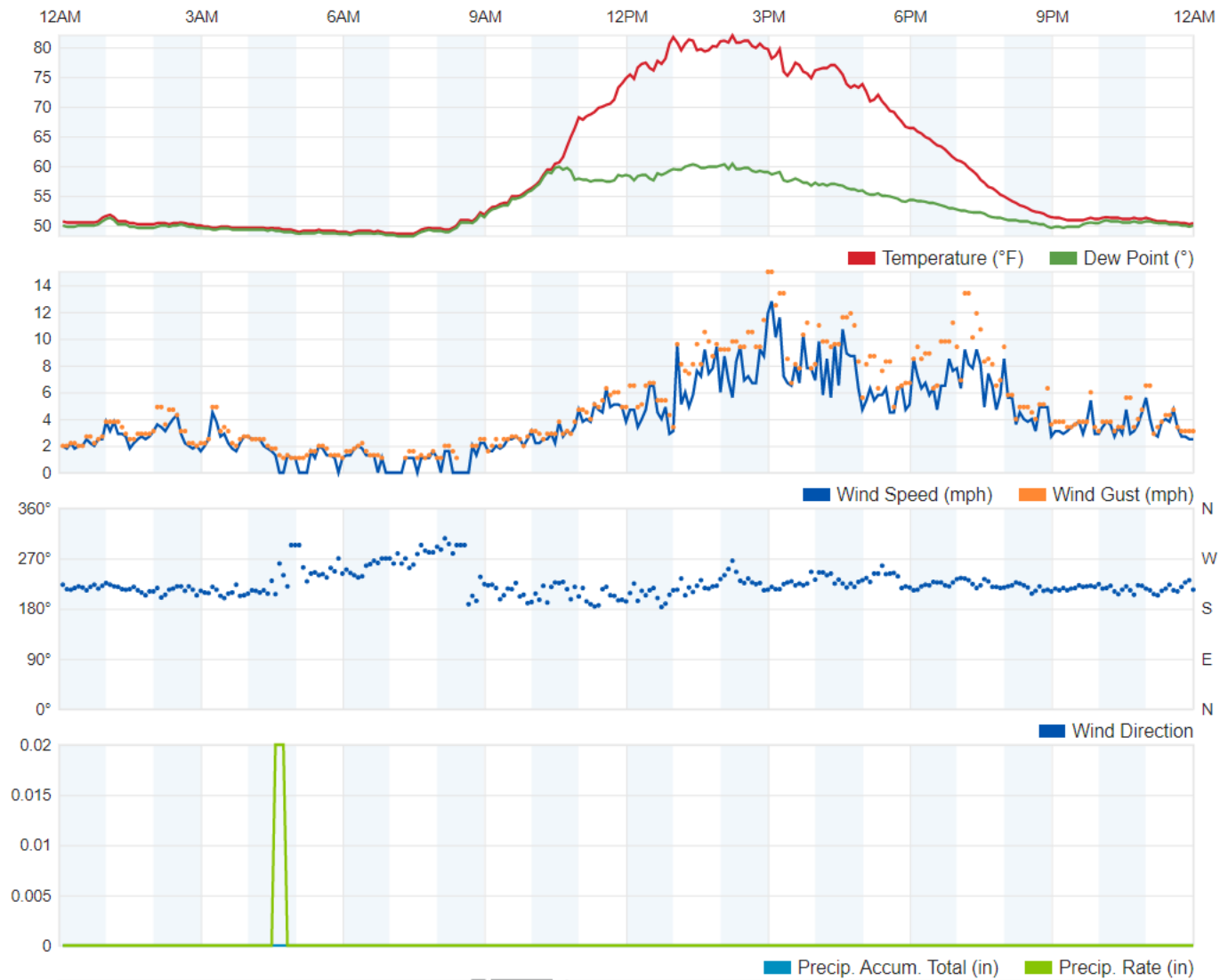


**Fourth Quarter 2022**

**LMR Instantaneous Weather Data for October 5, 2022**

**Sonoma Central Landfill, Petaluma, California**

October 6, 2022

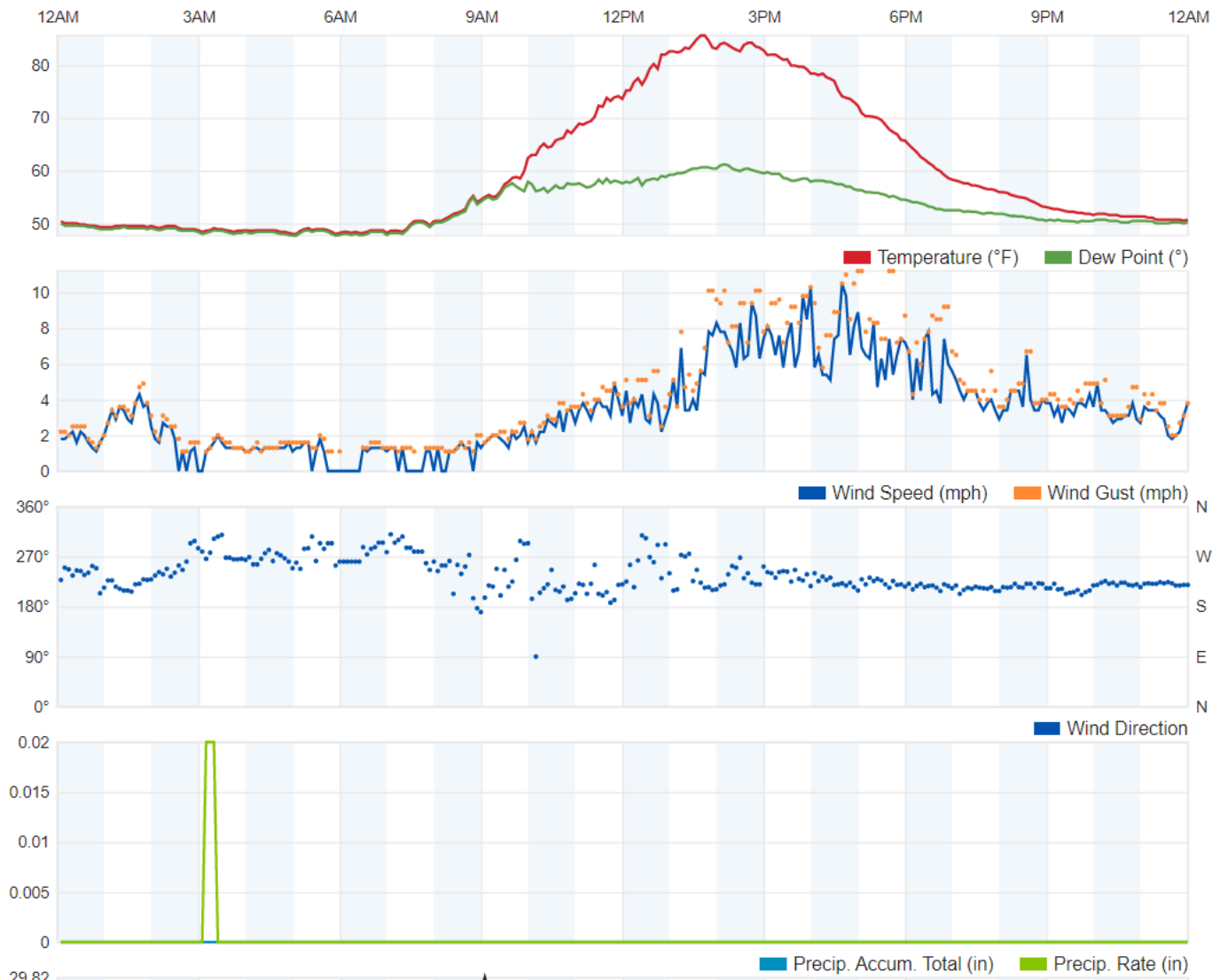


**Fourth Quarter 2022**

**LMR Instantaneous Weather Data for October 6, 2022**

**Sonoma Central Landfill, Petaluma, California**

October 7, 2022

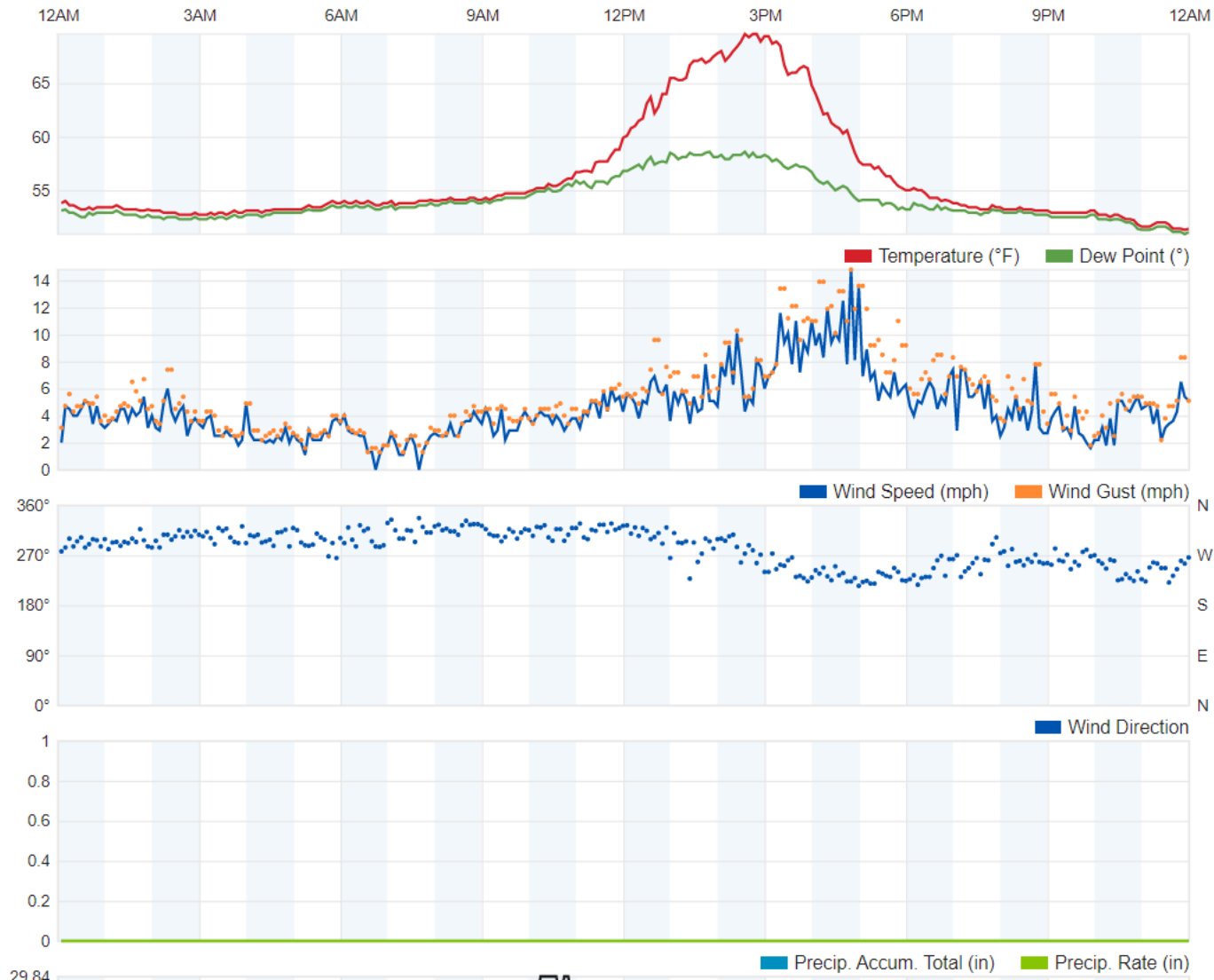


**Fourth Quarter 2022**

**LMR Instantaneous Weather Data for October 7, 2022**

**Sonoma Central Landfill, Petaluma, California**

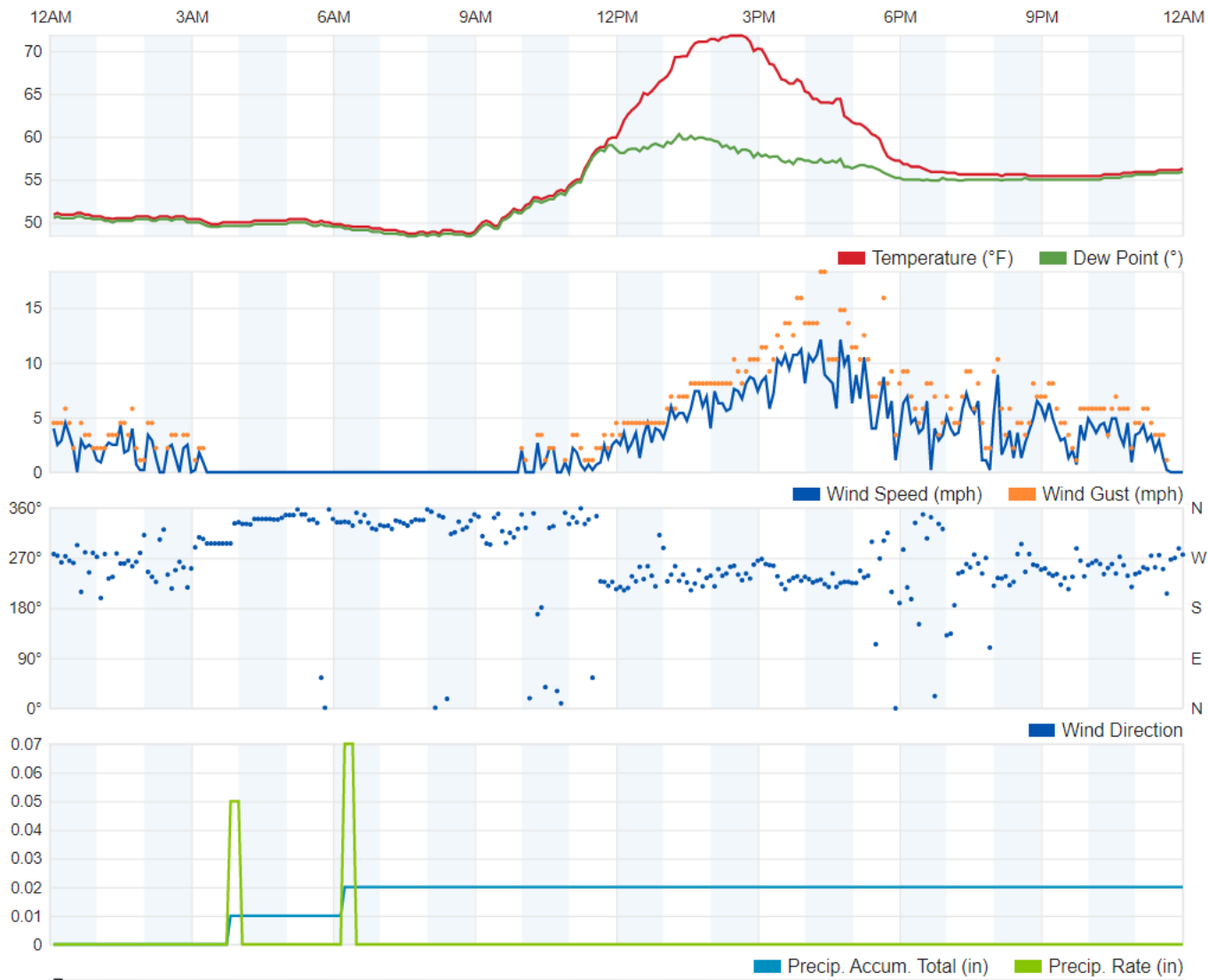
October 12, 2022



**Fourth Quarter 2022**  
**LMR Instantaneous Weather Data for October 12, 2022**  
**Sonoma Central Landfill, Petaluma, California**

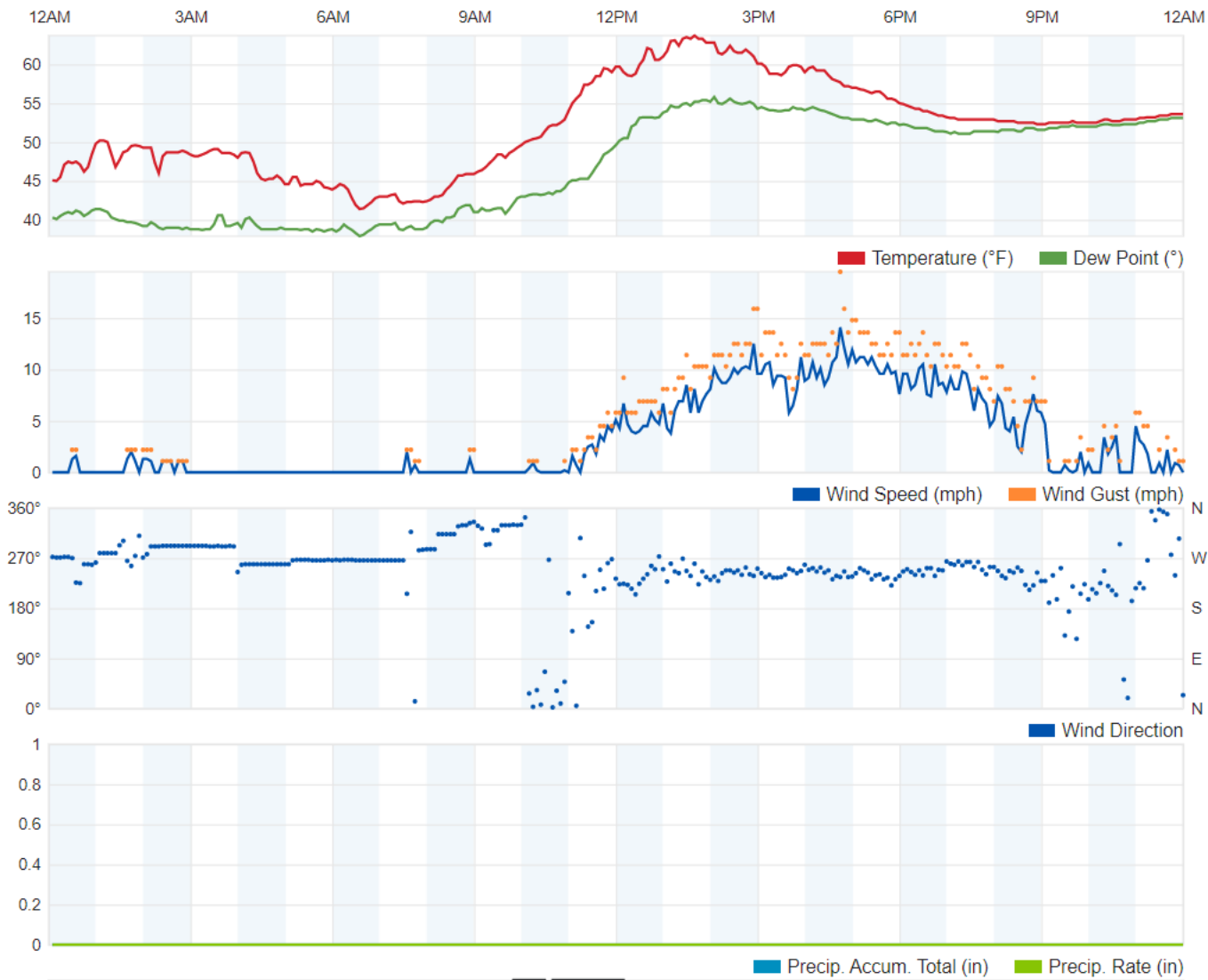


October 14, 2022



**Fourth Quarter 2022**  
**LMR Instantaneous Weather Data for October 14, 2022**  
**Sonoma Central Landfill, Petaluma, California**

November 4, 2022



**Fourth Quarter 2022**  
**LMR Instantaneous Weather Data for November 4, 2022**  
**Sonoma Central Landfill, Petaluma, California**

May 24, 2023  
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 First Quarter 2023.

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 first quarter 2023. 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

First Quarter 2023

Presented to:



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

**SCS FIELD SERVICES**

File No. 07221078.00 Task 01 | May 24, 2023

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**

### **First Quarter 2023**

#### **INTRODUCTION**

This letter provides results of the January 30, 31, February 1, 9 and March 1, 2023, 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 January 30, 31, and February 1, 2023, SCS performed first quarter 2023 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that four (4) location exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that the location 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 no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). 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) locations were observed to exceed the 200 ppmv, reporting threshold, in addition to the location noted above. 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 January 30, 31, February 1, 9 and March 1, 2023, 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 January 30, 31 and February 1, 2023, SCS performed first quarter 2023 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that four (4) locations exceeded the 500 ppmv maximum concentration. The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on February 9 and March 1, 2023, respectively, indicated that the location 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 no areas exceeded the 25-ppmv requirement during this monitoring event. 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 second quarter 2023.



## **PRESSURIZED PIPE AND COMPONENT LEAK MONITORING**

On January 30, 2023, 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 location exceeding the 500 ppmv threshold was observed during our monitoring event at the Power Facility, the maximum reading was 417 ppmv. Therefore, based on these results all pressurized piping and components located at the LFG Power Facility were in compliance at the time of monitoring.

## **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 second quarter 2023 (April through June) surface emissions testing event is scheduled to be performed by the end of June 2023 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

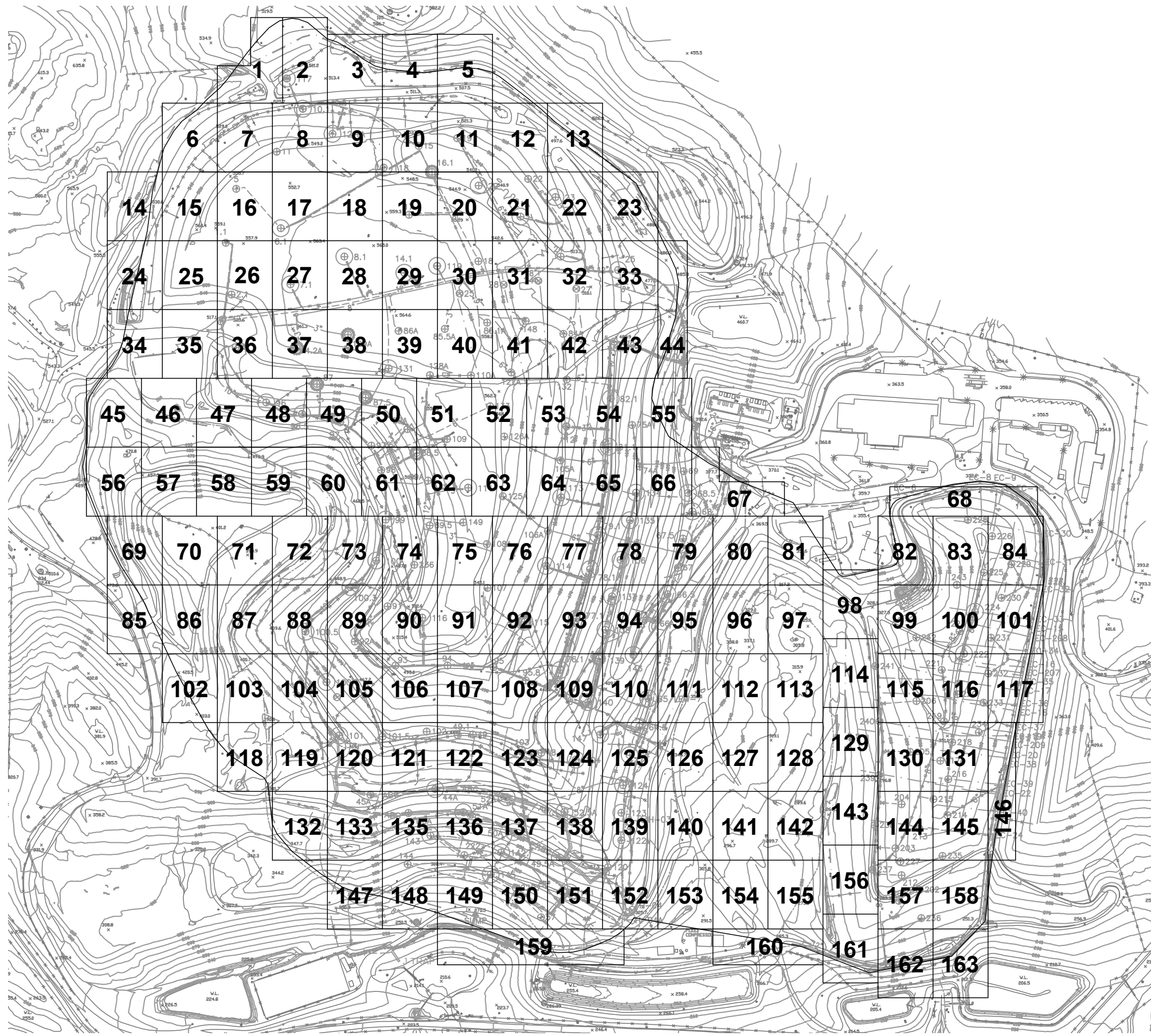
## **STANDARD PROVISIONS**

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

File: X:\PROJECTS\SONOMA COUNTY\200127 - SEM Plan Update\Project Drawings\DISCUSS\SEM\_GRID\_MAP\_2020\_MAP\_UPDATE.dwg Layout: SIF 1 User: GERMARODRUEDES Nov. 11, 2020 - 5:31pm

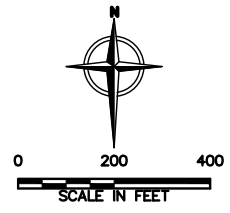


**LEGEND**

- APPROXIMATE LINER BOUNDARY
- 500 EXISTING 10' CONTOUR
- EXISTING GAS PIPE, ABOVE GRADE
- EXISTING GAS PIPE, BELOW GRADE
- EXISTING HORIZONTAL GAS COLLECTOR
- AAG --- AAG --- AAG EXISTING AIR FORCE MAIN, ABOVE GRADE
- ABG --- ABG --- 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



**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   | DIN BY | DES BY      | CHK BY | APP BY |
|-----|------------|---------------|--------|-------------|--------|--------|
| 1   | 11/11/2020 | DATE OF ISSUE |        |             |        |        |
|     |            | DRAWN BY      | GVP    | CHECKED BY  | HLV    |        |
|     |            | DESIGNED BY   | RK     | APPROVED BY |        |        |



SONOMA COUNTY CENTRAL LANDFILL  
PETALUMA, CALIFORNIA

SURFACE EMISSIONS MONITORING  
GRID MAP

SHEET NO.  
**1**

PROJECT NO.  
197-200019

## Attachment 2

### Surface Pathway







## Attachment 3

# Instantaneous and Component Emissions Monitoring Results



## First Quarter 2023

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

*Instantaneous Data Report for January 30, 31 and February 1, 9 and March 1, 2023*

### *Highest Component Readings*

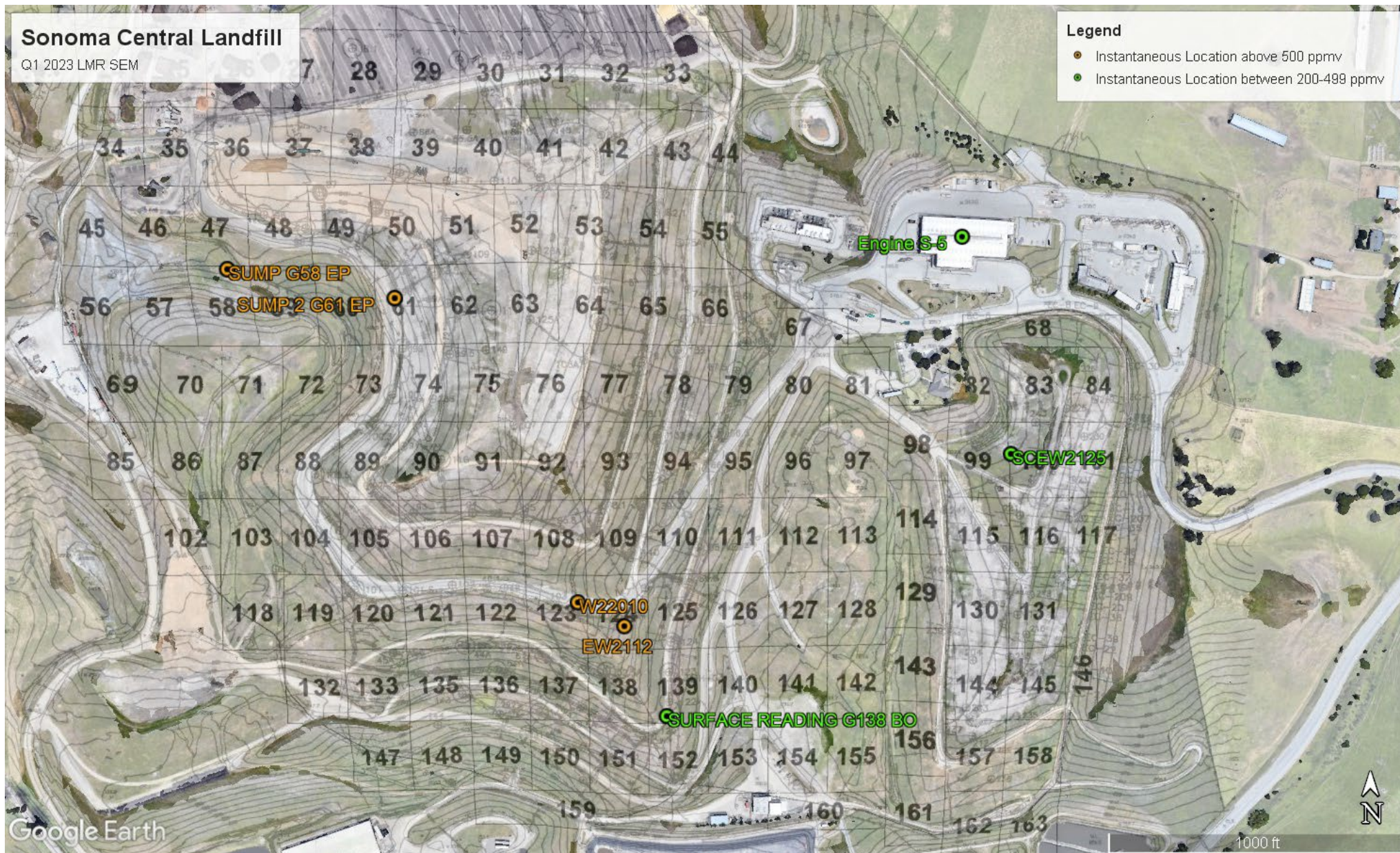
| Location                      | Initial Monitoring (ppmv)<br>1/30/2023 | Initial Monitoring (ppmv)<br>1/31/2023 | Initial Monitoring (ppmv)<br>2/1/2023 | First 10-Day Follow Up Monitoring (ppmv)<br>2/9/2023 | 30-Day Follow Up Monitoring (ppmv)<br>3/1/2023 | Latitude<br>Longitude      |
|-------------------------------|----------------------------------------|----------------------------------------|---------------------------------------|------------------------------------------------------|------------------------------------------------|----------------------------|
| EW2112                        | 992                                    | --                                     | --                                    | 8                                                    | 3.8                                            | N38° 17.876' W122° 44.985' |
| W22010                        | 1,336                                  | --                                     | --                                    | 25                                                   | 73.2                                           | N38° 17.882' W122° 45.014' |
| SUMP 2 G61 EP                 | --                                     | --                                     | 2,233                                 | 160                                                  | 417                                            | N38° 18.052' W122° 45.139' |
| SUMP G58 EP                   | --                                     | --                                     | 2,800                                 | 68                                                   | 377                                            | N38° 18.067' W122° 45.251' |
| Engine S-5                    | 417                                    | --                                     | --                                    | --                                                   | --                                             | N38° 17.868' W122° 45.209' |
| SCEW2125                      | 230                                    | --                                     | --                                    | --                                                   | --                                             | N38° 17.969' W122° 44.716' |
| SURFACE<br>READING G138<br>BO | --                                     | 230                                    | --                                    | --                                                   | --                                             | N38° 17.826' W122° 44.956' |

### *Highest Pressurized Pipe Readings*

| Location   | Initial Monitoring (ppmv)<br>1/30/2023 |
|------------|----------------------------------------|
| Flare      | 28.80                                  |
| Engine S-5 | 417                                    |

*No additional exceedances of the 500 ppm threshold were observed during the monitoring performed during the first quarter 2023.*





**First Quarter 2023**  
**Initial Emissions Monitoring Locations Greater Than 200 ppm and 500 ppmv**  
**Sonoma Central Landfill, Petaluma, California**



## Attachment 4

### Integrated Monitoring Results



## First Quarter 2023

**Table 2. Integrated Surface Emissions Monitoring Results  
Sonoma Central Landfill, Petaluma, California**

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC001      | --          | --                      | Native Grid |
| SC002      | --          | --                      | Native Grid |
| SC003      | --          | --                      | Native Grid |
| SC004      | --          | --                      | Native Grid |
| SC005      | --          | --                      | Native Grid |
| SC006      | 1/31/2023   | 4.07                    |             |
| SC007      | 1/31/2023   | 2.39                    |             |
| SC008      | 1/31/2023   | 6.85                    |             |
| SC009      | 1/31/2023   | 10.56                   |             |
| SC010      | 1/30/2023   | 10.73                   |             |
| SC011      | 1/31/2023   | 8.61                    |             |
| SC012      | 1/30/2023   | 13.30                   |             |
| SC013      | 1/31/2023   | 13.55                   |             |
| SC014      | 1/30/2023   | 4.66                    |             |
| SC015      | 1/30/2023   | 5.19                    |             |
| SC016      | 1/30/2023   | 4.49                    |             |
| SC017      | 1/31/2023   | 3.38                    |             |
| SC018      | 1/30/2023   | 3.40                    |             |
| SC019      | 1/30/2023   | 3.86                    |             |
| SC020      | 1/31/2023   | 5.41                    |             |
| SC021      | 1/30/2023   | 4.54                    |             |
| SC022      | 1/31/2023   | 16.21                   |             |
| SC023      | 1/31/2023   | 3.48                    |             |
| SC024      | 1/30/2023   | 4.43                    |             |
| SC025      | 1/30/2023   | 4.63                    |             |
| SC026      | 1/30/2023   | 4.54                    |             |
| SC027      | 1/31/2023   | 5.24                    |             |
| SC028      | 1/30/2023   | 2.83                    |             |
| SC029      | 1/30/2023   | 1.74                    |             |
| SC030      | 1/31/2023   | 3.20                    |             |
| SC031      | 1/30/2023   | 1.93                    |             |
| SC032      | 1/31/2023   | 5.22                    |             |
| SC033      | 1/31/2023   | 6.88                    |             |
| SC034      | 1/30/2023   | 4.21                    |             |
| SC035      | 1/30/2023   | 4.39                    |             |
| SC036      | 1/30/2023   | 4.85                    |             |
| SC037      | 1/31/2023   | 5.27                    |             |
| SC038      | 1/30/2023   | 3.51                    |             |
| SC039      | 1/30/2023   | 3.72                    |             |
| SC040      | 1/31/2023   | 1.94                    |             |
| SC041      | 1/30/2023   | 3.11                    |             |
| SC042      | 1/31/2023   | 4.20                    |             |
| SC043      | 1/31/2023   | 7.04                    |             |



## First Quarter 2023

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC044      | 2/1/2023    | 4.07                    |             |
| SC045      | --          | --                      | Active Grid |
| SC046      | 1/31/2023   | 1.91                    |             |
| SC047      | 1/31/2023   | 3.60                    |             |
| SC048      | 1/31/2023   | 10.76                   |             |
| SC049      | 1/31/2023   | 7.14                    |             |
| SC050      | 1/31/2023   | 7.06                    |             |
| SC051      | 1/31/2023   | 2.33                    |             |
| SC052      | 1/30/2023   | 2.42                    |             |
| SC053      | 1/30/2023   | 2.83                    |             |
| SC054      | 1/31/2023   | 1.36                    |             |
| SC055      | 1/31/2023   | 1.63                    |             |
| SC056      | --          | --                      | Active Grid |
| SC057      | --          | --                      | Active Grid |
| SC058      | 1/31/2023   | 10.29                   |             |
| SC059      | 1/31/2023   | 8.15                    |             |
| SC060      | 1/31/2023   | 3.03                    |             |
| SC061      | 1/31/2023   | 11.17                   |             |
| SC062      | 1/31/2023   | 5.23                    |             |
| SC063      | 1/30/2023   | 1.75                    |             |
| SC064      | 1/30/2023   | 3.55                    |             |
| SC065      | 1/31/2023   | 0.85                    |             |
| SC066      | 2/1/2023    | 3.12                    |             |
| SC067      | 2/1/2023    | 2.87                    |             |
| SC068      | 1/30/2023   | 1.70                    |             |
| SC069      | --          | --                      | Active Grid |
| SC070      | --          | --                      | Active Grid |
| SC071      | --          | --                      | Active Grid |
| SC072      | 1/31/2023   | 10.62                   |             |
| SC073      | 1/31/2023   | 3.84                    |             |
| SC074      | 1/31/2023   | 12.74                   |             |
| SC075      | 1/31/2023   | 7.53                    |             |
| SC076      | 1/31/2023   | 2.65                    |             |
| SC077      | 1/31/2023   | 1.36                    |             |
| SC078      | 1/31/2023   | 2.36                    |             |
| SC079      | 1/31/2023   | 2.62                    |             |
| SC080      | 1/31/2023   | 2.31                    |             |
| SC081      | --          | --                      | Native Grid |
| SC082      | 1/30/2023   | 6.68                    |             |
| SC083      | 1/30/2023   | 9.79                    |             |
| SC084      | 1/31/2023   | 2.59                    |             |
| SC085      | --          | --                      | Active Grid |
| SC086      | --          | --                      | Active Grid |



## First Quarter 2023

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC087      | --          | --                      | Active Grid |
| SC088      | 1/31/2023   | 5.45                    |             |
| SC089      | 1/31/2023   | 8.86                    |             |
| SC090      | 1/31/2023   | 21.48                   |             |
| SC091      | 1/31/2023   | 9.63                    |             |
| SC092      | 1/31/2023   | 2.94                    |             |
| SC093      | 1/31/2023   | 2.00                    |             |
| SC094      | 1/31/2023   | 2.30                    |             |
| SC095      | 1/31/2023   | 2.62                    |             |
| SC096      | --          | --                      | Native Grid |
| SC097      | --          | --                      | Native Grid |
| SC098      | 1/31/2023   | 3.18                    |             |
| SC099      | 1/30/2023   | 6.43                    |             |
| SC100      | 1/30/2023   | 9.43                    |             |
| SC101      | 1/31/2023   | 2.35                    |             |
| SC102      | 2/1/2023    | 3.08                    |             |
| SC103      | 2/1/2023    | 7.27                    |             |
| SC104      | 1/31/2023   | 4.42                    |             |
| SC105      | 1/31/2023   | 12.76                   |             |
| SC106      | 1/31/2023   | 20.21                   |             |
| SC107      | 1/31/2023   | 9.68                    |             |
| SC108      | 1/31/2023   | 8.48                    |             |
| SC109      | 1/31/2023   | 6.33                    |             |
| SC110      | 1/31/2023   | 2.12                    |             |
| SC111      | 1/31/2023   | 2.59                    |             |
| SC112      | --          | --                      | Native Grid |
| SC113      | --          | --                      | Native Grid |
| SC114      | 1/31/2023   | 2.38                    |             |
| SC115      | 1/30/2023   | 5.07                    |             |
| SC116      | 1/30/2023   | 5.17                    |             |
| SC117      | 1/31/2023   | 2.69                    |             |
| SC118      | 2/1/2023    | 3.75                    |             |
| SC119      | 1/31/2023   | 2.95                    |             |
| SC120      | 1/31/2023   | 7.47                    |             |
| SC121      | 1/31/2023   | 14.49                   |             |
| SC122      | 1/31/2023   | 12.22                   |             |
| SC123      | 1/31/2023   | 5.64                    |             |
| SC124      | 1/31/2023   | 14.96                   |             |
| SC125      | 1/31/2023   | 2.01                    |             |
| SC126      | 1/31/2023   | 2.49                    |             |
| SC127      | --          | --                      | Native Grid |
| SC128      | --          | --                      | Native Grid |
| SC129      | 1/31/2023   | 2.61                    |             |



## First Quarter 2023

**Table 2. Integrated Surface Emissions Monitoring Results  
Sonoma Central Landfill, Petaluma, California**

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC130      | 1/30/2023   | 3.54                    |             |
| SC131      | 1/30/2023   | 2.62                    |             |
| SC132      | 1/31/2023   | 1.58                    |             |
| SC133      | 1/31/2023   | 1.73                    |             |
| SC135      | 1/31/2023   | 3.76                    |             |
| SC136      | 1/31/2023   | 3.95                    |             |
| SC137      | 1/31/2023   | 2.02                    |             |
| SC138      | 1/31/2023   | 6.26                    |             |
| SC139      | 1/31/2023   | 5.67                    |             |
| SC140      | 1/31/2023   | 2.44                    |             |
| SC141      | --          | --                      | Native Grid |
| SC142      | --          | --                      | Native Grid |
| SC143      | 1/31/2023   | 1.35                    |             |
| SC144      | 1/30/2023   | 3.25                    |             |
| SC145      | 1/30/2023   | 1.72                    |             |
| SC146      | 1/31/2023   | 2.39                    |             |
| SC147      | 1/31/2023   | 0.97                    |             |
| SC148      | 1/31/2023   | 2.07                    |             |
| SC149      | 1/31/2023   | 3.02                    |             |
| SC150      | 1/31/2023   | 1.64                    |             |
| SC151      | 1/31/2023   | 2.58                    |             |
| SC152      | 1/31/2023   | 1.98                    |             |
| SC153      | 1/31/2023   | 2.34                    |             |
| SC154      | --          | --                      | Native Grid |
| SC155      | --          | --                      | Native Grid |
| SC156      | 1/31/2023   | 1.74                    |             |
| SC157      | 1/30/2023   | 2.77                    |             |
| SC158      | 1/30/2023   | 1.21                    |             |
| SC159      | 2/1/2023    | 1.79                    |             |
| SC160      | --          | --                      | Native Grid |
| SC161      | 1/31/2023   | 0.91                    |             |
| SC162      | 1/30/2023   | 2.51                    |             |
| SC163      | 1/30/2023   | 1.42                    |             |





## Attachment 5

### Calibration Logs

# SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 1-30-23  
Inspector(s): Bryan Ochoa

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH      Wind Direction: E      Barometric Pressure: 30.06 "Hg  
Air Temperature: 32 °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: 2367      Cal Gas Concentration: 500ppm

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

Average Difference: 1  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>167016</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>173388</u> |
|                 | Counters Observed for the Zero= <u>5118</u> |                 | Counters Observed for the Zero= <u>5029</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>171186</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5111</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm      Cal Gas Reading: 489 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance      Reading: 2.6 ppm  
Downwind Location Description: Alone      Reading: 2.2 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: 1-30-23  
Inspector(s): Andrew Stone

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Wind Direction: E

Barometric Pressure: 30.06 "Hg

Air Temperature: 32 °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     | <u>-0.1</u>      | <u>503</u>      | <u>3</u>                      | <u>2</u>                |
| 2     | <u>0</u>         | <u>498</u>      | <u>2</u>                      | <u>3</u>                |
| 3     | <u>-0.2</u>      | <u>500</u>      | <u>0</u>                      | <u>3</u>                |

Average Difference: 1.3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% \cdot \frac{1.3}{500} \times 100\% = 99.7\%$$

### Span Sensitivity:

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>142028</u> |
|                 | Counters Observed for the Zero= <u>3354</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>178624</u> |
|                 | Counters Observed for the Zero= <u>3285</u> |

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 3:</b> | Counts Observed for the Span= <u>140836</u> |
|                 | Counters Observed for the Zero= <u>3261</u> |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm

Cal Gas Reading: 498 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance  
Downwind Location Description: Plare

Reading: 1.6 ppm

Reading: 2.0 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.

**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: 11/30/23

Site Name: Sono me

Inspector(s): A. Gomez

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Direction: 

Pressure: 30.06 "Hg

Air  
Temperature: 32 °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: 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                             | 3                       |
| 2     | 0.1              | 495             | 5                             | 2                       |
| 3     | 0                | 504             | 4                             | 2                       |

Average Difference: 3

\*Perform recalibration if average difference is greater than 10

$$\text{Calibration Precision} = \text{Average Difference} / \text{Cal Gas Conc.} \times 100\%$$

$$= 100\% - \frac{3}{500} \times 100\%$$

$$= 99.4\%$$

**Span Sensitivity:**

**Trial 1:** Counts Observed for the Span= 132904

Counters Observed for the Zero= 3818

Trial 2: Counts Observed for the Span= 147072

Counters Observed for the Zero= 3815

**Trial 3:** Counts Observed for the Span = 129276

Counters Observed for the Zero= 3788

### Post Monitoring Calibration Check

Zero Air  
Reading: -0.1 ppm

Cal Gas  
Reading: 492 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.4 ppm

Downwind Location Description: Plants

Reading: 2.2 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

good

Date: 1-30-23  
Inspector(s): Don Gibson

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH      Wind Direction: NE      Barometric Pressure: 29 "Hg  
Air Temperature: 37 °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     | <u>-0.1</u>      | <u>507</u>      | <u>7</u>                      | <u>6</u>                |
| 2     | <u>0</u>         | <u>502</u>      | <u>2</u>                      | <u>3</u>                |
| 3     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>4</u>                |

Average Difference: 10  
\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 3.3}{500} \times 100\% = \frac{96.7}{500} \times 100\% = 19.34\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>145008</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>166500</u> |
|                 | Counters Observed for the Zero= <u>4738</u> |                 | Counters Observed for the Zero= <u>4838</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>168332</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4811</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm      Cal Gas Reading: 499 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance      Reading: 1.6 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: 1-30-23

Site Name: Sonoma

Inspector(s): Bryon Ochoa

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Wind Direction: NE

Barometric Pressure: 29 "Hg

Air Temperature: 37 °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: 5421

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>501</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>6</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>6</u>                |

Average Difference: 1

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - \frac{1}{500} \times 100\%}{1} = 99.94\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>144976</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>147372</u> |
|                 | Counters Observed for the Zero= <u>4217</u> |                 | Counters Observed for the Zero= <u>4212</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>147976</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4230</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 0.1 ppm

Cal Gas Reading: 501 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.5 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: 1-30-23  
Inspector(s): Emmanuel Paz

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Wind Direction: NE

Barometric Pressure: 29 "Hg

Air Temperature: 37 °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: 2384

Cal Gas Concentration: 500ppm

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

Average Difference: 4

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 1.3}{500} \times 100\% = 99.74\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>182032</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>184000</u> |
|                 | Counters Observed for the Zero= <u>4910</u> |                 | Counters Observed for the Zero= <u>4539</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>184964</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4741</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: 0 ppm

Cal Gas Reading: 500 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.6 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: 1-30-23

Site Name: Sonoma

Inspector(s): R. Warren

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH

Wind  
Direction: **NE**

Barometric Pressure: 29.8 "Hg

Air Temperature: 37 °F

General Weather Conditions: 37 (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: 4388

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | 0.1              | 500             | 0                             | 2                       |
| 2     | 0.0              | 498             | 2                             | 2                       |
| 3     | 0                | 501             | 1                             | 2                       |

Average Difference: 3

\*Perform recalibration if average difference is greater than 10

$$\text{Calibration Precision} = \text{Average Difference} / \text{Cal Gas Conc.} \times 100\%$$

$$= 100\% - \frac{1}{500} \times 100\%$$

$$= 19.88\%$$

**Span Sensitivity:**

**Trial 1:**

Counts Observed for the Span= 124244

Counters Observed for the Zero= 3993

Trial 3:

Counts Observed for the Span= 124323

Counters Observed for the Zero= 4129

**Trial 2:**

Counts Observed for the Span= 125468

Counters Observed for the Zero= 3958

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm

Cal Gas  
Reading: 500 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description:

## Entrance

Reading: 1.6 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.

7

# SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 1-31-23  
Inspector(s): Lashad Warren

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH      Wind Direction: NE      Barometric Pressure: 29.9 "Hg  
Air Temperature: 37 °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: 5419      Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0.0</u>       | <u>501</u>      | <u>1</u>                      | <u>2</u>                |
| 2     | <u>0.0</u>       | <u>500</u>      | <u>0</u>                      | <u>3</u>                |
| 3     | <u>0.0</u>       | <u>499</u>      | <u>1</u>                      | <u>3</u>                |

Average Difference: 2

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.6}{500} \times 100\%$$

$$= 99.88\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>186356</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>186366</u> |
|                 | Counters Observed for the Zero= <u>5033</u> |                 | Counters Observed for the Zero= <u>5513</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>186896</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5506</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 0.1 ppm      Cal Gas Reading: 499 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance      Reading: 1.6 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: 1-31-23  
Inspector(s): Don Gibson

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH

Wind Direction: NE

Barometric Pressure: 29.9 "Hg

Air Temperature: 37 °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: 4388

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>3</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>0</u>                      | <u>3</u>                |
| 3     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>2</u>                |

Average Difference: 1

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.3}{500} \times 100\%$$

$$= 99.94\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>133436</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>135472</u> |
|                 | Counters Observed for the Zero= <u>4421</u> |                 | Counters Observed for the Zero= <u>4379</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>135440</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4375</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: 0 ppm

Cal Gas Reading: 500 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.6 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: 1-31-23 Site Name: Sonoma  
 Inspector(s): Andrew Stone Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 29.98 "Hg  
 Air Temperature: 36 °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: 5420 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc. - Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|---------------------------------|-------------------------|
| 1     | <u>0.0</u>       | <u>501</u>      | <u>1</u>                        | <u>2</u>                |
| 2     | <u>0.0</u>       | <u>501</u>      | <u>1</u>                        | <u>2</u>                |
| 3     | <u>0.0</u>       | <u>500</u>      | <u>0</u>                        | <u>3</u>                |

Average Difference: 2

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - \underline{.6}}{500} \times 100\% = \underline{19.88} \%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>135568</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>141580</u> |
|                 | Counters Observed for the Zero= <u>3984</u> |                 | Counters Observed for the Zero= <u>3977</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>139532</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4005</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: 0.1 ppm Cal Gas Reading: 500 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.6 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: 1-31-23

Site Name: Sonomun

Inspector(s): E. Paz

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH

Wind Direction: NE

Barometric Pressure: 29 "Hg

Air Temperature: 36 °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     | <u>0</u>         | <u>501</u>      | <u>1</u>                      | <u>3</u>                |
| 2     | <u>-0.1</u>      | <u>498</u>      | <u>2</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: 1.6

\*Perform recalibration if average difference is greater than 10

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

= 100% - 1.6 / 500 x 100%

= 99.8 %

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>154524</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>152936</u> |
|                 | Counters Observed for the Zero= <u>3044</u> |                 | Counters Observed for the Zero= <u>3097</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>154008</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3157</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm

Cal Gas Reading: 497 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.6 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: 1-31-23  
Inspector(s): R. YEPEZ

Site Name: Sonom  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 5 MPH

Wind Direction: NE

Barometric Pressure: 29 "Hg

Air Temperature: 36 °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: 5421

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |
| 2     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>5</u>                |

Average Difference: .3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% \cdot \frac{.3}{500} \times 100\%$$

$$= 99.9\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>151324</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>195552</u> |
|                 | Counters Observed for the Zero= <u>4399</u> |                 | Counters Observed for the Zero= <u>4374</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>147760</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4400</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: \_\_\_\_\_ ppm

Cal Gas Reading: \_\_\_\_\_ ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.6 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: 1-31-23  
Inspector(s): A. Gomez

Site Name: Sanoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 5 MPH

Wind Direction: NE

Barometric Pressure: 29 "Hg

Air Temperature: 36 °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: 2367

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>498</u>      | <u>2</u>                      |                         |
| 2     | <u>0</u>         | <u>497</u>      | <u>3</u>                      |                         |
| 3     | <u>0</u>         | <u>505</u>      | <u>5</u>                      |                         |

Average Difference: 3

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 3}{500} \times 100\% = 99.4\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>168284</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>172640</u> |
|                 | Counters Observed for the Zero= <u>5086</u> |                 | Counters Observed for the Zero= <u>5041</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>177808</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4993</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm

Cal Gas Reading: 493 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.6 ppm

Downwind Location Description: Plave

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: 1-31-23

Site Name: Sonoma

Inspector(s): A. STONE

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH

Wind  
Direction: NE

Barometric Pressure: 29 "Hg

Air  
Temperature: 36 °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     | 0                | 499             | 1                             | 4                       |
| 2     | -0.1             | 501             | 1                             | 5                       |
| 3     | 0                | 501             | 1                             | 5                       |

Average Difference:

\*Perform recalibration if average difference is greater than 10

$$\text{Calibration Precision} = \text{Average Difference} / \text{Cal Gas Conc.} \times 100\%$$

$$= 100\% - \frac{1}{500} \times 100\%$$

$$= 99.9\%$$

Span Sensitivity:

Trial 1:

Counts Observed for the Span= 178244

Counters Observed for the Zero= 4630

Trial 3:

Counts Observed for the Span= 180404

Counters Observed for the Zero= 4722

### Trial 2:

Counts Observed for the Span= 154186

Counters Observed for the Zero= 4791

### Post Monitoring Calibration Check

Zero Air  
Reading: 0.1 ppm

Cal Gas  
Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description:

Entrance  
Floor

Reading: 1.6 ppm

Downwind Location Description:

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: 1-2 2-1-23

Site Name: Sonoma

Inspector(s): Andrew Stan

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 4 MPH

Wind Direction: W

Barometric Pressure: 30.20 "Hg

Air Temperature: 33 °F

General Weather Conditions: mostly 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     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>4</u>                |

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:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>142380</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>146884</u> |
|                 | Counters Observed for the Zero= <u>3020</u> |                 | Counters Observed for the Zero= <u>2983</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>142984</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3004</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm

Cal Gas Reading: 497 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance

Reading: 1.8 ppm

Downwind Location Description: Plaza

Reading: 2.0 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: 2-1-23 Site Name: Sohom  
 Inspector(s): Emmanuel Paz Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: W Barometric Pressure: 30.20 "Hg  
 Air Temperature: 33 °F General Weather Conditions: mostly 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: 2367 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>501</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: 6  
\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - \underline{6}}{500} \times 100\% = \underline{99.8} \%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>175564</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>177056</u> |
|                 | Counters Observed for the Zero= <u>4790</u> |                 | Counters Observed for the Zero= <u>4845</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>177776</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4836</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 504 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.8 ppm  
 Downwind Location Description: Plare Reading: 2.0 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: 2-1-23  
Inspector(s): Bryan Odell

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 4 MPH      Wind Direction: W      Barometric Pressure: 30.20 "Hg  
Air Temperature: 33 °F      General Weather Conditions: mostly 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: 5419      Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>5</u>                |

Average Difference: 6

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{6}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                              |
|-----------------|---------------------------------------------|-----------------|----------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>171120</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>168104</u>  |
|                 | Counters Observed for the Zero= <u>4914</u> |                 | Counters Observed for the Zero= <u>-4897</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>171288</u> |                 |                                              |
|                 | Counters Observed for the Zero= <u>4941</u> |                 |                                              |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm      Cal Gas Reading: 493 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance      Reading: 1.8 ppm  
Downwind Location Description: Plaza      Reading: 2.0 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: 2/9/23 Site Name: Sonoma  
Inspector(s): E. PAZ Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: W Barometric Pressure: 30.30 "Hg  
Air Temperature: 44 °F General Weather Conditions: Mostly 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: 5421 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>498</u>      | <u>2</u>                      | <u>5</u>                |
| 2     | <u>0.0</u>       | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: 3  
\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - \frac{1}{500} \times 100\%}{1} = 99.8\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>136340</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>139340</u> |
|                 | Counters Observed for the Zero= <u>4579</u> |                 | Counters Observed for the Zero= <u>4426</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>138480</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4458</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 499 ppm

## BACKGROUND CONCENTRATIONS CHECKS

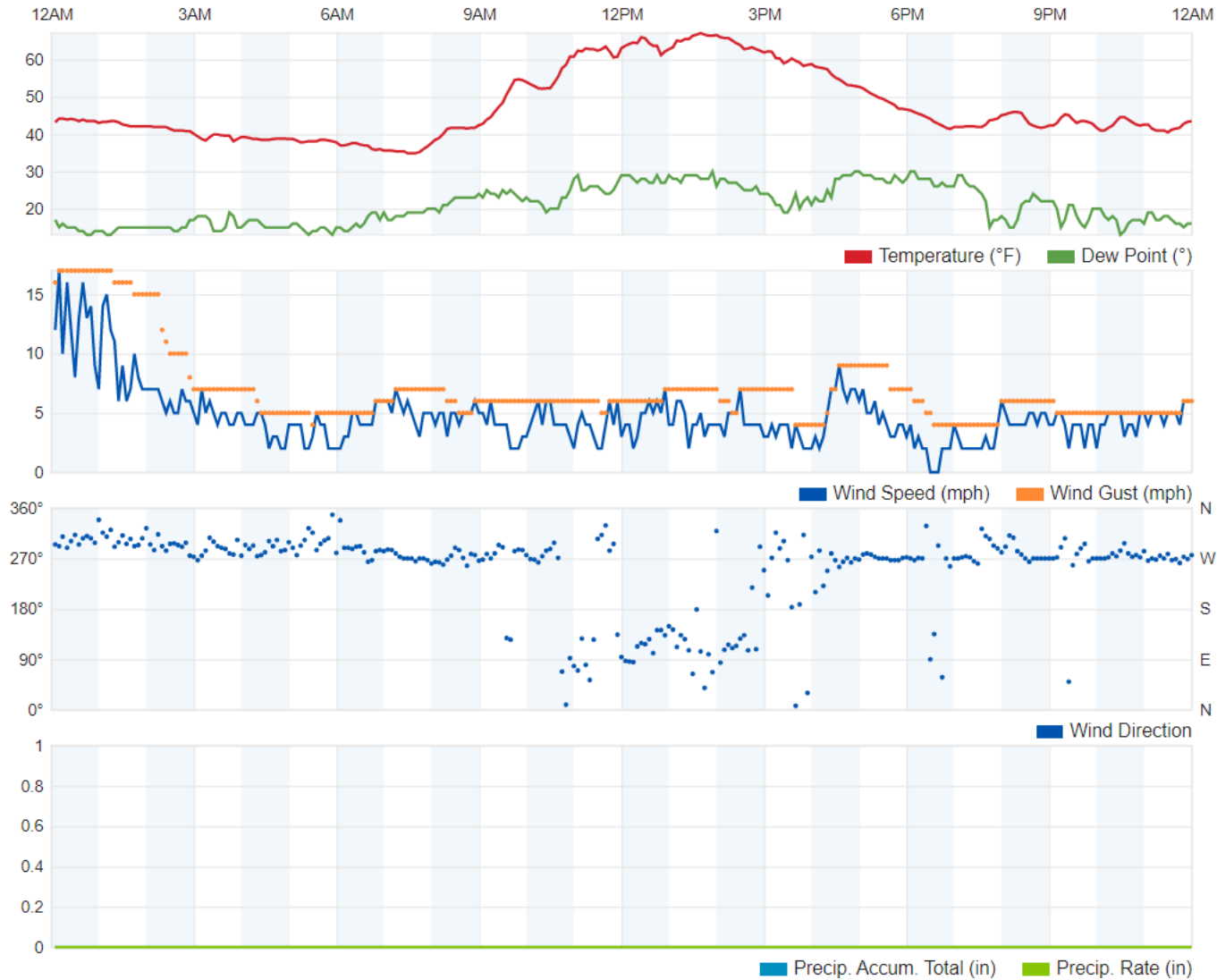
Upwind Location Description: Entrance Reading: 1.5 ppm  
Downwind Location Description: FLARE Reading: 1.7 ppm

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.

## Attachment 6

### Weather Data

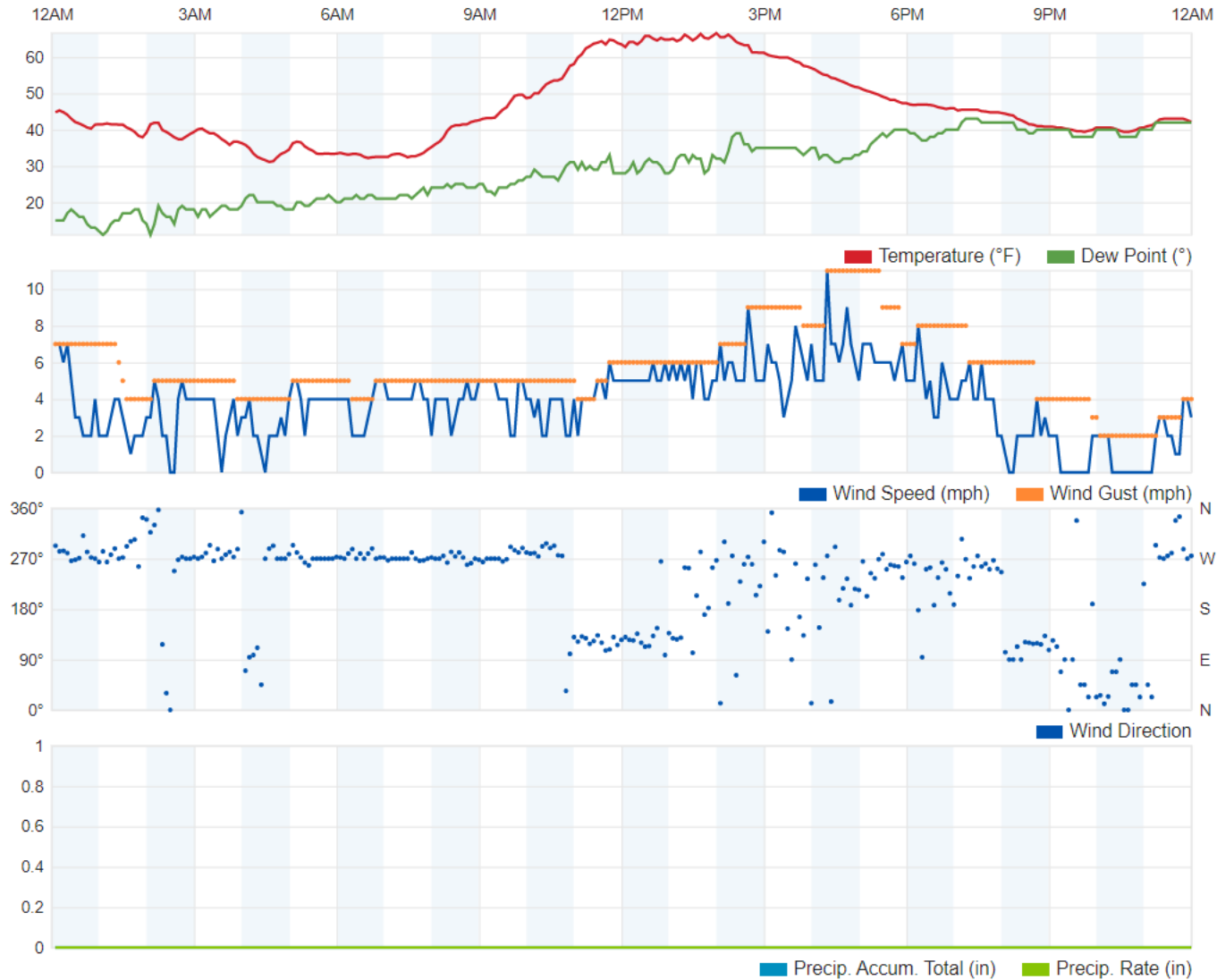
January 30, 2023



**First Quarter 2023**

**LMR Instantaneous Weather Data for January 30, 2023**  
**Sonoma Central Landfill, Petaluma, California**

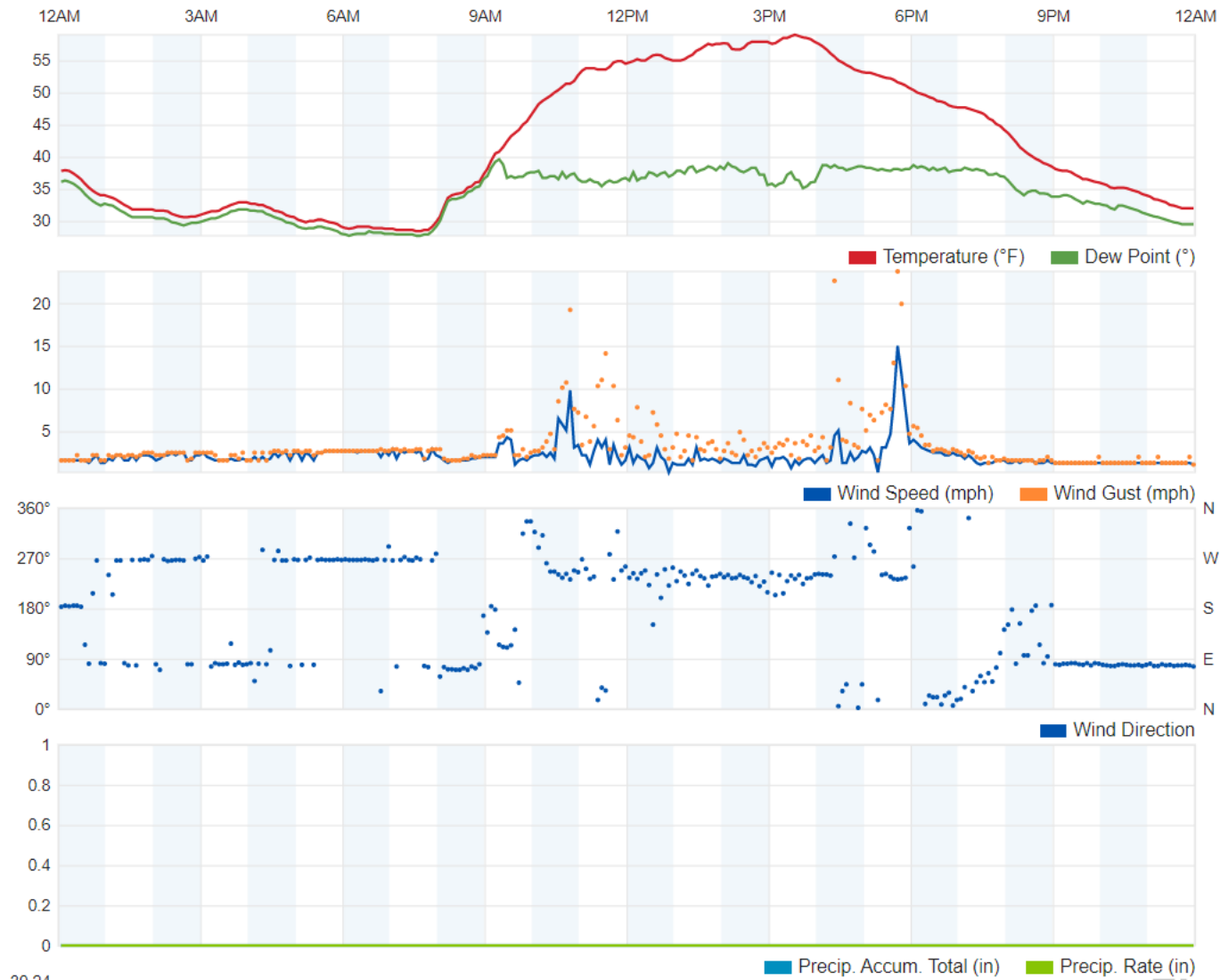
January 31, 2023



**First Quarter 2023**

**LMR Instantaneous Weather Data for January 31, 2023**  
**Sonoma Central Landfill, Petaluma, California**

February 1, 2023

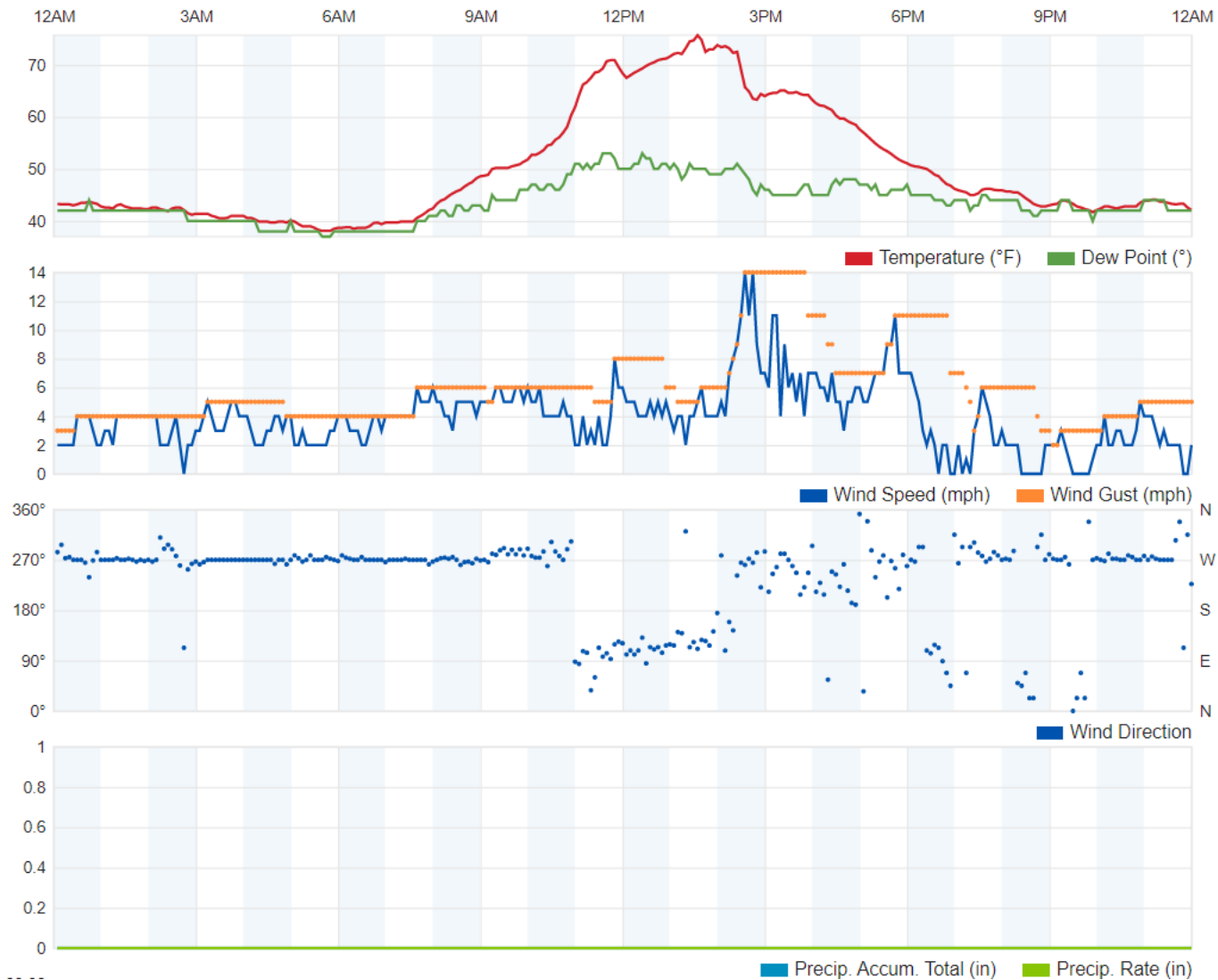


**First Quarter 2023**

**LMR Instantaneous Weather Data for February 1, 2023**  
**Sonoma Central Landfill, Petaluma, California**



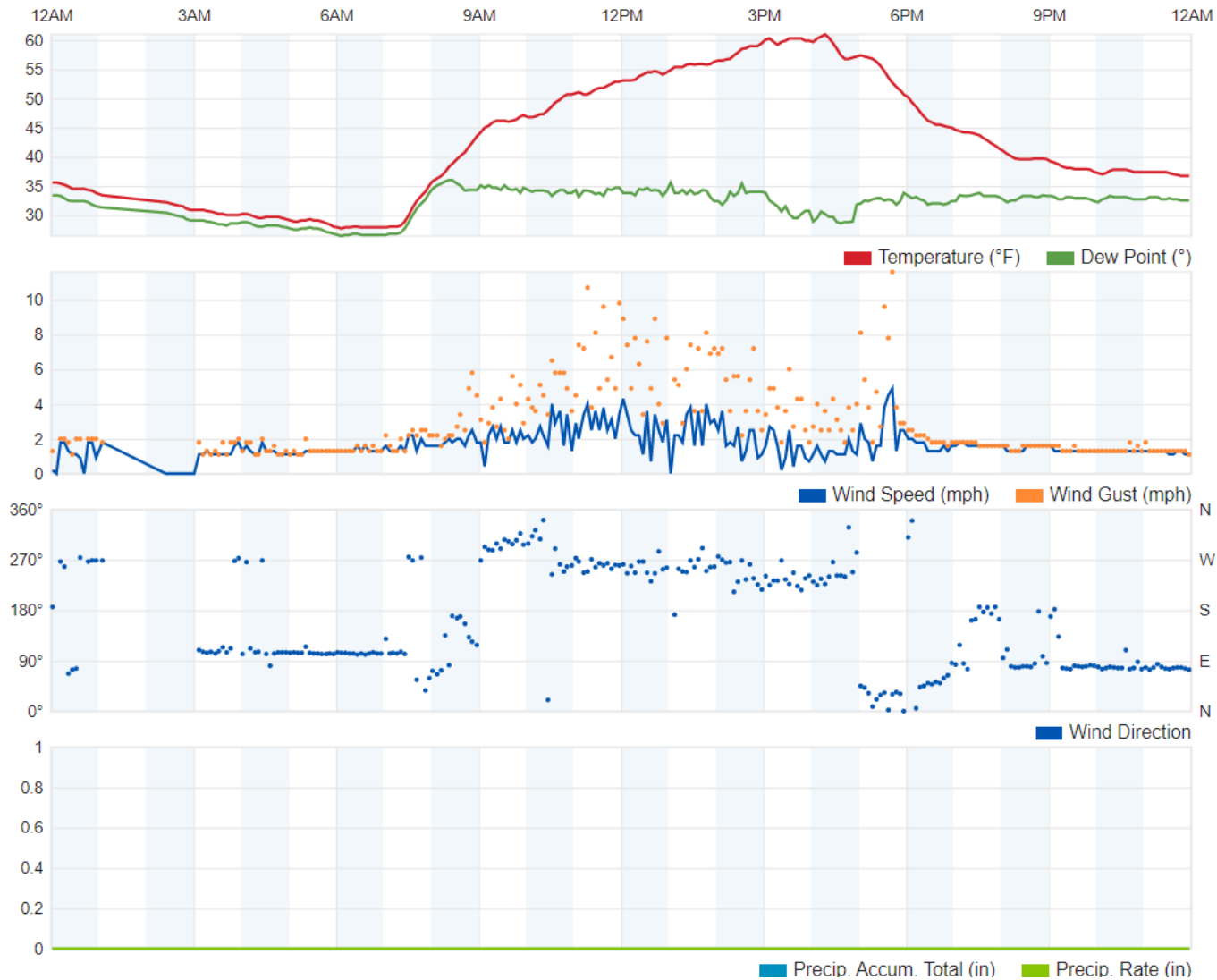
February 9, 2023



**First Quarter 2023**

**LMR Instantaneous Weather Data for February 9, 2023**  
**Sonoma Central Landfill, Petaluma, California**

March 1, 2023



**First Quarter 2023**

**LMR Instantaneous Weather Data for March 1, 2023**  
**Sonoma Central Landfill, Petaluma, California**

## Appendix F – Well Exceedance Documentation

August 29, 2023  
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 Second Quarter 2023.

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 second quarter 2023. 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

Second Quarter 2023

Presented to:



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

**SCS FIELD SERVICES**

File No. 07221078.00 Task 01 | August 29, 2023

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**

### **Second Quarter 2023**

#### **INTRODUCTION**

This letter provides results of the April 24, 25 and May 2, 3, 10, 12, 17 and 18, 2023, 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 April 24, 25 and May 2, 3, 10, 12, 17 and 18, 2023, SCS performed second quarter 2023 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that twenty-two (22) locations exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that the location 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 first and second 10-day LMR follow-up monitoring indicated that all areas returned to compliance following system adjustments and remediation by SCS and site 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 some test locations were not in compliance with the 500 ppmv requirement. These results are discussed in a subsequent section of this report.

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) locations were observed to exceed the 200 ppmv, reporting threshold, in addition to the location noted above. 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 April 24, 25 and May 2, 3, 10, 12, 17 and 18, 2023, 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 April 24 & 25, 2023, SCS performed second quarter 2023 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that twenty-two (22) locations exceeded the 500 ppmv maximum concentration. The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on May 2, 3 and 17, 2023, respectively, indicated that the locations 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) integrated exceedances of the 25-ppmv requirement on April 24, 2023. The required first and second 10-day LMR follow-up monitoring performed on May 3 and 12, 2023, indicated that all areas had returned to compliance following system adjustments and remediation by site personnel. Based on these monitoring results no additional follow up testing was required. Results of the initial and follow up monitoring are shown in Attachment 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 third quarter 2023.

## **PRESSURIZED PIPE AND COMPONENT LEAK MONITORING**

On April 25 and May 2, 2023, 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. Two locations exceeding the 500 ppmv threshold were observed during our monitoring event at the Power Facility. The required first and second 10-day LMR follow-up and 8-34 7-Day monitoring performed on May 9, 10, 12 and 18, 2023, indicated that all areas had returned to compliance following system adjustments and remediation by site 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).

## **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 third quarter 2023 (July through September) surface emissions testing event is scheduled to be performed by the end of September 2023 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

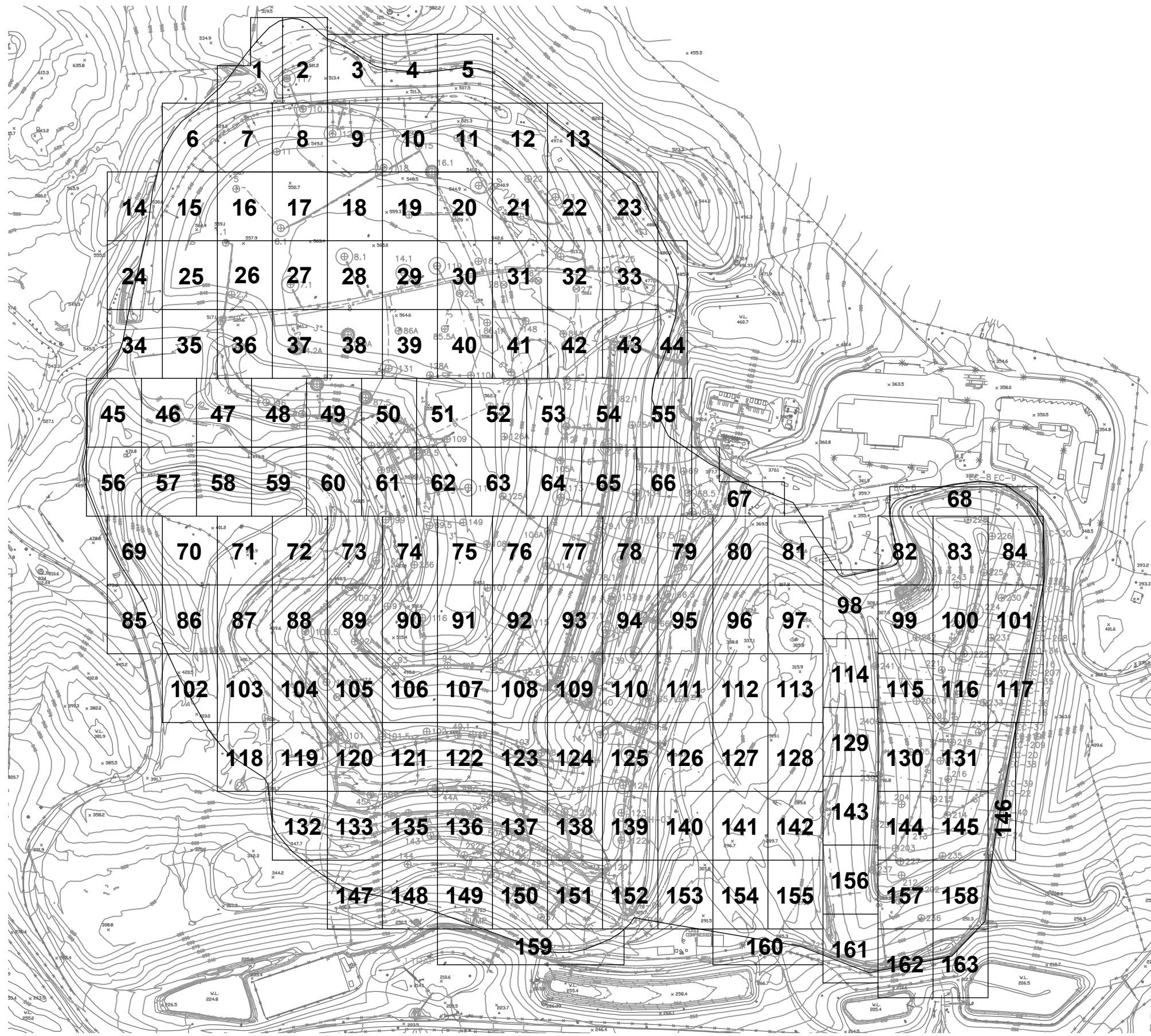
## **STANDARD PROVISIONS**

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

File: X:\PROJECTS\SONOMA COUNTY\200127 - SEM Plan Update\Project Drawings\DISCUSS\SEM\_GRID\_MAP\_2020\_MAP\_UPDATE.dwg Layout: SIF 1 User: GERMARODRUEDES Nov. 11, 2020 - 5:31pm

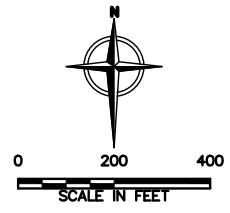


**LEGEND**

- APPROXIMATE LINER BOUNDARY
- 500 EXISTING 10' CONTOUR
- EXISTING GAS PIPE, ABOVE GRADE
- EXISTING GAS PIPE, BELOW GRADE
- EXISTING HORIZONTAL GAS COLLECTOR
- AAG --- AAG --- AAG EXISTING AIR FORCE MAIN, ABOVE GRADE
- ABG --- ABG --- 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



**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   | DIN BY | DES BY      | CHK BY | APP BY |
|-----|------------|---------------|--------|-------------|--------|--------|
| 1   | 11/11/2020 | DATE OF ISSUE |        |             |        |        |
|     |            | DRAWN BY      | GVP    | CHECKED BY  | HLV    |        |
|     |            | DESIGNED BY   | RK     | APPROVED BY |        |        |



SONOMA COUNTY CENTRAL LANDFILL  
PETALUMA, CALIFORNIA

SURFACE EMISSIONS MONITORING  
GRID MAP

SHEET NO.  
**1**

PROJECT NO.  
197-200019

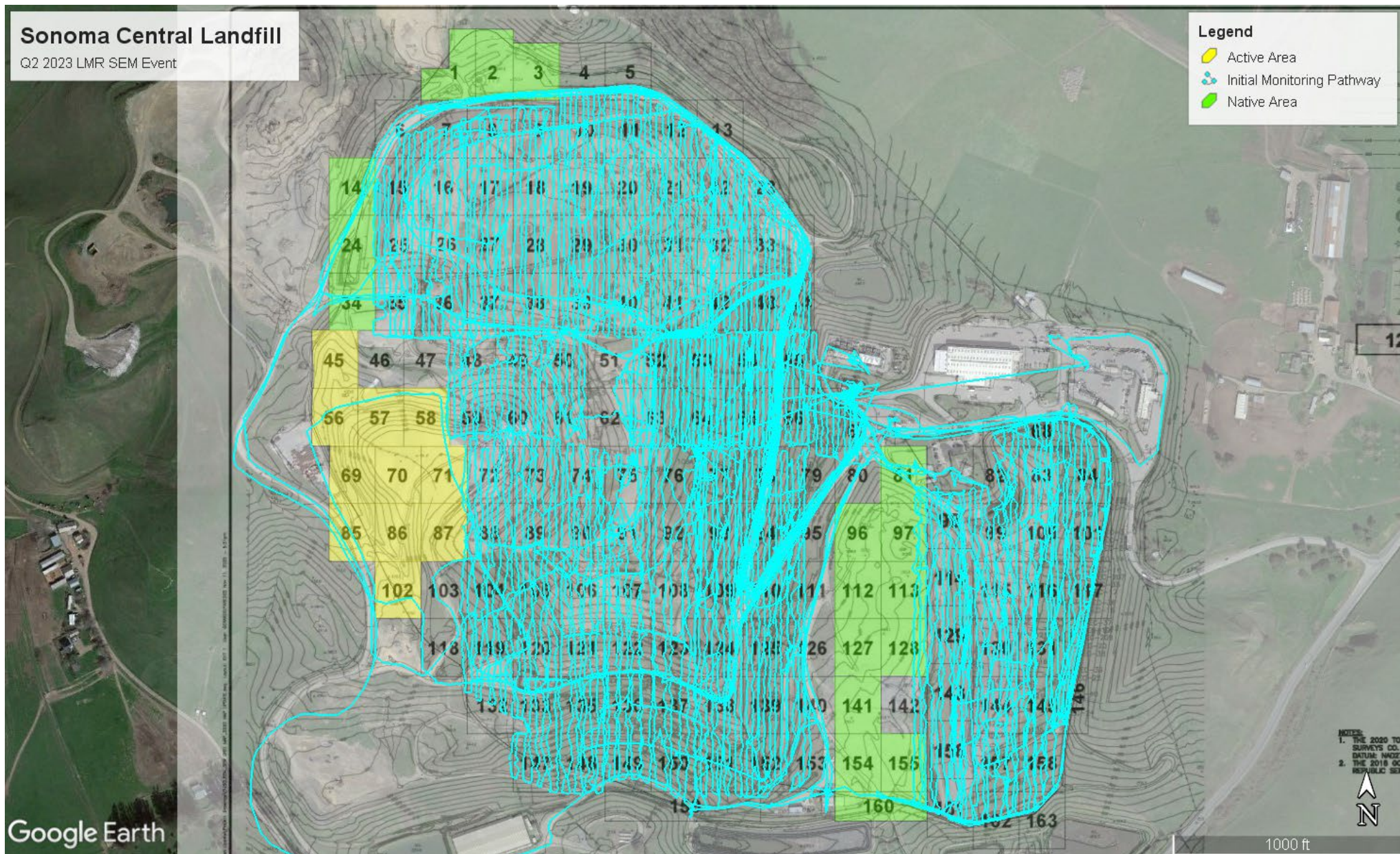
## Attachment 2

### Surface Pathway



## Sonoma Central Landfill

Q2 2023 LMR SEM Event



### Second Quarter 2023 LMR Surface Emissions Monitoring Pathway Sonoma Central Landfill, Petaluma, California

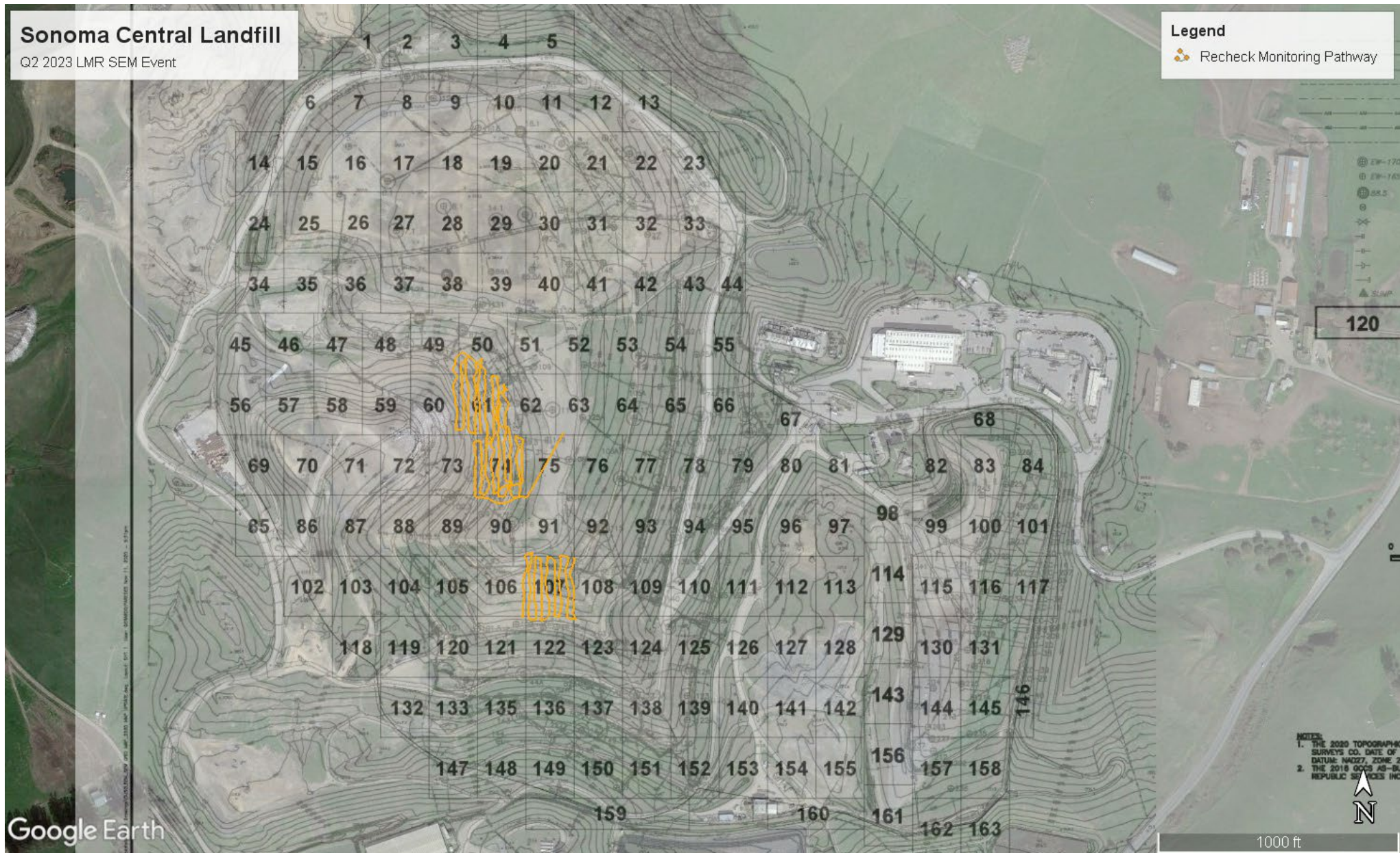


## Sonoma Central Landfill

Q2 2023 LMR SEM Event

### Legend

 Recheck Monitoring Pathway



**Second Quarter 2023**

**LMR Surface Emissions Recheck Monitoring Pathway  
Sonoma Central Landfill, Petaluma, California**



## Attachment 3

# Instantaneous and Component Emissions Monitoring Results

## Second Quarter 2023

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

*Instantaneous Data Report for April 24, 25 and May 2, 3, 10, 12, 17 and 18, 2023*

### *Highest Component Readings*

| Location    | Initial<br>Monitoring<br>(ppmv)<br>4/25/2023 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/2/2023 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/3/2023 | 30-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/17/2023 | Latitude   | Longitude    |
|-------------|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|------------|--------------|
| CO030       | 700                                          | 3                                                             | --                                                            | 250                                                      | 38.3002900 | -122.7439600 |
| CO040       | 700                                          | 76                                                            | --                                                            | 0.6                                                      | 38.2975200 | -122.7445500 |
| SCEW2105    | 4,840                                        | --                                                            | 343                                                           | 485                                                      | 38.3033610 | -122.7503447 |
| SCEW2113    | 1,000                                        | --                                                            | 475                                                           | 1.7                                                      | 38.2990382 | -122.7461355 |
| SCEW2117    | 800                                          | --                                                            | 307                                                           | 1.7                                                      | 38.2973977 | -122.7462293 |
| SCEW2118    | 1,000                                        | --                                                            | 254                                                           | 64.4                                                     | 38.2969862 | -122.7463230 |
| SCEW2119    | 800                                          | 3                                                             | --                                                            | 1.9                                                      | 38.2966638 | -122.7459233 |
| SCEW2120    | 1,000                                        | 61                                                            | --                                                            | 17.3                                                     | 38.2971315 | -122.7458998 |
| SCEW2126    | 1,000                                        | --                                                            | 151                                                           | 73.3                                                     | 38.3001333 | -122.7451180 |
| SFR G53 JS  | 545                                          | 74                                                            | --                                                            | 1.5                                                      | 38.3017440 | -122.7499270 |
| SFR G53 JS1 | 1,709                                        | 5                                                             | --                                                            | 19.0                                                     | 38.3016550 | -122.7499150 |
| V092-A      | 568                                          | 433                                                           | --                                                            | 76.6                                                     | 38.2991800 | -122.7526000 |
| V109-A      | 2,789                                        | --                                                            | 64                                                            | 34.2                                                     | 38.3012600 | -122.7513900 |
| V138-0      | 765                                          | 5                                                             | --                                                            | 4.8                                                      | 38.2993000 | -122.7494800 |
| V218-0      | 1,000                                        | 240                                                           | --                                                            | 7.4                                                      | 38.2982190 | -122.7450640 |
| V219-0      | 1,000                                        | 340                                                           | --                                                            | 6.0                                                      | 38.2983800 | -122.7450700 |

## Second Quarter 2023

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

| Location           | Initial<br>Monitoring<br>(ppmv)<br>4/25/2023 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/2/2023 | First 10-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/3/2023 | 30-Day<br>Follow Up<br>Monitoring<br>(ppmv)<br>5/17/2023 | Latitude   | Longitude    |
|--------------------|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|------------|--------------|
| V220-0             | 1,000                                        | --                                                            | 39                                                            | 12.1                                                     | 38.2987200 | -122.7450100 |
| V231-0             | 1,000                                        | 170                                                           | --                                                            | 2.8                                                      | 38.2992800 | -122.7445800 |
| V242-0             | 2,000                                        | --                                                            | 48                                                            | 6.1                                                      | 38.2990610 | -122.7449790 |
| W2004              | 625                                          | --                                                            | 155                                                           | 241                                                      | 38.3043100 | -122.7518800 |
| W2005              | 847                                          | --                                                            | 311                                                           | 175.0                                                    | 38.3038000 | -122.7515700 |
| W2008              | 5,158                                        | --                                                            | 335                                                           | 156.0                                                    | 38.3037500 | -122.7524300 |
| SCEC0019           | 300                                          | --                                                            | --                                                            | --                                                       | 38.2982890 | -122.7442950 |
| SCEW2102           | 264                                          | --                                                            | --                                                            | --                                                       | 38.3041123 | -122.7538917 |
| SCEW2103           | 245                                          | --                                                            | --                                                            | --                                                       | 38.3042273 | -122.7525852 |
| SCEW2104           | 234                                          | --                                                            | --                                                            | --                                                       | 38.3041287 | -122.7511542 |
| SCEW2122           | 423                                          | --                                                            | --                                                            | --                                                       | 38.2978847 | -122.7456800 |
| SFR G33 JS         | 375                                          | --                                                            | --                                                            | --                                                       | 38.3029980 | -122.7493570 |
| V094-A             | 279                                          | --                                                            | --                                                            | --                                                       | 38.2988800 | -122.7516700 |
| V095-A             | 241                                          | --                                                            | --                                                            | --                                                       | 38.2988700 | -122.7510400 |
| V216-0             | 423                                          | --                                                            | --                                                            | --                                                       | 38.2977700 | -122.7451300 |
| HSR GRID 108<br>RY | 336                                          | --                                                            | --                                                            | --                                                       | 38.2988200 | -122.7508640 |

## Second Quarter 2023

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

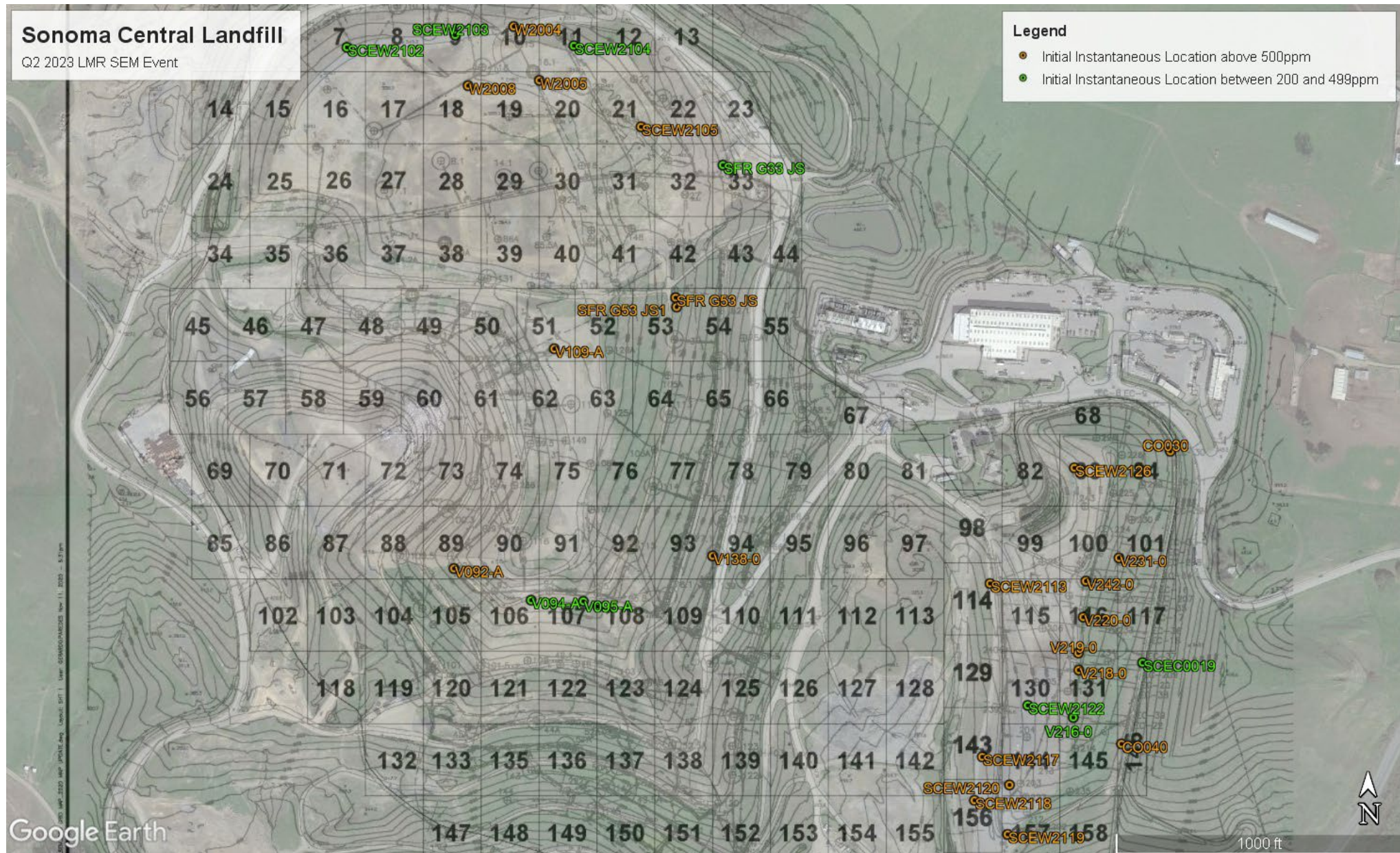
***Highest Pressurized Pipe Readings***

| Location            | Initial<br>Monitoring<br>(ppmv)<br>4/25/2023 | Initial<br>Monitoring<br>(ppmv)<br>5/2/2023 | LMR First 10-<br>day/ 8-34 7-<br>Day<br>5/9/2023 | LMR First 10-<br>day/ 8-34 7-<br>Day<br>5/10/2023 | LMR First 10-<br>day/ 8-34 7-<br>Day<br>5/12/2023 | LMR Second<br>10-Day<br>5/18/2023 |
|---------------------|----------------------------------------------|---------------------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------|-----------------------------------|
| Flare               | 6.70                                         | --                                          | --                                               | --                                                | --                                                | --                                |
| ENGINE S9 ON<br>TOP | --                                           | 230                                         | --                                               | 64.7                                              | --                                                | --                                |
| S9 CYLINDER4        | --                                           | 400                                         | --                                               | 9.3                                               | --                                                | --                                |
| S9CYLINDER8         | --                                           | 1,000                                       | Taken out of<br>operation                        | 15                                                | --                                                | --                                |
| S4engine            | --                                           | 3,000                                       | Taken out of<br>operation                        | Offline                                           | 1139/taken<br>back out of<br>operation            | 128                               |

***No additional exceedances of the 500 ppm threshold were observed during the monitoring performed during the second quarter 2023.***



## Q2 2023 LMR SEM Event



## Initial Emissions Monitoring Locations Greater Than 200 ppm and 500 ppmv Sonoma Central Landfill, Petaluma, California



## Attachment 4

### Integrated Monitoring Results

## Second Quarter 2023

**Table 2. Integrated Surface Emissions Monitoring Results  
Sonoma Central Landfill, Petaluma, California**

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC001      | --          | --                      | Native Grid |
| SC002      | --          | --                      | Native Grid |
| SC003      | --          | --                      | Native Grid |
| SC004      | 4/24/2023   | 4.11                    |             |
| SC005      | 4/24/2023   | 2.80                    |             |
| SC006      | 4/24/2023   | 1.42                    |             |
| SC007      | 4/24/2023   | 2.88                    |             |
| SC008      | 4/24/2023   | 6.55                    |             |
| SC009      | 4/24/2023   | 15.86                   |             |
| SC010      | 4/24/2023   | 10.54                   |             |
| SC011      | 4/24/2023   | 11.63                   |             |
| SC012      | 4/24/2023   | 10.97                   |             |
| SC013      | 4/24/2023   | 12.13                   |             |
| SC014      | --          | --                      | Native Grid |
| SC015      | 4/24/2023   | 1.19                    |             |
| SC016      | 4/24/2023   | 2.14                    |             |
| SC017      | 4/24/2023   | 6.73                    |             |
| SC018      | 4/24/2023   | 4.56                    |             |
| SC019      | 4/24/2023   | 4.89                    |             |
| SC020      | 4/24/2023   | 4.15                    |             |
| SC021      | 4/24/2023   | 4.05                    |             |
| SC022      | 4/24/2023   | 16.85                   |             |
| SC023      | 4/25/2023   | 8.68                    |             |
| SC024      | --          | --                      | Native Grid |
| SC025      | 4/24/2023   | 0.98                    |             |
| SC026      | 4/24/2023   | 1.85                    |             |
| SC027      | 4/24/2023   | 3.99                    |             |
| SC028      | 4/24/2023   | 4.66                    |             |
| SC029      | 4/24/2023   | 4.78                    |             |
| SC030      | 4/24/2023   | 2.83                    |             |
| SC031      | 4/24/2023   | 3.53                    |             |
| SC032      | 4/24/2023   | 5.99                    |             |
| SC033      | 4/25/2023   | 7.96                    |             |
| SC034      | --          | --                      | Native Grid |
| SC035      | 4/24/2023   | 0.78                    |             |
| SC036      | 4/24/2023   | 3.13                    |             |
| SC037      | 4/24/2023   | 5.00                    |             |
| SC038      | 4/24/2023   | 7.17                    |             |
| SC039      | 4/24/2023   | 9.63                    |             |
| SC040      | 4/24/2023   | 5.60                    |             |
| SC041      | 4/24/2023   | 4.38                    |             |
| SC042      | 4/24/2023   | 8.81                    |             |
| SC043      | 4/25/2023   | 4.59                    |             |



## Second Quarter 2023

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments                |
|------------|-------------|-------------------------|-------------------------|
| SC044      | 4/25/2023   | 2.68                    |                         |
| SC045      | --          | --                      | Active Area             |
| SC046      | 4/25/2023   | 8.29                    |                         |
| SC047      | 4/25/2023   | 9.88                    |                         |
| SC048      | 4/24/2023   | 22.04                   |                         |
| SC049      | 4/24/2023   | 13.55                   |                         |
| SC050      | 4/24/2023   | 14.33                   |                         |
| SC051      | 4/25/2023   | 3.53                    |                         |
| SC052      | 4/25/2023   | 5.80                    |                         |
| SC053      | 4/25/2023   | 10.48                   |                         |
| SC054      | 4/25/2023   | 4.69                    |                         |
| SC055      | 4/25/2023   | 1.93                    |                         |
| SC056      | --          | --                      | Active Area             |
| SC057      | --          | --                      | Active Area             |
| SC058      | --          | --                      | Active Area             |
| SC059      | 4/24/2023   | 13.08                   |                         |
| SC060      | 4/24/2023   | 6.45                    |                         |
| SC061      | 4/24/2023   | 28.54                   | Initial Monitoring      |
| SC061      | 5/3/2023    | 28.97                   | First 10-Day Follow Up  |
| SC061      | 5/12/2023   | 11.26                   | Second 10-Day Follow Up |
| SC062      | 4/25/2023   | 4.51                    |                         |
| SC063      | 4/25/2023   | 7.95                    |                         |
| SC064      | 4/24/2023   | 2.83                    |                         |
| SC064      | 4/25/2023   | 4.41                    |                         |
| SC065      | 4/25/2023   | 3.42                    |                         |
| SC066      | 4/25/2023   | 2.20                    |                         |
| SC067      | 4/25/2023   | 3.87                    |                         |
| SC068      | 4/25/2023   | 12.05                   |                         |
| SC069      | --          | --                      | Active Area             |
| SC070      | --          | --                      | Active Area             |
| SC071      | --          | --                      | Active Area             |
| SC072      | 4/24/2023   | 12.58                   |                         |
| SC073      | 4/24/2023   | 7.71                    |                         |
| SC074      | 4/24/2023   | 30.67                   | Initial Monitoring      |
| SC074      | 5/3/2023    | 18.00                   | First 10-Day Follow Up  |
| SC075      | 4/24/2023   | 17.16                   |                         |
| SC076      | 4/24/2023   | 12.62                   |                         |
| SC077      | 4/24/2023   | 4.52                    |                         |
| SC078      | 4/24/2023   | 3.23                    |                         |
| SC079      | 4/25/2023   | 3.82                    |                         |
| SC080      | 4/25/2023   | 3.52                    |                         |
| SC081      | --          | --                      | Native Grid             |
| SC082      | 4/25/2023   | 5.75                    |                         |





## Second Quarter 2023

### Table 2. Integrated Surface Emissions Monitoring Results Sonoma Central Landfill, Petaluma, California

| Point Name | Record Date | FID Concentration (ppm) | Comments                |
|------------|-------------|-------------------------|-------------------------|
| SC083      | 4/25/2023   | 16.36                   |                         |
| SC084      | 4/25/2023   | 12.13                   |                         |
| SC085      | --          | --                      | Active Area             |
| SC086      | --          | --                      | Active Area             |
| SC087      | --          | --                      | Active Area             |
| SC088      | 4/24/2023   | 16.81                   |                         |
| SC089      | 4/24/2023   | 15.29                   |                         |
| SC090      | 4/24/2023   | 20.82                   |                         |
| SC091      | 4/24/2023   | 19.22                   |                         |
| SC092      | 4/24/2023   | 23.91                   |                         |
| SC093      | 4/24/2023   | 4.93                    |                         |
| SC094      | 4/24/2023   | 3.13                    |                         |
| SC095      | 4/25/2023   | 3.96                    |                         |
| SC096      | --          | --                      | Native Grid             |
| SC097      | --          | --                      | Native Grid             |
| SC098      | 4/24/2023   | 4.01                    |                         |
| SC099      | 4/25/2023   | 7.51                    |                         |
| SC100      | 4/24/2023   | 5.91                    |                         |
| SC101      | 4/25/2023   | 9.84                    |                         |
| SC102      | --          | --                      | Active Area             |
| SC103      | 4/25/2023   | 14.55                   |                         |
| SC104      | 4/24/2023   | 13.45                   |                         |
| SC105      | 4/24/2023   | 13.26                   |                         |
| SC106      | 4/24/2023   | 11.89                   |                         |
| SC107      | 4/24/2023   | 25.25                   | Initial Monitoring      |
| SC107      | 5/3/2023    | 27.22                   | First 10-Day Follow Up  |
| SC107      | 5/12/2023   | 5.78                    | Second 10-Day Follow Up |
| SC108      | 4/24/2023   | 21.96                   |                         |
| SC109      | 4/24/2023   | 10.31                   |                         |
| SC110      | 4/24/2023   | 3.04                    |                         |
| SC111      | 4/25/2023   | 3.58                    |                         |
| SC112      | --          | --                      | Native Grid             |
| SC113      | --          | --                      | Native Grid             |
| SC114      | 4/25/2023   | 1.83                    |                         |
| SC115      | 4/25/2023   | 9.23                    |                         |
| SC116      | 4/24/2023   | 3.48                    |                         |
| SC117      | 4/25/2023   | 10.87                   |                         |
| SC118      | 4/25/2023   | 12.50                   |                         |
| SC119      | 4/24/2023   | 5.42                    |                         |
| SC120      | 4/24/2023   | 7.51                    |                         |
| SC121      | 4/24/2023   | 9.39                    |                         |
| SC122      | 4/24/2023   | 15.91                   |                         |
| SC123      | 4/24/2023   | 15.86                   |                         |



## Second Quarter 2023

**Table 2. Integrated Surface Emissions Monitoring Results  
Sonoma Central Landfill, Petaluma, California**

| Point Name | Record Date | FID Concentration (ppm) | Comments    |
|------------|-------------|-------------------------|-------------|
| SC124      | 4/24/2023   | 9.60                    |             |
| SC125      | 4/24/2023   | 3.72                    |             |
| SC126      | 4/25/2023   | 3.32                    |             |
| SC127      | --          | --                      | Native Grid |
| SC128      | --          | --                      | Native Grid |
| SC129      | 4/24/2023   | 1.38                    |             |
| SC130      | 4/25/2023   | 15.20                   |             |
| SC131      | 4/25/2023   | 4.44                    |             |
| SC132      | 4/24/2023   | 2.10                    |             |
| SC133      | 4/24/2023   | 3.10                    |             |
| SC135      | 4/24/2023   | 1.39                    |             |
| SC136      | 4/24/2023   | 10.95                   |             |
| SC137      | 4/24/2023   | 9.47                    |             |
| SC138      | 4/24/2023   | 3.24                    |             |
| SC139      | 4/24/2023   | 4.80                    |             |
| SC140      | 4/24/2023   | 1.15                    |             |
| SC141      | --          | --                      | Native Grid |
| SC142      | 4/24/2023   | 1.10                    |             |
| SC143      | 4/24/2023   | 1.49                    |             |
| SC144      | 4/25/2023   | 10.64                   |             |
| SC145      | 4/25/2023   | 4.49                    |             |
| SC146      | 4/24/2023   | 8.51                    |             |
| SC147      | 4/24/2023   | 1.20                    |             |
| SC148      | 4/24/2023   | 3.56                    |             |
| SC149      | 4/24/2023   | 10.38                   |             |
| SC150      | 4/24/2023   | 8.99                    |             |
| SC151      | 4/24/2023   | 1.40                    |             |
| SC152      | 4/24/2023   | 2.18                    |             |
| SC153      | 4/24/2023   | 1.00                    |             |
| SC154      | --          | --                      | Native Grid |
| SC155      | --          | --                      | Native Grid |
| SC156      | 4/24/2023   | 2.77                    |             |
| SC157      | 4/25/2023   | 6.16                    |             |
| SC158      | 4/25/2023   | 3.05                    |             |
| SC159      | 4/25/2023   | 1.99                    |             |
| SC160      | --          | --                      | Native Grid |
| SC161      | 4/24/2023   | 1.87                    |             |
| SC162      | 4/25/2023   | 1.40                    |             |
| SC163      | 4/25/2023   | 2.20                    |             |





## Attachment 5

### Calibration Logs

# SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 4-24-23 Site Name: Sonoma  
Inspector(s): Bryan Cchoa Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: W Barometric Pressure: 29 "Hg  
Air Temperature: 41 °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: 2364 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>6</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>6</u>                |

Average Difference: .3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{3}{500} \times 100\% = 99.9\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>146848</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>147214</u> |
|                 | Counters Observed for the Zero= <u>3983</u> |                 | Counters Observed for the Zero= <u>3948</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>146435</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3953</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 41.3 ppm Cal Gas Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic Shop Reading: 2.2 ppm  
Downwind Location Description: G6 Reading: 2.3 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: 4-24-23  
Inspector(s): Andrew Stone

Site Name: Sonoma  
Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH

Wind Direction: W

Barometric Pressure: 29.97 "Hg

Air Temperature: 41 °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: 4106

Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>3</u>                |
| 2     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>2</u>                |

Average Difference: 1.3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1.3}{500} \times 100\% = 99.74\%$$

### Span Sensitivity:

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>161996</u> |
|                 | Counters Observed for the Zero= <u>5746</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>160408</u> |
|                 | Counters Observed for the Zero= <u>5489</u> |

|                 |                                             |
|-----------------|---------------------------------------------|
| <b>Trial 3:</b> | Counts Observed for the Span= <u>157728</u> |
|                 | Counters Observed for the Zero= <u>5452</u> |

### Post Monitoring Calibration Check

Zero Air Reading: 3.6 ppm

Cal Gas Reading: 515 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic Shop

Reading: 2.2 ppm

Downwind Location Description: G 6

Reading: 2.3 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: 4-24-23 Site Name: Sonoma  
Inspector(s): Emmanuel Paz Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: W Barometric Pressure: 29.97 "Hg  
Air Temperature: 41 °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: 1211 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>498</u>      | <u>2</u>                      | <u>4</u>                |
| 2     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>2</u>                |
| 3     | <u>0</u>         | <u>495</u>      | <u>5</u>                      | <u>5</u>                |

Average Difference: 2.6

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{2.6}{500} \times 100\% = 99.48\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>136956</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>133224</u> |
|                 | Counters Observed for the Zero= <u>4030</u> |                 | Counters Observed for the Zero= <u>3950</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>131968</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3984</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 2.4 ppm Cal Gas Reading: 510 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic Shop Reading: 2.2 ppm  
Downwind Location Description: GC Reading: 2.5 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: 4-24-23 Site Name: Sonoma  
 Inspector(s): Jonathan Seilvetz Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: W Barometric Pressure: 29.97 "Hg  
 Air Temperature: 41 °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: 2367 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>2</u>                |
| 2     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 3     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>4</u>                |

Average Difference: 1  
 \*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>169348</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>171324</u> |
|                 | Counters Observed for the Zero= <u>4995</u> |                 | Counters Observed for the Zero= <u>4841</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>170876</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4889</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -1.9 ppm Cal Gas Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.2 ppm  
 Downwind Location Description: GC Reading: 2.3 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: 4-24-23 Site Name: Sonoma  
Inspector(s): Alfredo Gomez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NV Barometric Pressure: 29 "Hg  
Air Temperature: 44 °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: 1220 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: .3

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - .3}{500} \times 100\% = 99.9\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>123812</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>127352</u> |
|                 | Counters Observed for the Zero= <u>3992</u> |                 | Counters Observed for the Zero= <u>3970</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>126680</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3953</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 502 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.2 ppm  
Downwind Location Description: GB Reading: 2.3 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: 4-24-23 Site Name: Sonoma  
Inspector(s): Arturo Olivares Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 29 "Hg  
Air Temperature: 94 °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: 5421 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>498</u>      | <u>2</u>                      | <u>4</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>4</u>                |

Average Difference: .6  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.6}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

|                 |                                             |                 |                                              |
|-----------------|---------------------------------------------|-----------------|----------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>135764</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>139632</u>  |
|                 | Counters Observed for the Zero= <u>4406</u> |                 | Counters Observed for the Zero= <u>61323</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>141008</u> |                 |                                              |
|                 | Counters Observed for the Zero= <u>4360</u> |                 |                                              |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 498 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic Shop Reading: 2.2 ppm  
Downwind Location Description: G6 Reading: 2.3 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: 4-24-23

Inspector(s): Don Gibson

Site Name: Sonoma

## WEATHER OBSERVATIONS

Instrument: TVA 2020

Wind Speed: 5 MPH

Wind Direction: NW

Air Temperature: 44 °F

Barometric Pressure: 29 "Hg

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 value. The calibration precision must be less than or equal to 10% of the calibration gas value.

Instrument Serial Number: 5420

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Concentration:                     | Response Time (seconds) |
|-------|------------------|-----------------|--------------------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>500ppm</u>                              |                         |
| 2     | <u>-0.1</u>      | <u>500</u>      |                                            |                         |
| 3     | <u>-0.1</u>      | <u>502</u>      |                                            |                         |
|       |                  |                 | <u>  Cal Gas Conc. - Cal Gas Reading  </u> |                         |
|       |                  |                 | <u>0</u>                                   | <u>5</u>                |
|       |                  |                 | <u>0</u>                                   | <u>5</u>                |
|       |                  |                 | <u>2</u>                                   | <u>4</u>                |

Average Difference: .6

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% \cdot .6}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

Trial 1:

Counts Observed for the Span = 133776

Counters Observed for the Zero = 3769

Trial 2:

Counts Observed for the Span = 136076

Counters Observed for the Zero = 3750

Trial 3:

Counts Observed for the Span = 135648

Counters Observed for the Zero = 3715

Post Monitoring Calibration Check

Zero Air Reading: 1 ppm

Cal Gas Reading: 501 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: mechanic shop

Downwind Location Description: GL

Reading: 2.2 ppm

Reading: 2.3 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: 4-24-23 Site Name: Sonoma  
Inspector(s): Ricardo Lopez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 29 "Hg  
Air Temperature: 44 °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     |                  | <u>503</u>      | <u>3</u>                      | <u>5</u>                |
| 2     |                  | <u>502</u>      | <u>2</u>                      | <u>3</u>                |
| 3     |                  | <u>503</u>      | <u>3</u>                      | <u>4</u>                |

Average Difference: 2.6

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - \underline{2.6}}{500} \times 100\% = \underline{99.4} \%$$

Span Sensitivity:

|                 |                                              |                 |                                              |
|-----------------|----------------------------------------------|-----------------|----------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span = <u>143352</u> | <b>Trial 3:</b> | Counts Observed for the Span = <u>148488</u> |
|                 | Counters Observed for the Zero = <u>3258</u> |                 | Counters Observed for the Zero = <u>3315</u> |
| <b>Trial 2:</b> | Counts Observed for the Span = <u>156508</u> |                 |                                              |
|                 | Counters Observed for the Zero = <u>3279</u> |                 |                                              |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 501 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic Shop Reading: 2.2 ppm  
Downwind Location Description: G6 Reading: 2.5 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: 4-25-23 Site Name: Sonoma  
 Inspector(s): Arturo Oliveras Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: NW Barometric Pressure: 29.95 "Hg  
 Air Temperature: 43 °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: 4106 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>6</u>                |
| 3     | <u>-0.1</u>      | <u>499</u>      | <u>1</u>                      | <u>5</u>                |

Average Difference: -0.6  
 \*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{0.6}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>144636</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>144708</u> |
|                 | Counters Observed for the Zero= <u>5398</u> |                 | Counters Observed for the Zero= <u>5380</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>144864</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5385</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 504 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: mechanic shop Reading: 2.1 ppm  
 Downwind Location Description: G 6 Reading: 2.4 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: 4-25-23 Site Name: Sonoma  
 Inspector(s): Don Gibson Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: Nw Barometric Pressure: 29.95 "Hg  
 Air Temperature: 44 °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: 5419 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>6</u>                |
| 3     | <u>-0.1</u>      | <u>501</u>      | <u>1</u>                      | <u>6</u>                |

Average Difference: .6  
\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - .6}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>191844</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>193312</u> |
|                 | Counters Observed for the Zero= <u>5246</u> |                 | Counters Observed for the Zero= <u>5151</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>190048</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5164</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 503 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.1 ppm  
 Downwind Location Description: G6 Reading: 2.4 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: 4-25-23 Site Name: Sonoma  
Inspector(s): Licarda Lopez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: Nw Barometric Pressure: 29.95 "Hg  
Air Temperature: 43 °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     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>3</u>                |
| 2     | <u>-0.1</u>      | <u>502</u>      | <u>2</u>                      | <u>4</u>                |
| 3     | <u>0.1</u>       | <u>500</u>      | <u>0</u>                      | <u>2</u>                |

Average Difference: 1

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>127276</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>127284</u> |
|                 | Counters Observed for the Zero= <u>3781</u> |                 | Counters Observed for the Zero= <u>3678</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>126728</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>3745</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -2.3 ppm Cal Gas Reading: 505 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.1 ppm  
Downwind Location Description: G6 Reading: 2.4 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: 4-25-23 Site Name: Sundma  
Inspector(s): Ryan Ochoa Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: NW Barometric Pressure: 29.95 "Hg  
Air Temperature: 43 °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: 5421 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>501</u>      | <u>1</u>                      | <u>5</u>                |
| 2     | <u>0.1</u>       | <u>500</u>      | <u>0</u>                      | <u>5</u>                |
| 3     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>5</u>                |

Average Difference: .3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.3}{500} \times 100\% = 99.9\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>137204</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>140508</u> |
|                 | Counters Observed for the Zero= <u>4165</u> |                 | Counters Observed for the Zero= <u>4115</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>139832</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4093</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 498 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: mechanic shop Reading: 2.1 ppm  
Downwind Location Description: GL Reading: 2.4 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

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Date: 4-25-23 Site Name: Sonoma  
 Inspector(s): Alfredo Gomez Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: Nw Barometric Pressure: 29.95 "Hg  
 Air Temperature: 39 °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: 1211 Cal Gas Concentration: 500ppm

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

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%  
 = 99.74 %

## Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>146320</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>138656</u> |
|                 | Counters Observed for the Zero= <u>4272</u> |                 | Counters Observed for the Zero= <u>4187</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>140176</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4220</u> |                 |                                             |

## Post Monitoring Calibration Check

Zero Air Reading: 1.5 ppm Cal Gas Reading: 310 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.1 ppm  
 Downwind Location Description: GG Reading: 2.4 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

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Date: 4-25-23 Site Name: Sonoma  
Inspector(s): Jonathan Sepulveda Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 1 MPH Wind Direction: NW Barometric Pressure: 29.95 "Hg  
Air Temperature: 39 °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: 2367 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>502</u>      | <u>2</u>                      | <u>2</u>                |
| 2     | <u>-0.1</u>      | <u>504</u>      | <u>4</u>                      | <u>4</u>                |
| 3     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>3</u>                |

Average Difference: 2  
\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{2}{500} \times 100\% = 99.6\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>172612</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>172368</u> |
|                 | Counters Observed for the Zero= <u>5003</u> |                 | Counters Observed for the Zero= <u>4948</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>172776</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>4987</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 2.7 ppm Cal Gas Reading: 503 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.1 ppm  
Downwind Location Description: 56 Reading: 2.4 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: 5.2.23 Site Name: Sonoma  
Inspector(s): Bryan Ochoa Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 29.78 "Hg  
Air Temperature: 46 °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: 5419 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>3</u>                |
| 2     | <u>0</u>         | <u>498</u>      | <u>2</u>                      | <u>2</u>                |
| 3     | <u>-0.2</u>      | <u>502</u>      | <u>2</u>                      | <u>5</u>                |

Average Difference:

1.3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1.3}{500} \times 100\% = 99.74\%$$

Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>180260</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>181260</u> |
|                 | Counters Observed for the Zero= <u>5107</u> |                 | Counters Observed for the Zero= <u>5110</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>179420</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5117</u> |                 |                                             |

Post Monitoring Calibration Check

Zero Air Reading: 2.3 ppm Cal Gas Reading: 510 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.3 ppm  
Downwind Location Description: Entrance Reading: 1.3 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: 5-2-23 Site Name: Sonoma  
Inspector(s): Jonathan Schlueter Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 6 MPH Wind Direction: SE Barometric Pressure: 29.78 "Hg  
Air Temperature: 46 °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: 4106 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0</u>         | <u>499</u>      | <u>1</u>                      | <u>4</u>                |
| 2     | <u>0</u>         | <u>500</u>      | <u>0</u>                      | <u>3</u>                |
| 3     | <u>-0.1</u>      | <u>500</u>      | <u>0</u>                      | <u>5</u>                |

Average Difference: .3

\*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.3}{500} \times 100\% = 99.94\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>155648</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>154500</u> |
|                 | Counters Observed for the Zero= <u>5550</u> |                 | Counters Observed for the Zero= <u>5490</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>154964</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5501</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: 1.9 ppm Cal Gas Reading: 500 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.3 ppm  
Downwind Location Description: Entrance Reading: 1.3 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: 5-3-23 Site Name: Sonoma  
Inspector(s): Andrew Stone Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: W Barometric Pressure: 29.84 "Hg  
Air Temperature: 49 °F General Weather Conditions: Showers

## 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: 9106 Cal Gas Concentration: 500ppm

| Trial | Zero Air Reading | Cal Gas Reading | Cal Gas Conc.-Cal Gas Reading | Response Time (seconds) |
|-------|------------------|-----------------|-------------------------------|-------------------------|
| 1     | <u>0.2</u>       | <u>499</u>      | <u>1</u>                      | <u>3</u>                |
| 2     | <u>0</u>         | <u>498</u>      | <u>2</u>                      | <u>4</u>                |
| 3     | <u>0</u>         | <u>498</u>      | <u>1</u>                      | <u>4</u>                |

Average Difference: 1

\*Perform recalibration if average difference is greater than 10

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

$$= \frac{100\% - 99.8}{500} \times 100\% = 99.8\%$$

### Span Sensitivity:

|                 |                                             |                 |                                             |
|-----------------|---------------------------------------------|-----------------|---------------------------------------------|
| <b>Trial 1:</b> | Counts Observed for the Span= <u>161208</u> | <b>Trial 3:</b> | Counts Observed for the Span= <u>155432</u> |
|                 | Counters Observed for the Zero= <u>5922</u> |                 | Counters Observed for the Zero= <u>6452</u> |
| <b>Trial 2:</b> | Counts Observed for the Span= <u>158124</u> |                 |                                             |
|                 | Counters Observed for the Zero= <u>5070</u> |                 |                                             |

### Post Monitoring Calibration Check

Zero Air Reading: -2.3 ppm Cal Gas Reading: 511 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop Reading: 2.1 ppm  
Downwind Location Description: Q6 Reading: 2.4 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: 5-3-23

Site Name: Sonoma

Inspector(s): Emmanuel P97

Instrument: TVA 2020

## WEATHER OBSERVATIONS

Wind Speed: 7 MPH

Wind  
Direction: W

Barometric  
Pressure: 29.84 "Hg

Air  
Temperature: 49 °F

General Weather  
Conditions: Showers

## 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     | 0.1              | 498             | 2                             | 4                       |
| 2     | 0.0              | 500             | 0                             | 3                       |
| 3     | 0                | 499             | 2                             | 4                       |

Average Difference:

1.3

\*Perform recalibration if average difference is greater than 10

$$\text{Calibration Precision} = \frac{\text{Average Difference}}{\text{Cal Gas Conc.}} \times 100\%$$

$$= \frac{100\% - 1.7}{500} \times 100\%$$

$$= 99.74\%$$

Span Sensitivity:

Trial 1: Counts Observed for the Span= 153916

Counters Observed for the Zero= 4778

Trial 2: Counts Observed for the Span= 159044

Counters Observed for the Zero= 4530

**Trial 3:** Counts Observed for the Span= 155432

Counters Observed for the Zero= 4564

### Post Monitoring Calibration Check

Zero Air  
Reading: 1.8 ppm

Cal Gas  
Reading: 509 ppm

## BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Mechanic shop

Reading: 2.1 ppm

Downwind Location Description: 46

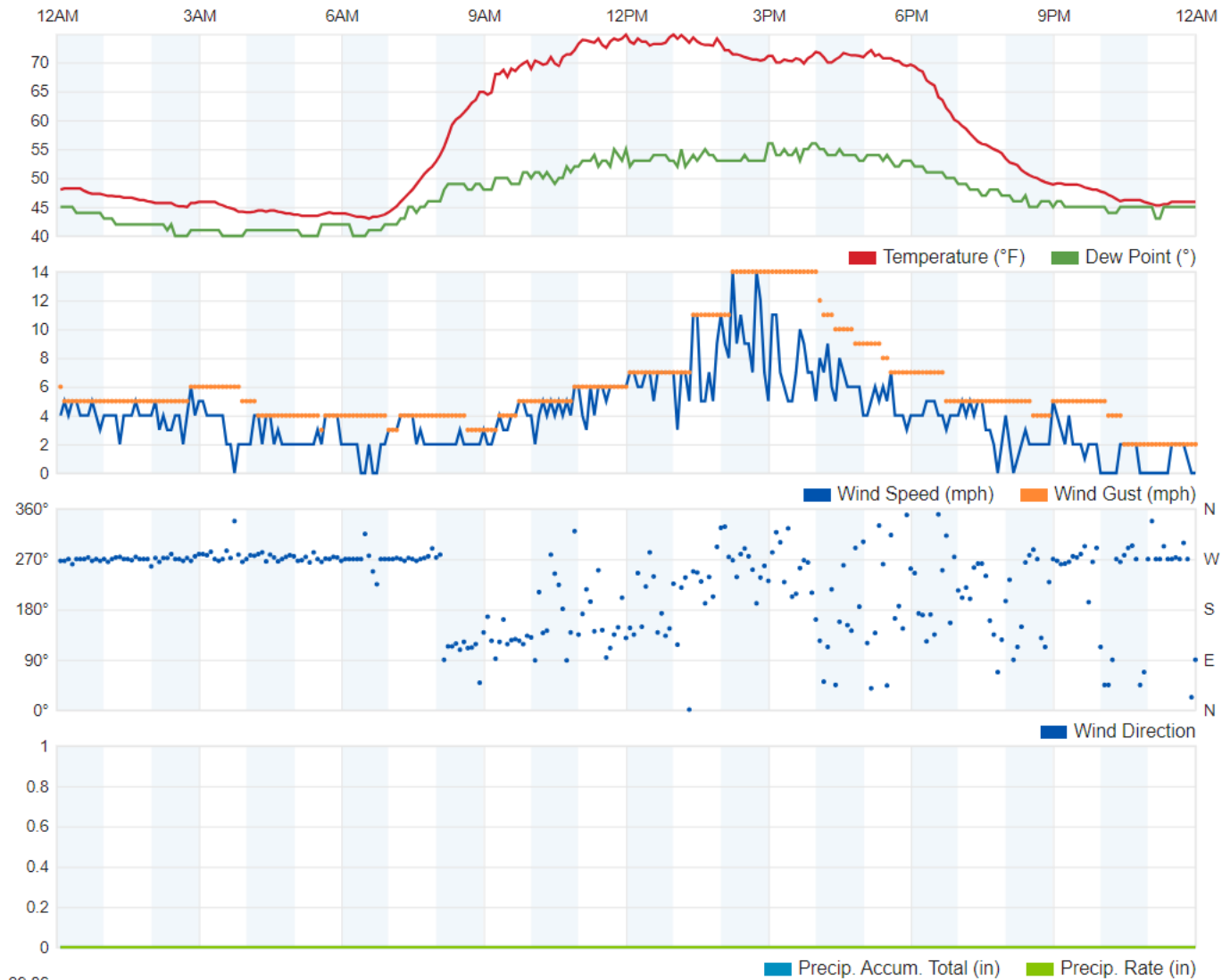
Reading: 2.4 ppm

**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.

## Attachment 6

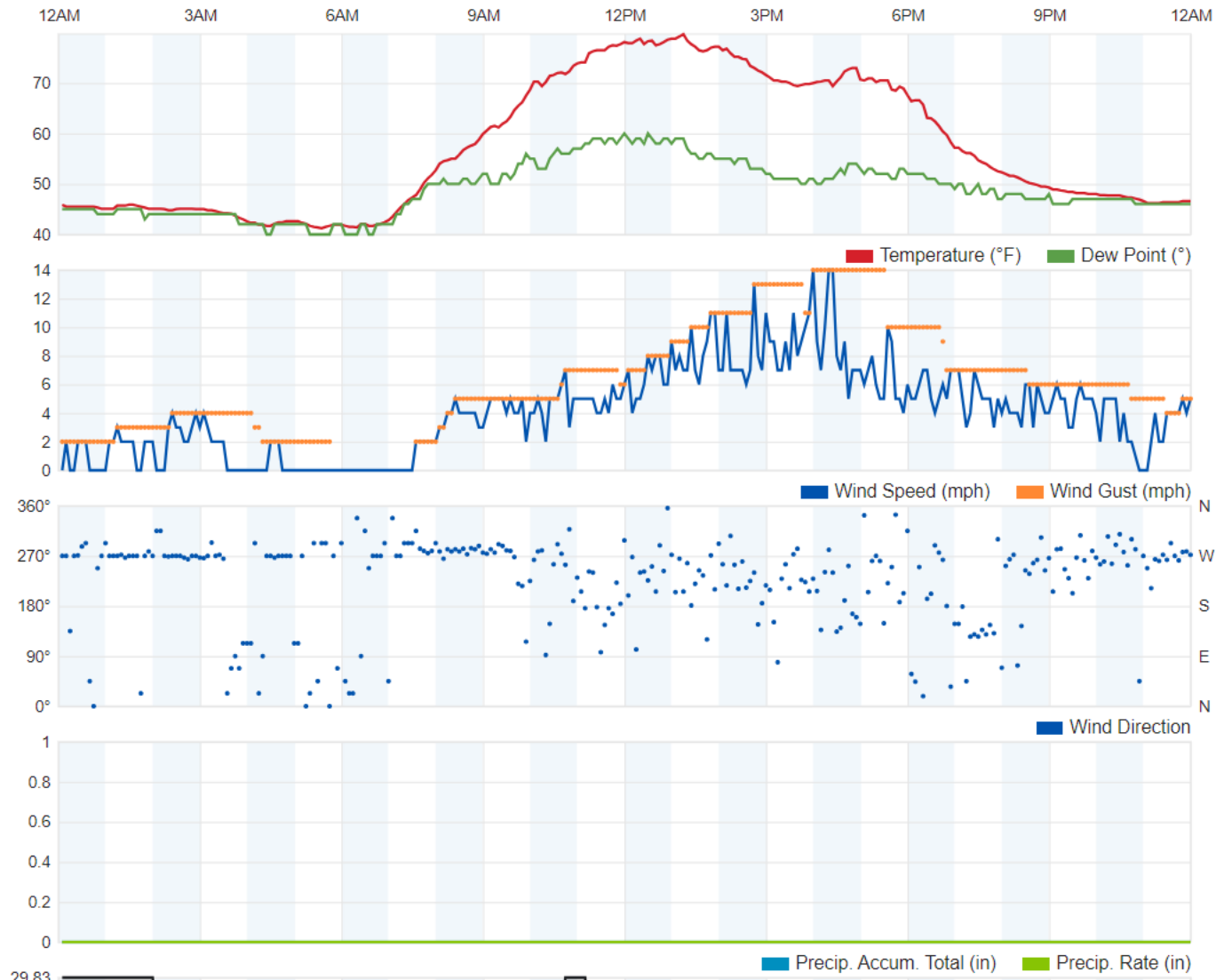
### Weather Data

April 24, 2023



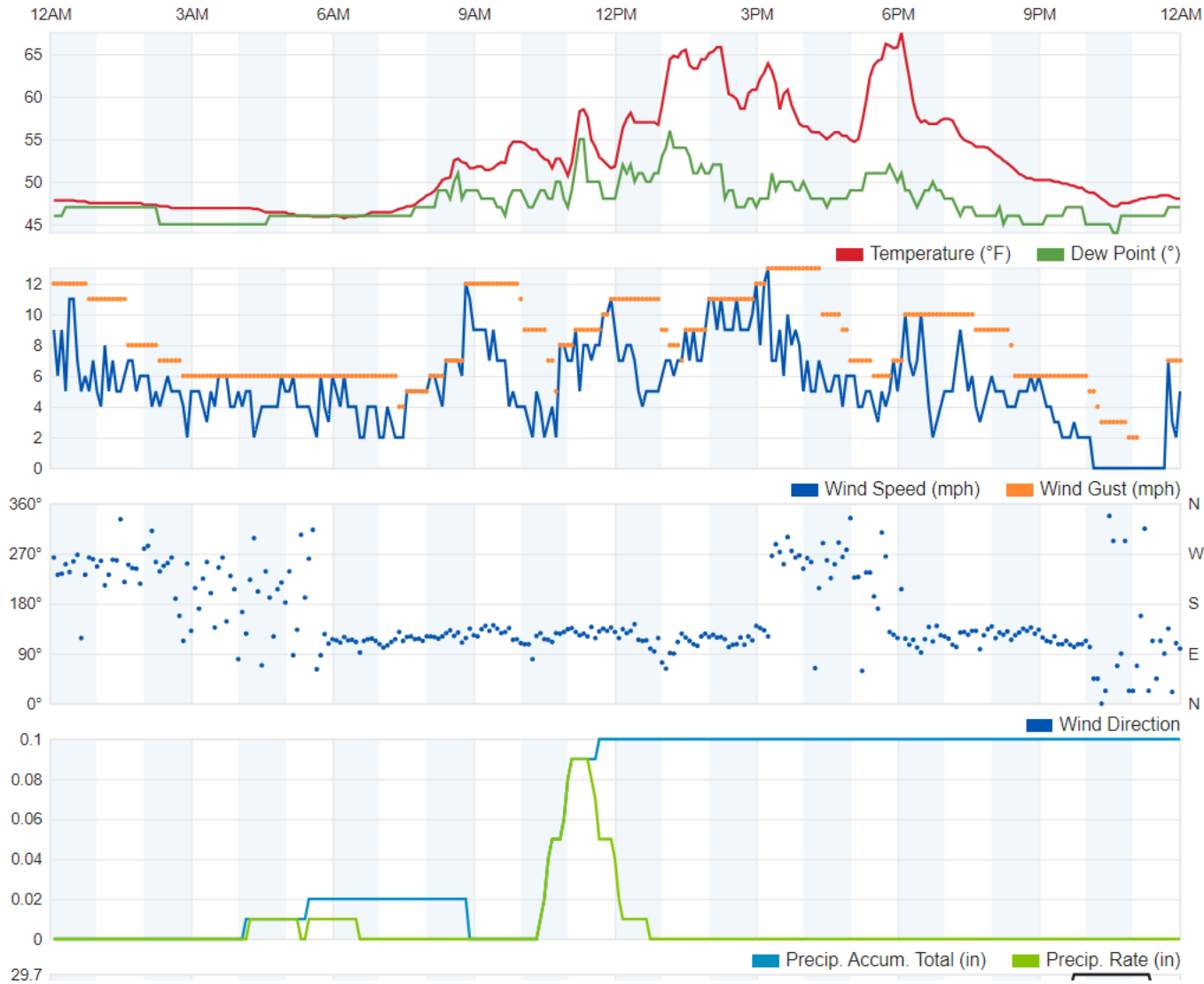
**Second Quarter 2023**  
**LMR Instantaneous Weather Data for April 24, 2023**  
**Sonoma Central Landfill, Petaluma, California**

April 25, 2023



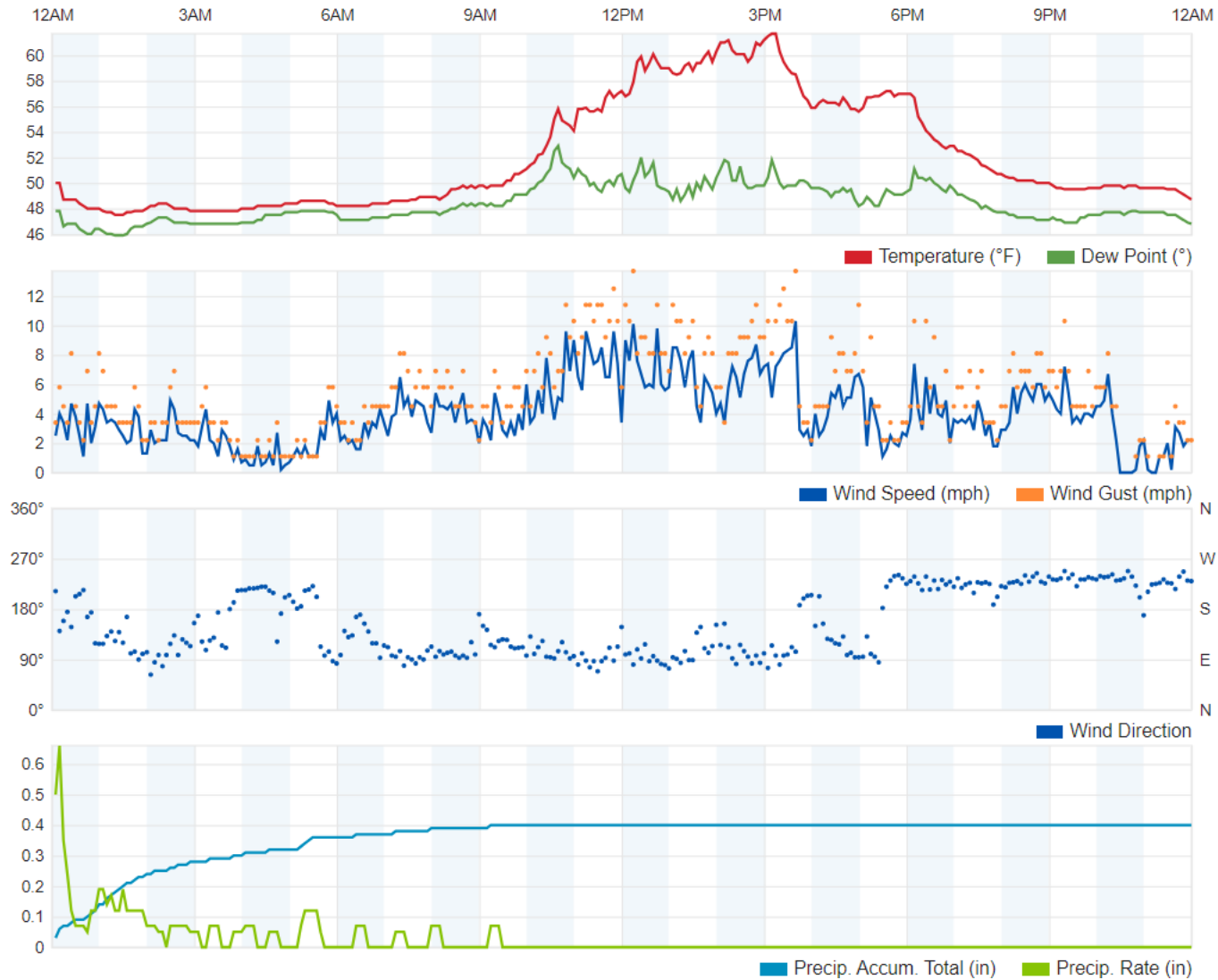
**Second Quarter 2023**  
**LMR Instantaneous Weather Data for April 25, 2023**  
**Sonoma Central Landfill, Petaluma, California**

May 2, 2023



**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 2, 2023**  
**Sonoma Central Landfill, Petaluma, California**

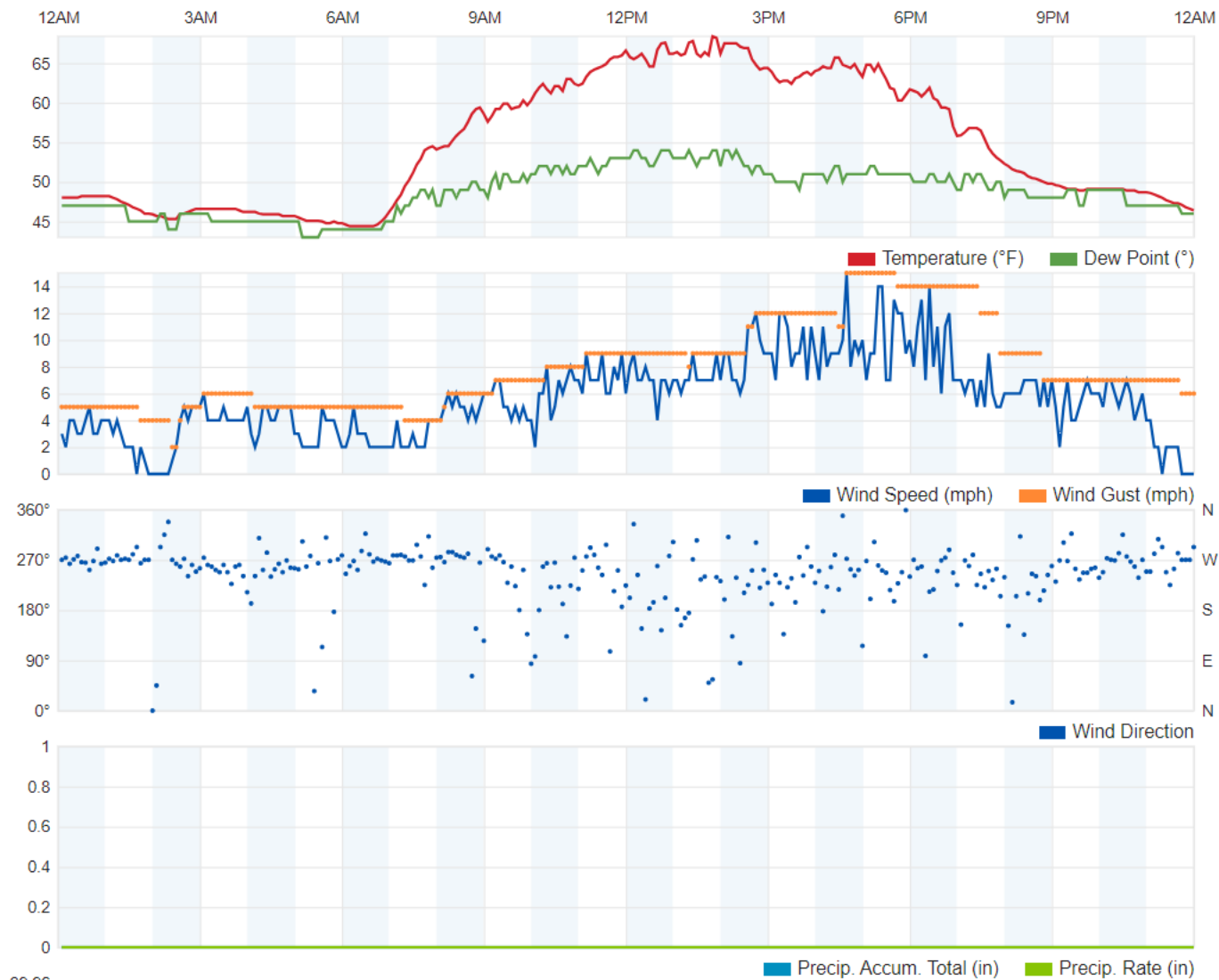
May 3, 2023



**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 3, 2023**  
**Sonoma Central Landfill, Petaluma, California**

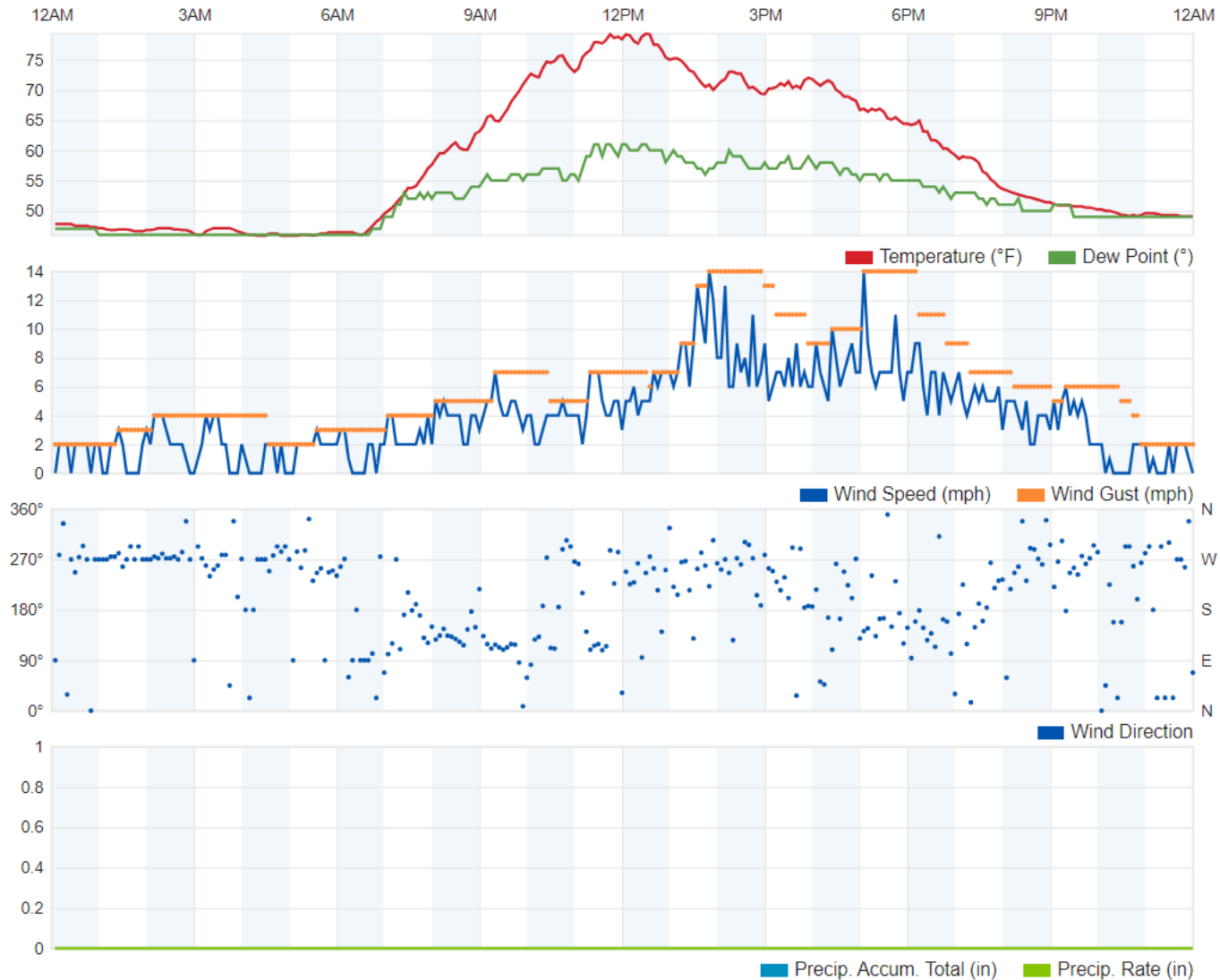


May 10, 2023



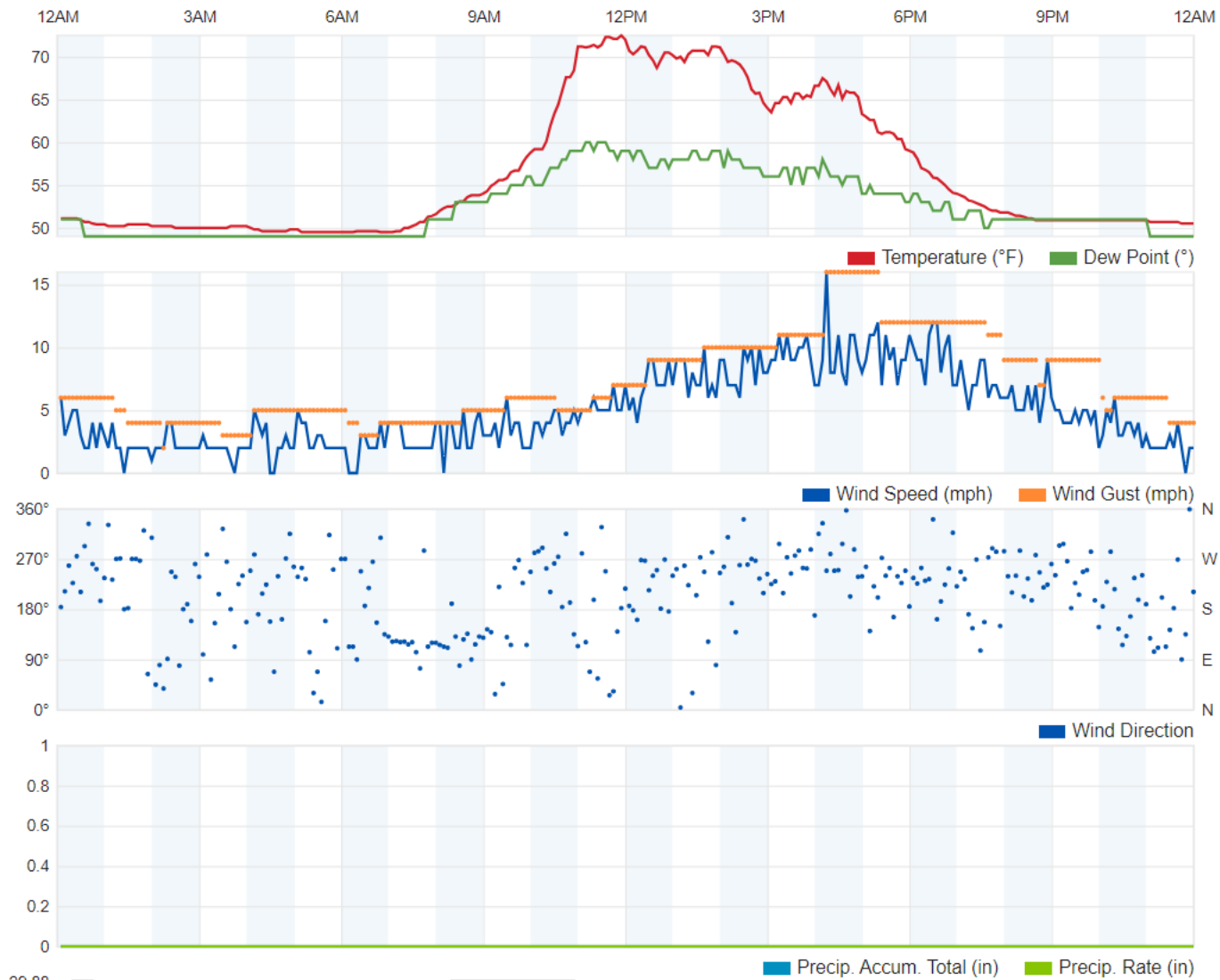
**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 10, 2023**  
**Sonoma Central Landfill, Petaluma, California**

May 12, 2023



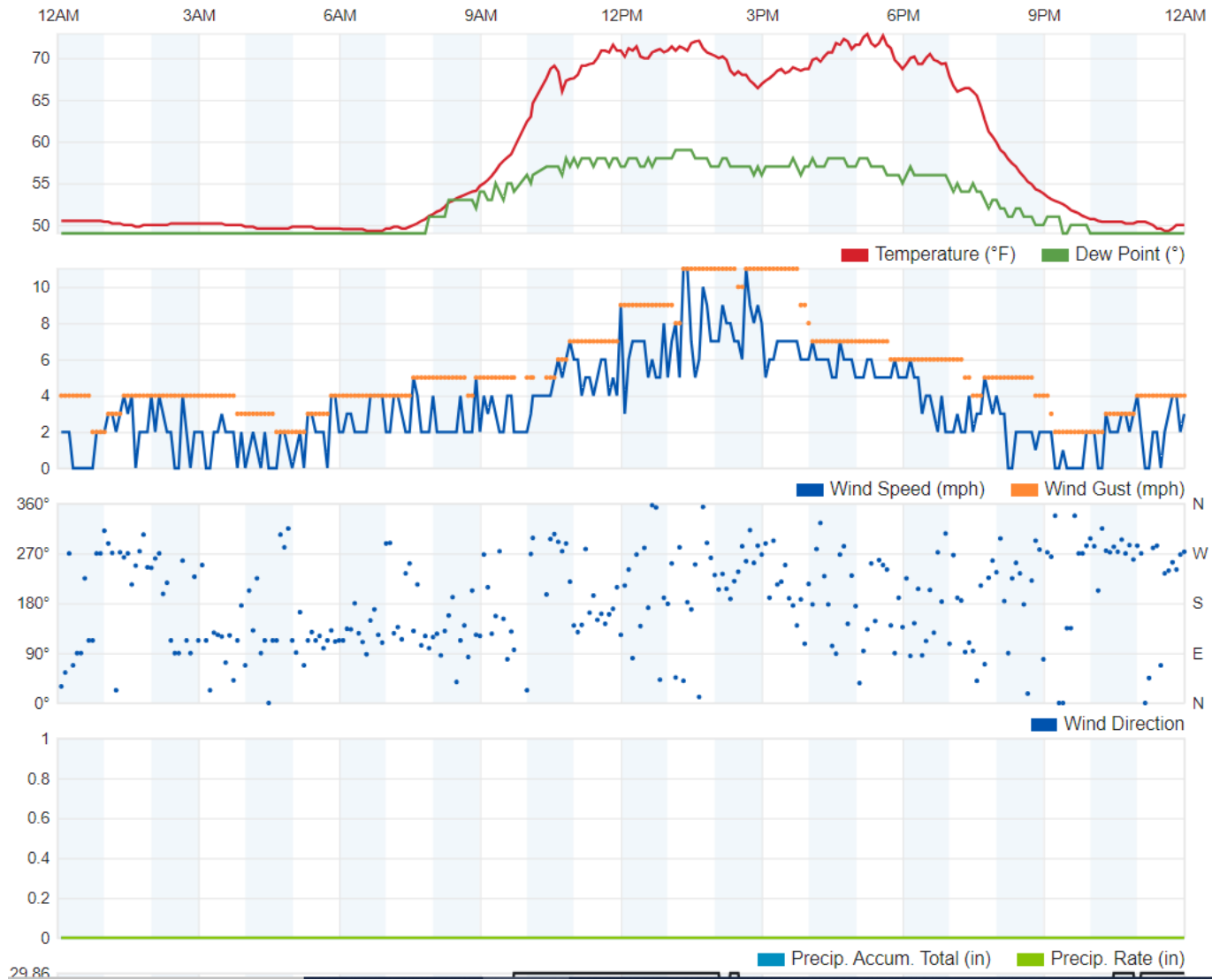
**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 12, 2023**  
**Sonoma Central Landfill, Petaluma, California**

May 17, 2023



**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 17, 2023**  
**Sonoma Central Landfill, Petaluma, California**

May 18, 2023



**Second Quarter 2023**  
**LMR Instantaneous Weather Data for May 18, 2023**  
**Sonoma Central Landfill, Petaluma, California**

## Root Cause Analysis and Corrective Analysis Forms



# PRESSURE EXCEEDANCE

## Root Cause Analysis

|                             |          |
|-----------------------------|----------|
| Date of Initial Exceedance: | 2/6/2023 |
| Collection Device ID:       | SCEW2016 |
| Pressure Reading:           | 0.35     |

|                                                                                                                                                                                                                                                                                         |                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Root Cause Analysis</b>                                                                                                                                                                                                                                                              |                                                                     |
| Was the reason for the positive pressure due to one of the following:                                                                                                                                                                                                                   |                                                                     |
| A fire or increased well temperature.                                                                                                                                                                                                                                                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Use of a geomembrane or synthetic cover.                                                                                                                                                                                                                                                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| A decommissioned well.                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"> <li>If YES to <b>ANY</b> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).</li> <li>If NO to <b>ALL</b> of the above, continue the form.</li> </ul>                                                                        |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                            |                                                                     |
| Vacuum source at the wellhead (lateral is buried/inaccessible)                                                                                                                                                                                                                          |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                    |                                                                     |
| Vacuum lateral issue underground causing lack of vacuum to well. Need to perform construction to run a new vacuum lateral to this well location.                                                                                                                                        |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                      |                                                                     |
| Was the positive pressure remediated within 60 days since the initial exceedance?                                                                                                                                                                                                       | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"> <li>If YES, keep records of Root Cause Analysis. No reporting is required.</li> <li>If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li> </ul> |                                                                     |





## PRESSURE EXCEEDANCE

### *Corrective Action Analysis and Implementation Schedule*

|                             |          |
|-----------------------------|----------|
| Date of Initial Exceedance: | 2/6/2023 |
| Collection Device ID:       | SCEW2016 |
| Pressure Reading:           | 0.35     |

#### **Corrective Action Analysis**

Describe the corrective actions taken to remediate exceedance.

Well head, well casing, and vacuum lateral source inspections.

#### **Implementation Schedule**

Expected Start Date: 5/1/2023

Expected Completion Date: 6/3/2023

Provide a description of proposed repairs and/or remedial action required and supporting information for implementation timeframe.

New vacuum lateral source needs to be constructed to this location.

#### **Final Steps**

Determine the required next steps.

Is the remediation expected to take **less than 120 days** since initial exceedance per implementation schedule?

☒ Yes

☐ No

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



## PRESSURE EXCEEDANCE

### *Root Cause Analysis*

|                             |           |
|-----------------------------|-----------|
| Date of Initial Exceedance: | 2/20/2023 |
| Collection Device ID:       | SCEW2103  |
| Pressure Reading:           | 0.15      |

|                                                                                                                                                                                                                                                                                          |                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Root Cause Analysis</b>                                                                                                                                                                                                                                                               |                                                                     |
| Was the reason for the positive pressure due to one of the following:                                                                                                                                                                                                                    |                                                                     |
| A fire or increased well temperature.                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Use of a geomembrane or synthetic cover.                                                                                                                                                                                                                                                 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| A decommissioned well.                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES to <b><u>ANY</u></b> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).</li><li>• If NO to <b><u>ALL</u></b> of the above, continue the form.</li></ul>                                                          |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                             |                                                                     |
| Vacuum source at the wellhead (lateral is buried/inaccessible)                                                                                                                                                                                                                           |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                     |                                                                     |
| The wellhead valve needs to be adjusted by the technician.                                                                                                                                                                                                                               |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                       |                                                                     |
| Was the positive pressure remediated within 60 days since the initial exceedance?                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES, keep records of Root Cause Analysis. No reporting is required.</li><li>• If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li></ul> |                                                                     |



## PRESSURE EXCEEDANCE

### *Root Cause Analysis*

|                             |           |
|-----------------------------|-----------|
| Date of Initial Exceedance: | 4/28/2023 |
| Collection Device ID:       | SCV140-0  |
| Pressure Reading:           | 0.11      |

|                                                                                                                                                                                                                                                                                          |                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Root Cause Analysis</b>                                                                                                                                                                                                                                                               |                                                                     |
| Was the reason for the positive pressure due to one of the following:                                                                                                                                                                                                                    |                                                                     |
| A fire or increased well temperature.                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Use of a geomembrane or synthetic cover.                                                                                                                                                                                                                                                 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| A decommissioned well.                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES to <b><u>ANY</u></b> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).</li><li>• If NO to <b><u>ALL</u></b> of the above, continue the form.</li></ul>                                                          |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                             |                                                                     |
| Vacuum source at the wellhead (lateral is buried/inaccessible)                                                                                                                                                                                                                           |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                     |                                                                     |
| The wellhead valve needs to be adjusted by the technician.                                                                                                                                                                                                                               |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                       |                                                                     |
| Was the positive pressure remediated within 60 days since the initial exceedance?                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES, keep records of Root Cause Analysis. No reporting is required.</li><li>• If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li></ul> |                                                                     |



## TEMPERATURE EXCEEDANCE

### *Corrective Action Analysis and Implementation Schedule*

|                             |           |
|-----------------------------|-----------|
| Date of Initial Exceedance: | 6/27/2023 |
| Collection Device ID:       | SCV125A0  |
| Temperature Reading:        | 131.7     |

|                                                                                                                                                                                                                                                                                       |                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Root Cause Analysis</b>                                                                                                                                                                                                                                                            |                                                                     |
| Has the owner/operator received approval from the state agency to operate at a temperature higher than 55°C (131°F) for this well?                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 63.1958(c).</li><li>• If NO, continue the form.</li></ul>                                                                                                                            |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                          |                                                                     |
| Gas Sample and de-watering system.                                                                                                                                                                                                                                                    |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                  |                                                                     |
| Elevated microbial activity                                                                                                                                                                                                                                                           |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                    |                                                                     |
| Was the temperature exceedance remediated within 60 days since the initial exceedance?                                                                                                                                                                                                | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES, keep records of Root Cause Analysis. No reporting required.</li><li>• If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li></ul> |                                                                     |



## PRESSURE EXCEEDANCE

### *Root Cause Analysis*

|                             |           |
|-----------------------------|-----------|
| Date of Initial Exceedance: | 7/10/2023 |
| Collection Device ID:       | SCV223-0  |
| Pressure Reading:           | 1.87      |

|                                                                                                                                                                                                                                                                                          |                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Root Cause Analysis</b>                                                                                                                                                                                                                                                               |                                                                     |
| Was the reason for the positive pressure due to one of the following:                                                                                                                                                                                                                    |                                                                     |
| A fire or increased well temperature.                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Use of a geomembrane or synthetic cover.                                                                                                                                                                                                                                                 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| A decommissioned well.                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES to <b><u>ANY</u></b> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).</li><li>• If NO to <b><u>ALL</u></b> of the above, continue the form.</li></ul>                                                          |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                             |                                                                     |
| Vacuum source at the wellhead (lateral is buried/inaccessible)                                                                                                                                                                                                                           |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                     |                                                                     |
| The wellhead valve needs to be adjusted by the technician.                                                                                                                                                                                                                               |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                       |                                                                     |
| Was the positive pressure remediated within 60 days since the initial exceedance?                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <ul style="list-style-type: none"><li>• If YES, keep records of Root Cause Analysis. No reporting is required.</li><li>• If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li></ul> |                                                                     |

## 75-Day Notifications





Sonoma Central Landfill  
500 Mecham Road, Petaluma, CA 94550  
o: 510.301.9387

April 20, 2023

Brenda Cabral  
Air Quality Engineer  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Re: 75-Day Notification of Pressure Exceedance  
Sonoma Central Landfill, Petaluma, California  
Facility Number A2254

Ms. Cabral:

Republic Services of Sonoma County, Inc., owner and operator of the Sonoma Central Landfill (Sonoma), located in Petaluma, California, hereby provides the Bay Area Air Quality Management District (BAAQMD or District) with a 75-day notification pursuant to the compliance provisions identified in Title 40 of the Code of Federal Regulations (CFR) 63.1981(j)(1) for a pressure exceedance at SCEW2016.

Well SCEW2016 had an initial pressure exceedance of 0.35 inches water column ("H<sub>2</sub>O.") on March 6, 2023. Corrective actions were initiated within 5 days as the valve was adjusted; however, the well could not be brought back into compliance within 15 days.

As required under 40 CFR 63.1960(a)(3)(i)(A), a root cause analysis and a corrective action analysis and implementation schedule were completed within 60 days from the original exceedance. Copies of these forms are attached. All the steps for compliance were conducted, however, the well remains in exceedance but will be remediated prior to the 120-day deadline. As such, this 75-day notification is required.

If you have any questions or require additional information, please do not hesitate to contact Derek Cheney at (510) 301-9387 or by email at [DCheney@republicservices.com](mailto:DCheney@republicservices.com) or Michael Flanagan at (925) 421-9768 or by email at [MFlanagan@scsengineers.com](mailto:MFlanagan@scsengineers.com).

Sincerely,

A handwritten signature in blue ink, appearing to read "Derek Cheney", with a long horizontal flourish extending to the right.

Derek Cheney  
Environmental Manager  
Sonoma Central Landfill

cc: Michael Flanagan, SCS Field Services  
Maria Bowen, SCS Engineers  
Administrator, U.S. EPA Region 9

Attachment A: Root Cause Analysis Form and Corrective Action Analysis and Implementation Schedule Form

**Attachment A:**  
**Root Cause Analysis Form and**  
**Corrective Action Analysis and Implementation Schedule Form**



## PRESSURE EXCEEDANCE

### *Root Cause Analysis*

|                             |          |
|-----------------------------|----------|
| Date of Initial Exceedance: | 3/6/2023 |
| Collection Device ID:       | SCEW2016 |
| Pressure Reading:           | 0.35     |

| Root Cause Analysis                                                                                                                                                                                                                                                                  |                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Was the reason for the positive pressure due to one of the following:                                                                                                                                                                                                                |                                                                     |
| A fire or increased well temperature.                                                                                                                                                                                                                                                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Use of a geomembrane or synthetic cover.                                                                                                                                                                                                                                             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| A decommissioned well.                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"> <li>If YES to <b><u>ANY</u></b> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).</li> <li>If NO to <b><u>ALL</u></b> of the above, continue the form.</li> </ul>                                                       |                                                                     |
| Describe what was inspected.                                                                                                                                                                                                                                                         |                                                                     |
| Vacuum source at wellhead (lateral is buried/inaccessible)                                                                                                                                                                                                                           |                                                                     |
| Describe what was determined to be the root cause of the exceedance.                                                                                                                                                                                                                 |                                                                     |
| Lack of vacuum on lateral riser, due to construction                                                                                                                                                                                                                                 |                                                                     |
| Determine the required next steps.                                                                                                                                                                                                                                                   |                                                                     |
| Was the positive pressure remediated within 60 days since the initial exceedance?                                                                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <ul style="list-style-type: none"> <li>If YES, keep records of Root Cause Analysis. No reporting required.</li> <li>If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.</li> </ul> |                                                                     |



## PRESSURE EXCEEDANCE

### *Corrective Action Analysis and Implementation Schedule*

|                             |          |
|-----------------------------|----------|
| Date of Initial Exceedance: | 3/6/2023 |
| Collection Device ID:       | SCEW2016 |
| Pressure Reading:           | 0.35     |

#### **Corrective Action Analysis**

Describe the corrective actions taken to remediate exceedance.

Well head, well casing, and vacuum lateral source inspections.

#### **Implementation Schedule**

Expected Start Date: 5/1/2023

Expected Completion Date: 6/3/2022

Provide a description of proposed repairs and/or remedial action required and supporting information for implementation timeframe.

New vacuum lateral source needs to be constructed to this location.

#### **Final Steps**

Determine the required next steps.

Is the remediation expected to take **less than 120 days** since initial exceedance per implementation schedule?

☒ Yes

☐ No

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

## Appendix G – Title V Semi-Annual Report

**SONOMA COUNTY CENTRAL LANDFILL**  
**TITLE V SEMI-ANNUAL MONITORING REPORT**

|                                                                           |                               |
|---------------------------------------------------------------------------|-------------------------------|
| <b>SITE:</b><br>SONOMA COUNTY CENTRAL LANDFILL                            | <b>FACILITY ID#:</b><br>A2254 |
| <b>REPORTING PERIOD:</b> <i>from</i> 02/01/2023 <i>through</i> 07/31/2023 |                               |

**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:

  
\_\_\_\_\_  
Signature of Responsible Official

8-17-2023  
\_\_\_\_\_  
Date

Ken Lewis  
\_\_\_\_\_  
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

|                                                             |                               |
|-------------------------------------------------------------|-------------------------------|
| <b>SITE:</b><br>SONOMA COUNTY CENTRAL LANDFILL              | <b>FACILITY ID#:</b><br>A2254 |
| <b>REPORTING PERIOD:</b> from 02/01/2023 through 07/31/2023 |                               |

### List of Permitted Sources and Abatement Device in Title V Permit

| Permit Unit Number                                          | Equipment Description                                    |
|-------------------------------------------------------------|----------------------------------------------------------|
| <b>S-#</b>                                                  | <b>Description</b>                                       |
| 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,<br>S-10, S-11, S-12, S-13,<br>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. The site was in compliance up to the date the source was removed from the site.

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 | Continuous | N/A                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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                                                                                                 | Intermittent | On June 28, 2023, the BAAQMD issued NOV A61573 to Sonoma Central for alleged positive pressure detected at Well SCV140-0 during a regulatory inspection conducted on June 22 and 26, 2023.<br><br>A combined 10 and 30-day Title V Deviation Report and NOV Response letter was submitted to the BAAQMD on July 7, 2023. |
| 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                                                                                                                                                                                                                                                                                                                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria       | Monitoring Requirement Citation                          | Monitoring Type                | Monitoring Frequency | Citation of Limit          | Limit                                                                               | Compliance | Corrective Actions Taken |
|---------------------------------|----------------------------------------------------------|--------------------------------|----------------------|----------------------------|-------------------------------------------------------------------------------------|------------|--------------------------|
| 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                      |
| 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 <sub>2</sub> < 20% <b>OR</b> O <sub>2</sub> < 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)           | N <sub>2</sub> < 20% <b>OR</b> O <sub>2</sub> < 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria                  | Monitoring Requirement Citation | Monitoring Type                                                                       | Monitoring Frequency | Citation of Limit | Limit                                                                               | Compliance | Corrective Actions Taken |
|--------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------|----------------------|-------------------|-------------------------------------------------------------------------------------|------------|--------------------------|
| 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                      |
| TOC (Total Organic Compounds 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                                |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> <i>from</i> 02/01/2023 <i>through</i> 07/31/2023 |

| Type of Limit or Criteria | Monitoring Requirement Citation          | Monitoring Type                                                                                                                         | Monitoring Frequency                                 | Citation of Limit | Limit                                                               | Compliance   | Corrective Actions Taken                                                                                                                                                                                                                                                                                                     |
|---------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------|---------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TOC                       | BAAQMD 8-34-415, 416, 501.6, 506 and 510 | 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 | BAAQMD 8-34-303   | Surface Leak Limit: < 500 ppmv as methane at 2 inches above surface | Intermittent | <p>On June 28, 2023, the BAAQMD issued NOV A61575 to Sonoma Central for alleged surface leaks detected at multiple wells during a regulatory inspection conducted on June 22 and 26, 2023.</p> <p>A combined 10 and 30-day Title V Deviation Report and NOV Response letter was submitted to the BAAQMD on July 7, 2023.</p> |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 Compounds (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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                                |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> <i>from</i> 02/01/2023 <i>through</i> 07/31/2023 |

| 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)<br>(2)(iii)(B) and 60.758<br>(b)(2)(ii)       | Initial Source Test and Records              | Periodic             | 40 CFR 60.752(b)<br>(2)(iii)(B)  | 98% removal by weight<br>OR<br>< 20 ppmv dry @ 3% O <sub>2</sub> , expressed as hexane | Continuous | N/A                      |
| NO <sub>x</sub>                     | BAAQMD Condition # 4044, Part 17                                        | Annual Source Test                           | Periodic / Annual    | BAAQMD Condition # 4044, Part 11 | 0.05 lb/MMBTU (as NO <sub>2</sub> )                                                    | 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 19I | Temperature Sensor and Recorder (continuous) | Continuous           | BAAQMD Condition # 4044, Part 10 | CT > 1400°F                                                                            | Continuous | N/A                      |



# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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) $> (CT_{PF} - 28^{\circ}\text{C})$ , 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 20I                       | 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 20I | 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 20I                       | 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 20I   | 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 20I   | 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 20I   | Records                                           | Periodic / On Event Basis | BAAQMD Condition # 4044, Part 20e-f | If organic content is:<br>< 500 ppmw, storage time < 90 days<br>> 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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:<br>< 20% opacity for 3 minutes in any hour or<br>< 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria | Monitoring Requirement Citation     | Monitoring Type                                                              | Monitoring Frequency      | Citation of Limit               | Limit                                                                                                                       | Compliance | Corrective Actions Taken |
|---------------------------|-------------------------------------|------------------------------------------------------------------------------|---------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|
| Particulate Trackout      | BAAQMD 6-6-501.1-4                  | Visual Observation and Measurement of Trackout at Facility Exits and Records | Periodic / Daily          | BAAQMD 6-6-301                  | Trackout onto Paved Public Roads:<br>< 25 linear feet (clean within 4 hours)<br>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:<br>< 20% Opacity or<br>< 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<br>< 897,500 tons/year                            | Continuous | N/A                      |



# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 <sup>3</sup> and < 19.59 E6 tons                                                                      | Continuous | N/A                      |
| SO <sub>2</sub>                           | None                                      | N/A                                         | None                 | BAAQMD 9-1-301                  | Property Line Ground Level Limits:<br>< 0.5 ppm for 3 minutes and < 0.25 ppm for 60 min. and <0.05 ppm for 24 hours | Continuous | N/A                      |
| SO <sub>2</sub>                           | 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria                        | Monitoring Requirement Citation           | Monitoring Type                 | Monitoring Frequency | Citation of Limit               | Limit                                                                                                                                             | Compliance | Corrective Actions Taken |
|--------------------------------------------------|-------------------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|
| H <sub>2</sub> S                                 | None                                      | N/A                             | None                 | BAAQMD 9-2-301                  | Property Line<br>Ground Level<br>Limits:<br>< 0.06 ppm,<br>averaged over 3<br>minutes and < 0.03<br>ppm,<br>averaged over 60<br>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<br>Trichloroethylene < 3.0 ppmv<br>Perchloroethylene < 3.0 ppmv<br>Methylene Chloride < 20.0 ppmv<br>Vinyl Chloride < 2.5 ppmv | Continuous | N/A                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                                                                           |                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                                                                               | <b>Facility ID#:</b> A2254                                                |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> <i>from</i> 02/01/2023 <i>through</i> 07/31/2023 |

| 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                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
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| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| 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 Compounds 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)  | Intermittent | On June 28, 2023, the BAAQMD issued NOV's A61574 and A61573 to Sonoma Central for alleged component leaks detected at multiple wells during a regulatory inspection conducted on June 22 and 26, 2023.<br><br>A combined 10 and 30- |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria            | Monitoring Requirement Citation                                    | Monitoring Type                             | Monitoring Frequency | Citation of Limit                | Limit                                                                                             | Compliance | Corrective Actions Taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|--------------------------------------------------------------------|---------------------------------------------|----------------------|----------------------------------|---------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      |                                                                    |                                             |                      |                                  |                                                                                                   |            | day Title V Deviation Report and NOV Response letter was submitted to the BAAQMD on July 7, 2023.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Non-Methane Organic Compounds (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<br>OR<br>< 120 ppmv dry @ 3% O <sub>2</sub> , expressed as methane          | Continuous | Please note, there was no internal combustion (IC) engine source testing during the reporting period. Following correspondence with Mr. Marco Hernandez with the Source Test Division of the BAAQMD on March 21, 2022, he recommended to not perform source testing of the engines until upgrades to all the engines are made. Upgrades for the facility as required by the Source Test Division of the BAAQMD were initiated on March 28, 2022, and expected to be completed by December 31, 2023. Source testing for the engines will commence once upgrades are completed. |
| NMOC                                 | BAAQMD Condition #24894, Part 8                                    | Annual Source Test                          | Periodic / Annual    | BAAQMD Condition # 19933, Part 6 | < 120 ppmv dry @ 3% O <sub>2</sub> , expressed as methane (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<br>< 120 ppmv dry @ 3% O <sub>2</sub> , expressed as methane             |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SO <sub>2</sub>                      | None                                                               | N/A                                         | None                 | BAAQMD 9-1-301                   | Property Line Ground Level Limits:<br>< 0.5 ppm for 3                                             | Continuous | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria            | Monitoring Requirement Citation           | Monitoring Type                 | Monitoring Frequency | Citation of Limit                | Limit                                                                                                              | Compliance | Corrective Actions Taken                                                                                                                                                              |
|--------------------------------------|-------------------------------------------|---------------------------------|----------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      |                                           |                                 |                      |                                  | minutes,<br>< 0.25 ppm for 60 minutes & < 0.05 ppm for 24 hours                                                    |            |                                                                                                                                                                                       |
| SO <sub>2</sub>                      | 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 <sub>2</sub> S                     | None                                      | N/A                             | None                 | BAAQMD 9-2-301                   | Property Line ground level limits < 0.06 ppm<br>Averaged over 3 minutes and < 0.03 ppm<br>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 <sub>x</sub>                      | None                                      | N/A                             | None                 | BAAQMD 9-8-301.2                 | Fossil Fuel Gas, Lean-Burn<br>65 ppmv dry @ 15% O <sub>2</sub>                                                     | Continuous | N/A                                                                                                                                                                                   |
| NO <sub>x</sub>                      | BAAQMD Condition #19933, Part 8           | Annual Source Test              | Periodic / Annual    | BAAQMD 9-8-302.1                 | Waste Fuel Gas, Lean-Burn 70 ppmv dry @ 15% O <sub>2</sub>                                                         | Continuous | Please note, there was no internal combustion (IC) engine source testing during the reporting period. Following correspondence with Mr. Marco Hernandez with the Source Test Division |
| NO <sub>x</sub>                      | BAAQMD Condition #19933, Part 8           | Annual Source Test              | Periodic / Annual    | BAAQMD Condition # 19933, Part 5 | 0.80 grams per brake horsepower hour (g/bhp-hr)                                                                    |            |                                                                                                                                                                                       |



# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria | Monitoring Requirement Citation | Monitoring Type    | Monitoring Frequency | Citation of Limit                | Limit                                                                                   | Compliance | Corrective Actions Taken                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|---------------------------------|--------------------|----------------------|----------------------------------|-----------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NO <sub>x</sub>           | 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) |            | of the BAAQMD on March 21, 2022, he recommended to not perform source testing of the engines until upgrades to all the engines are made. Upgrades for the facility as required by the Source Test Division of the BAAQMD were initiated on March 28, 2022, and expected to be completed by December 31, 2023. Source testing for the engines will commence once upgrades are completed. |
| CO                        | None                            | N/A                | None                 | BAAQMD 9-8-301.3                 | Fossil Fuel Gas: 2000 ppmv dry @ 15% O <sub>2</sub>                                     | 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 <sub>2</sub>                                      | Continuous | Please note, there was no internal combustion (IC) engine source testing during the reporting period. Following correspondence with Mr. Marco Hernandez with the Source Test Division of the BAAQMD on March 21, 2022, he recommended to not perform source testing of the engines until upgrades to all the engines are made.                                                          |
| CO                        | BAAQMD Condition #19933, Part 8 | Annual Source Test | Periodic / Annual    | BAAQMD Condition #19933, Part 6  | 2.1 g/bhp-hr                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                                         |
| 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)  |            |                                                                                                                                                                                                                                                                                                                                                                                         |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria             | Monitoring Requirement Citation                        | Monitoring Type                               | Monitoring Frequency | Citation of Limit                 | Limit                                                                                                                                             | Compliance | Corrective Actions Taken                                                                                                                                                                                                                       |
|---------------------------------------|--------------------------------------------------------|-----------------------------------------------|----------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |                                                        |                                               |                      |                                   |                                                                                                                                                   |            | Upgrades for the facility as required by the Source Test Division of the BAAQMD were initiated on March 28, 2022, and expected to be completed by December 31, 2023. Source testing for the engines will commence once upgrades are completed. |
| Heat Input                            | BAAQMD Condition #19933, Part 9a-e                     | Records                                       | Periodic / Daily     | BAAQMD Condition # 19933, Part 10 | Limits for each engine:<br>< 252.6 MM BTU/day<br>And<br>< 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                                                                                                                                                                                                                                            |
| 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<br>OR < 120 ppmv dry @ 3% O <sub>2</sub> ,<br>expressed as methane (as demonstrated by proper exhaust oxygen content range) | Continuous | N/A                                                                                                                                                                                                                                            |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                  |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> from 02/01/2023 through 07/31/2023 |

| Type of Limit or Criteria                      | Monitoring Requirement Citation    | Monitoring Type                                 | Monitoring Frequency | Citation of Limit                                                | Limit                                                                                                    | Compliance | Corrective Actions Taken |
|------------------------------------------------|------------------------------------|-------------------------------------------------|----------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------|--------------------------|
| 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                      |
| Maintenance                                    | 63.6655(e)                         | Records of Maintenance                          | P/E                  | 40 CFR Part 63. Subpart                                          | Every 1440 Hours of Operation or Annually:                                                               | Continuous | N/A                      |

# SONOMA COUNTY CENTRAL LANDFILL

## TITLE V SEMI-ANNUAL MONITORING REPORT

|                                                                                                                                       |                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Site:</b> Sonoma County Central Landfill                                                                                           | <b>Facility ID#:</b> A2254                                                |
| <b>Permitted Unit:</b> 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 | <b>Reporting Period:</b> <i>from</i> 02/01/2023 <i>through</i> 07/31/2023 |

| Type of Limit or Criteria | Monitoring Requirement Citation | Monitoring Type | Monitoring Frequency | Citation of Limit        | Limit                                                                     | Compliance | Corrective Actions Taken |
|---------------------------|---------------------------------|-----------------|----------------------|--------------------------|---------------------------------------------------------------------------|------------|--------------------------|
|                           |                                 |                 |                      | ZZZZ,<br>Table 2d,<br>13 | Change Oil and Filter,<br>Inspect Spark Plugs,<br>Inspect Hoses and Belts |            |                          |