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Direction of Compliance and Enforcement Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, CA 94105 Attn: Title V Reports Director of the Air Division, USEPA Region IX 75 Hawthorne Street San Francisco, CA 94105 Attn: Air-3

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Subject: Combined 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 Bay Area Air Quality Management District (BAAQMD), Regulation 8, Rule 34 Semi-Annual Report; Semi-Annual Startup, Shutdown and Malfunction (SSM) Plan Report, Title V Semi-Annual Monitoring Report, and the Title V Annual Compliance Certification (ACC) Report to the BAAQMD and the U.S. Environmental Protection Agency (EPA) Region IX for the Sonoma County Central Landfill (Sonoma Central).

The Title V Semi-Annual Monitoring Report, the BAAQMD Rule 8-34 Semi-Annual Report and the SSM Plan Report cover the period from February 1, 2021 through July 31, 2021.

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 California Code of 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.

Sincerely,

Derek Cheney

Environmental Manager Sonoma Central Landfill

cc: Rob Sherman, Sonoma Central Ray Huff, SCS Engineers NSPS/BAAQMD Rule 8-34 Semi-Annual Report, SSM Plan Semi-Annual Report, Title V Semi-Annual Report Sonoma County Central Landfill Petaluma, California (Title V Facility No. A2254)

Prepared for:



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

For Submittal to:

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



01213327.01 Task 1 | August 2021

3843 Brickway Boulevard, Suite 208 Santa Rosa, CA 95403 707-546-9461 This submittal consisting of the 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 2021, was prepared and reviewed by the following:

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SECTION I. 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 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, 2021 through July 31, 2021 to the BAAQMD and the United States Environmental Protection Agency (EPA).

Please note that as of June 21, 2021, the facility complies with the new Emission Guidelines (EG) requirements in California. The approved state plan for the EG includes compliance with Title 17 California Code of Regulations (CCR) Sections 95460 to 95476, known as AB 32 Landfill Methane Rule (LMR) and specific portions of 40 CFR Part 62 Subpart 000. The NSPS/EG references will be updated in the next semi-annual report.

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

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

- All collection system and/or component downtime and reasons for the shutdown (8-34-501.1).
- All emission control system downtime and reason for the shutdown (8-34-501.2).
- Continuous temperature monitoring and dates of any excesses (8-34-501.3 and 507).
- Testing performed to satisfy the requirements of this Rule (8-34-501.4).
- Monthly LFG flow rates and excesses (8-34-501.5).
- Collection and emission control system leak testing and any excesses, action taken to correct excesses, and re-monitored concentrations (8-34-501.6 and 503).
- Landfill surface monitoring, location of excesses, excess concentration, date discovered, actions taken to repair the excess, and re-monitored concentrations (8-34-501.6 and 506).
- Annual waste acceptance rate and the current amount of waste in-place (8-34-501.7).
- Records of non-degradable waste if area is excluded from LFG collection (8-34-501.8).
- Well head monitoring including gauge pressure, LFG temperature, and LFG oxygen concentration (8-34-501.9 and 505).
- Continuous flow monitoring (8-34-501.10).

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

2.0 SITE BACKGROUND INFORMATION

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

2.1 EXISTING AIR PERMITS

Sonoma Central maintains a BAAQMD permit to operate (PTO) (Plant No. 22987). PTO Condition No. 4044 includes requirements for the wellfield, collection system, and A-4 flare station, as well as waste and cover material dumping (S-22) and landfill excavating, bulldozing, and compacting activities (S-23). PTO Condition No. 19933 includes requirements for the ten LFG-fired internal combustion (IC) engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14). The PTO also has conditions for a LFG compression plant (S-15) (Condition No. 23087) and a 195 horsepower portable propane tipper engine (S-24) (Condition No. 26171).

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

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

2.2 EXISTING LANDFILL GAS COLLECTION AND CONTROL SYSTEM

The GCCS at Sonoma Central consists of extraction wells used to collect the LFG from within the landfill (the "wellfield") and a piping system (the "collection system") used to convey the collected LFG to the control systems for destruction. The LFG is extracted from the landfill through a combination of vertical gas extraction wells and horizontal gas extraction trenches/pipes, as well as leachate collection system components.

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

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

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

3.0 MONITORING AND RECORDS

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 thirteen (13) occasions for a total of 7.17 hours. Shutdowns involved pre-programmed or manual system shutdowns for inspection, maintenance and/or repair of the GCCS, and thus meet the criteria for allowed GCCS downtime, as specified in Rule 8-34-113 and in accordance with the BAAQMD November 5, 2018 Compliance Advisory, with the exception of two events. These events included shutdown of the blower as a result of the variable frequency drive (VFD), which resulted in a shutdown of the GCCS that occurred on February 11, 2021 from 03:20 to 06:34, and a loss of power due to an area wide Pacific Gas & Electric (PG&E) utility outage, which resulted in a shutdown of the GCCS that occurred on June 5, 2021 from 06:44 to 06:54. These events were reported to the BAAQMD as reportable compliance activities (RCA) and breakdown relief was requested. Due to the short duration of these events, there is no reason to believe there were any excess LFG surface emissions during these GCCS downtimes.

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 426.53 hours. Emission control system downtime records are available for review at the site.

LFGTE Facility

During the reporting period, individual IC engines were offline on several occasions. In addition, there were several periods when the entire LFGTE facility was offline (all engines were offline concurrently). Note that engine 9 (S-13) was out of service during the reporting period. Engine 1 (S-4) was out of service from February 1, 2021 through July 13, 2021. 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 147.19 hours. Downtime logs, which include individual IC engine shut downs, are included in **Appendix C**.

3.1.3 Individual Well Downtime

In some instances, the entire GCCS may not go off-line, but individual extraction wells may be taken off-line for inspection, maintenance, and/or repair, as well as for other unforeseen circumstances. These are generally planned events, although such events can occur without notice. During the reporting period, no wells were temporarily taken offline or were taken offline during a previous reporting period and remained offline for a portion of the reporting period.

SCV104-A, SCV227-0, SCV240-0, SCV241-0, and SCEC0018 were abandoned during the reporting period due to poor gas production and were abandoned during 2021 construction activities. SCEW2018 was also abandoned during the reporting period due to poor gas production. SCEW2101 through SCEW2126 are newly installed wells which were initially activated during the reporting period.

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.

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

3.1.4 Flow Meter and Temperature Gauge Downtime

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

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

3.1.5 Flare Combustion Zone Temperature

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

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

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 First Quarter 2021 Monitoring

SCS Field Services (SCSFS) personnel conducted component leak monitoring of the flare station on March 24, 2021, the LFGTE facility on March 26, 2021, and at the wellfield on March 24 and 26, 2021. No component leaks above 1,000 ppmv were detected at the flare station, wellfield, or LFGTE facility during the first quarter 2021 monitoring event. These results are included in **Appendix D**.

3.2.2 Second Quarter 2021 Monitoring

SCSFS personnel conducted the component leak monitoring of the flare station on April 19, 2021, the LFGTE Plant on April 19, 2021, and at the wellfield on April 19, 2021. No component leaks above 1,000 ppmv were detected at the flare station, wellfield, or LFGTE facility during second quarter 2021 monitoring events. These results are included in **Appendix D**.

3.3 CONTROL EFFICIENCY

Flare A-4

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

Excerpts from the January 2021 source test report dated March 3, 2021, summarizing the test results are provided in **Appendix E**.

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 as CH ₄ @ 3% O ₂)
S-41	July 28, 2021	TBD
S-5	January 12, 2021	82.1
S-6	November 6, 2020	99.8
S-7	October 21, 2020	<32
S-9	March 12, 2021	109.3
S-10	April 29, 2021	95.7
S-11	April 26, 2021	74.8
S-12	January 12, 2021	122.8*
S-13	February 20, 2018**	40.97

¹ The S-4 Engine was source tested near the end of the reporting period, thus the source test report was not available for inclusion in this report. The S-4 engine source test report will be included in the next semi-annual report, due in August 2022.

*NMOC outlet concentration exceeds the limit but falls within 10% of the permitted limit and is considered in compliance per BAAQMD Resolution No. 1390.

**Note 2019 and 2020 source tests for S-13 were unable to be completed due to mechanical issues. S-13 has been offline since 2019 and will be tested once repairs are completed.

Excerpts for the IC engine source test reports that were issued during the reporting period (S-9, S-10, and S-11) are included in **Appendix E**.

3.4 LANDFILL SURFACE EMISSIONS MONITORING

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

3.4.1 First Quarter 2021 Monitoring

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on March 24, 25, 26, and 31, and April 21, 2021. Surface emissions in excess of 500 ppmv were detected at three (3) locations during the first quarter 2021 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring, which was conducted on March 31, 2021, indicated that the three (3) areas with instantaneous exceedances had returned to compliance. One-month re-monitoring event was conducted, as required by NSPS, on April 21, 2021, and all locations remained in compliance.

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

3.4.2 Second Quarter 2021 Monitoring

SCSFS personnel monitored the landfill surface for leaks with a methane concentration of greater than 500 ppmv above background on April 19, 20, 21, and 30, and May 21, 2021. Surface emissions in excess of 500 ppmv were detected at three (3) locations during the second quarter 2021 monitoring event. System adjustments and repair work was performed by site personnel. The subsequent 10-day re-monitoring, which was conducted on April 30, 2021, indicated that the three (3) areas with instantaneous exceedances had returned to compliance. One-month re-monitoring was conducted, as required by NSPS, on May 21, 2021, and all locations remained in compliance.

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

3.5 WELLHEAD MONTHLY MONITORING

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

3.5.1 Pressure

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

One (1) operating well, SCV082-1, demonstrated a positive pressure reading at the end of the reporting period. This well will be returned under negative pressure by the applicable compliance date, as specified in BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report.

As of the end of the previous reporting period, no wells were operating under positive pressure.

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, EC-19, 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, EC-19, and EC-24) during the monitoring events conducted during the reporting period. The dates when wells were operating with excessive oxygen, and the well identification number, corrective actions, and re-monitoring results for these wells are provided in **Table 4**.

As of the end of the reporting period, all of the operating wells were operating with an oxygen concentration below the 5 percent limit except for wells SC000H03, SC000H04, SCEC0019, SCHC2001, SCLEW-05, SCV003-0, SCV065-0, SCV066-5, SCV067-A, SCV068-5, SCV079-1, SCV100-5, SCV112-0, SCV124-0, SCV137-0, SCV143-0, SCV149-A, SCV222-0, SCV52-5A, SCV68-1A. 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. These compliance dates are as follows: October 9, 2021 (SC000H03), November 24, 2021 (SC000H04), October 16, 2021 (SCE0019), October 29, 2021 (SCHC2001), November 17, 2021 (SCLEW-05), November 16, 2021 (SCV003-0), September 25, 2021 (SCV065-0), November 17, 2021 (SCV066-5), November 17, 2021 (SCV067-A), November 10, 2021 (SCV068-5), November 19, 2021 (SCV079-1), October 14, 2021 (SCV100-5), November 19, 2021 (SCV112-0), October 27, 2021 (SCV124-0), November 19, 2021 (SCV137-0), November 17, 2021 (SCV143-0), November 20, 2021 (SCV149-A), September 11, 2021 (SCV222-0), October 29, 2021 (SCV52-5A), September 8, 2021 (SCV68-1A).

As of the end of the previous reporting period, wells SCV051-A, SCV222-0, and c were operating with an oxygen concentration above the 5 percent limit. These wells were back in compliance within the timeline specified in 8-34-414.

3.5.3 Temperature

BAAQMD Rule 8-34-305 requires the landfill gas 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 at an alternative temperature of 145°F. However, note that SCV109-0 has been permanently decommissioned.

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

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

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

3.6 COVER INTEGRITY MONITORING

Under BAAQMD Rule 8-34-510 and the NSPS, the landfill surface must be monitored at least monthly for evidence of cracks or other surface integrity issues, which could allow for surface emissions. During the reporting period, cover integrity monitoring was conducted by SCSFS personnel in conjunction with the wellhead monitoring on February 22, March 21, April 19, May 17, June 20, July 26, 2021. All necessary repairs were implemented in a timely manner. Records of cover integrity monitoring are available for review upon request.

3.7 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.

3.8 ANNUAL WASTE ACCEPTANCE RATE AND REFUSE IN PLACE

Sonoma Central is an active landfill that continues to accept refuse for disposal. From February 1, 2021 through July 31, 2021, the site accepted 160,999.87 tons of MSW, resulting in a cumulative waste-in-place total of 17,475,576 tons as of July 31, 2021.

3.8.1 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.

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, 2021 through July 31, 2021 are documented below.

- During the reporting period, the GCCS had 13 SSM events. Details of these events are included in **Table 1a**.
- During the reporting period, A-4 Flare had 154 SSM events. Details of these events are included in **Table 1b**.
- During the reporting period, 219 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, 31 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, 2021 through July 31, 2021 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

GCCS Shutdown	Restarted	Downtime Hours	Reason for Downtime	Corrective Actions Taken			
2/3/21 6:36	2/3/21 6:46	0.17	Planned Blower Inspection and Maintenance (113)	Flare was inspected and adjusted before being returned to service.			
2/9/21 21:02	2/9/21 21:20	0.30	Planned shut down for power line service (113)	Flare was inspected and adjusted before being returned to service.			
2/11/21 3:20	2/11/21 6:34	3.23	Automatic shutdown of the flare blower associated with the variable frequency drive (VFD) (RCA submitted)	Flare was inspected and adjusted before being returned to service.			
2/11/21 9:10	2/11/21 9:18	0.13	Plant start up	Flare was inspected and adjusted before being returned to service.			
2/11/21 9:38	2/11/21 10:18	0.67	Plant start up	Flare was inspected and adjusted before being returned to service.			
	•		There was no GCCS downtime in March 2021.				
4/15/21 9:00	4/15/21 9:32	0.53	GCCS Construction (118)	Flare was inspected and adjusted before being returned to service.			
5/1/21 6:30	5/1/21 6:38	0.13	Planned Pacific Gas and Energy (PG and E) Maintenance Work, Alarmed shutdown and auto restart to swap power source to another line (113)	Flare was inspected and adjusted before being returned to service.			
5/3/21 10:36	5/3/21 11:20	0.73	Planned Sump Maintenance and Inspection (113)	Flare was inspected and adjusted before being returned to service.			
5/3/21 11:34	5/3/21 11:46	0.20	Planned Sump Maintenance and Inspection (113)	Flare was inspected and adjusted before being returned to service.			
5/3/21 12:50	5/3/21 12:58	0.13	Planned Sump Maintenance and Inspection (113)	Flare was inspected and adjusted before being returned to service.			
5/3/21 17:02	5/3/21 17:32	0.50	Planned Blower 104 Maintenance and Inspection (113)	Flare was inspected and adjusted before being returned to service.			
6/5/21 6:44	6/5/21 6:54	0.17	PG and E Power Outage (RCA Submitted)	Flare was inspected and adjusted before being returned to service.			
6/5/21 8:38	6/5/21 8:54	0.27	PG and E Maintenance	Flare was inspected and adjusted before being returned to service.			
	There was no GCCS downtime in July 2021.						
	Total:	7.17					

Notes:

Events in bold type denotes Malfunction Events

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

All events listed involved GCCS inspection and/or maintenance activities prior to start up (or as soon as feasible following programmed startups) in accordance with Rule 8-34-113 requirements and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018, with the exception of the events that occurred on February 11 and June 5, 2021 which involved shutdown of the blower associated with the VFD and a utility outage from the Pacific Gas and Energy (PG&E). These events were considered reportable compliance activities (RCA) and breakdown relief was requested.

Shutdown	Startup	Downtime Hours	Reason for Downtime	
2/2/21 11:26	2/2/21 13:44	2.30	Knock-out pot (KOP) inspection and maintenance (113)	
2/3/21 6:34	2/3/21 6:46	0.20	Blower inspection and maintenance (113)	
2/9/21 21:02	2/9/21 21:20	0.30	Shutdown for power line transfer	
			Automatic shutdown of the flare blower associated with the	
2/11/21 3:20	2/11/21 6:34	3.23	variable frequency drive (VFD)	
2/11/21 9:10	2/11/21 9:18	0.13	Plant start up	
2/11/21 9:38	2/11/21 10:18	0.67	Plant start up	
2/18/21 12:36	2/18/21 14:16	1.67	Blower inspection and maintenance (113)	
2/25/21 8:44	2/25/21 10:28	1.73	Blower inspection and maintenance (113)	
2/25/21 10:52	2/25/21 11:22	0.50	Blower inspection and maintenance (113)	
3/4/21 2:14	3/4/21 7:36	5.37	Low temp shut down (pre-programmed parametric shutdown)	
3/10/21 9:14	3/10/21 11:16	2.03	KOP inspection and maintenance (113)	
3/16/21 11:42	3/16/21 11:54	0.20	Blower Swap (113)	
3/19/21 8:40	3/19/21 9:32	0.87	Flare Inspections (113)	
3/19/21 12:26	3/19/21 12:54	0.47	Flare Inspections (113)	
3/29/21 10:34	3/29/21 10:48	0.23	Blower Swap (113)	
4/10/21 7:56	4/10/21 11:02	3.10	High condensate alarm (pre- programmed parametric shutdown)	
4/13/21 16:50	4/13/21 17:20	0.50	Flare Inspections (113)	
4/14/21 8:50	4/14/21 12:04	3.23	GCCS Construction (118)	
4/15/21 8:34	4/15/21 8:40	0.10	GCCS Construction (118)	
4/15/21 8:42	4/15/21 9:32	0.83	GCCS Construction (118)	
4/15/21 12:34	4/15/21 15:34	3.00	GCCS Construction (118)	
4/22/21 12:30	4/22/21 12:58	0.47	Flare Inspections (113)	
4/22/21 13:44	4/22/21 14:00	0.27	Flare Inspections (113)	
4/27/21 12:40	4/27/21 12:44	0.07	Flare Inspections (113)	
4/28/21 8:18	4/28/21 8:20	0.03	Flare Inspections and Startup (113)	
4/28/21 8:28	4/28/21 8:36	0.13	Flare Inspections and Startup (113)	
4/28/21 8:40	4/28/21 9:28	0.80	Flare Inspections and Startup (113)	
4/28/21 9:34	4/28/21 9:56	0.37	Flare Inspections (113)	
4/29/21 9:24	4/29/21 14:28	5.07	Plant start up	
4/30/21 9:22	4/30/21 9:24	0.03	Flare Inspections and Startup (113)	
			Planned Pacific Gas and Energy (PG and E) Maintenance Work,	
			Alarmed shutdown and auto restart to swap power source to another	
5/1/21 6:30	5/1/21 6:38	0.13	line (113)	
5/3/21 10:36	5/3/21 11:20	0.73	Sump Maintenance and inspection (113)	
5/3/21 11:34	5/3/21 11:46	0.20	Sump Maintenance and inspection (113)	
5/3/21 12:50	5/3/21 12:58	0.13	Sump Maintenance and inspection (113)	
5/3/21 17:02	5/3/211/:32	0.50	Sump Maintenance and Inspection (113)	
5/3/21 17:48	5/3/21 18:00	0.20	Sump Maintenance and inspection (113)	
5/11/21 15:14	5/11/21 15:32	0.30	Blower maintenance and inspection (113)	
5/11/21 15:40	5/11/21 15:56	0.27	Blower maintenance and inspection (113)	
5/11/21 16:12	5/11/21 10:28	0.27	Blower maintenance and inspection (113)	
5/11/21 10:50	5/11/21 1/:14	0.40	Biower maintenance and inspection (113)	
5/19/21 8:30	5/19/21 10:48	2.20	Biower valve installations (113)	
5/24/21 /:48	5/24/21 9:42	1.90	Biower inspection and maintenance (113)	
6/1/21 /:30	6/1/21/:54	0.40	Low temp shut down (pre-programmed parametric shutdown)	
	0/5/21 0:54	0.20	PG and E Power Outage	
0/5/21 8:38	0/5/218:54	0.27	PG and E Maintenance	

Shutdown	Startup	Downtime Hours	Reason for Downtime
6/7/21 12:32	6/7/21 12:48	0.27	Low temp shut down (pre-programmed parametric shutdown)
6/21/21 8:04	6/21/21 8:24	0.33	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 8:30	6/22/21 9:36	1.10	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 11:08	6/22/21 11:10	0.03	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 11:14	6/22/21 11:16	0.03	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 11:30	6/22/21 11:32	0.03	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 11:38	6/22/21 11:46	0.13	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 11:50	6/22/21 11:56	0.10	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 12:02	6/22/21 12:06	0.07	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 12:08	6/22/21 12:16	0.13	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 12:20	6/22/21 16:32	4.20	Low temp shut down (pre-programmed parametric shutdown)
6/22/21 22:14	6/22/21 22:16	0.03	Low temp shut down (pre-programmed parametric shutdown)
6/23/21 6:18	6/23/21 6:20	0.03	Low temp shut down (pre-programmed parametric shutdown)
6/23/21 10:34	6/23/21 10:42	0.13	Low temp shut down (pre-programmed parametric shutdown)
6/23/21 10:44	6/25/21 8:14	45.50	Low temp shut down (pre-programmed parametric shutdown)
7/6/21 7:56	7/6/21 8:06	0.17	Low temp shutdown due to engine ramp up
7/12/21 7:48	7/12/21 8:00	0.20	Low temp shutdown due to engine ramp up
7/12/21 8:12	7/12/21 8:22	0.17	Low temp shutdown due to engine ramp up
7/12/21 8:30	7/12/21 8:48	0.30	Low temp shutdown due to engine ramp up
7/12/21 8:54	7/12/21 9:06	0.20	Low temp shutdown due to engine ramp up
7/12/21 9:14	7/12/21 14:02	4.80	Low temp shutdown due to engine ramp up
7/13/21 7:20	7/13/21 7:22	0.03	Low temp shutdown due to engine ramp up
7/13/21 9:26	7/26/21 8:26	311.00	Shutdown due to engine ramp up
7/29/21 11:26	7/29/21 12:22	0.93	Low temp shutdown due to engine ramp up
7/29/21 12:24	7/29/21 12:26	0.03	Low temp shutdown due to engine ramp up
7/29/21 20:14	7/29/21 20:16	0.03	Low temp shutdown due to engine ramp up
7/29/21 20:36	7/29/21 20:42	0.10	Low temp shutdown due to engine ramp up
7/29/21 20:50	7/29/21 20:52	0.03	Low temp shutdown due to engine ramp up
7/29/21 21:00	7/29/21 21:02	0.03	Low temp shutdown due to engine ramp up
7/29/21 21:04	7/29/21 21:06	0.03	Low temp shutdown due to engine ramp up
7/29/21 21:10	7/29/21 21:12	0.03	Low temp shutdown due to engine ramp up
7/29/21 21:14	7/29/21 21:18	0.07	Low temp shutdown due to engine ramp up
7/29/21 21:20	7/29/21 21:22	0.03	Low temp shutdown due to engine ramp up
7/29/21 21:32	7/29/21 21:34	0.03	Low temp shutdown due to engine ramp up
7/29/21 22:04	7/29/21 22:06	0.03	Low temp shutdown due to engine ramp up
7/29/21 22:08	7/29/21 22:14	0.10	Low temp shutdown due to engine ramp up
7/29/21 22:32	7/29/21 22:36	0.07	Low temp shutdown due to engine ramp up
7/29/21 22:50	7/29/21 22:52	0.03	Low temp shutdown due to engine ramp up
7/29/21 22:58	7/29/21 23:02	0.07	Low temp shutdown due to engine ramp up
7/29/21 23:06	7/29/21 23:12	0.10	Low temp shutdown due to engine ramp up
7/29/21 23:14	7/29/21 23:16	0.03	Low temp shutdown due to engine ramp up
7/29/21 23:18	7/29/21 23:20	0.03	Low temp shutdown due to engine ramp up
7/29/21 23:22	7/29/21 23:24	0.03	Low temp shutdown due to engine ramp up
7/29/21 23:46	7/29/21 23:48	0.03	Low temp shutdown due to engine ramp up
7/29/21 23:58	7/30/21 0:02	0.07	Low temp shutdown due to engine ramp up
7/30/21 0:08	7/30/21 0:10	0.03	Low temp shutdown due to engine ramp up
7/30/21 0:14	7/30/21 0:16	0.03	Low temp shutdown due to engine ramp up
7/30/21 0:18	7/30/21 0:24	0.10	Low temp shutdown due to engine ramp up
7/30/21 0:26	7/30/21 0:30	0.07	Low temp shutdown due to engine ramp up

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	7/30/21 13:14	7/30/21 13:16	0.03	Low temp shutdown due to engine ramp up
I VISU/21 13.10 VISU/21 13.24 U.10 LOW LEMP SNUTDOWN DUE TO ENGINE TAMP UP	7/30/21 13:18	7/30/21 13:24	0.10	Low temp shutdown due to engine ramp up

Shutdown	Startup	Downtime Hours	Reason for Downtime
7/30/21 13:26	7/30/21 13:28	0.03	Low temp shutdown due to engine ramp up
7/30/21 13:30	7/30/21 13:32	0.03	Low temp shutdown due to engine ramp up
7/30/21 13:34	7/30/21 13:40	0.10	Low temp shutdown due to engine ramp up
7/30/21 13:42	7/30/21 13:46	0.07	Low temp shutdown due to engine ramp up
7/30/21 13:54	7/30/21 13:58	0.07	Low temp shutdown due to engine ramp up
7/30/21 14:06	7/30/21 14:08	0.03	Low temp shutdown due to engine ramp up
7/30/21 14:12	7/30/21 14:16	0.07	Low temp shutdown due to engine ramp up
7/30/21 14:22	7/30/21 14:26	0.07	Low temp shutdown due to engine ramp up
7/30/21 14:28	7/30/21 14:30	0.03	Low temp shutdown due to engine ramp up
7/30/21 14:36	7/30/21 14:38	0.03	Low temp shutdown due to engine ramp up
7/30/21 14:40	7/30/21 14:42	0.03	Low temp shutdown due to engine ramp up
То	tal	426.53	

Notes:

Events in bold type denotes Malfunction Events

All events listed involved GCCS inspection and/or maintenance activities prior to start up (or as soon as feasible following programmed startups) in accordance with Rule 8-34-113 requirements and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018, with the exception of the events that occurred on February 11 and June 5, 2021 which involved shutdown of the blower associated with the variable frequency drive (VFD) and a utility outage from the Pacific Gas and Energy (PG&E). These events were considered reportable compliance activities (RCA) and breakdown relief was requested.

Table 2. Individual Well Startups, Shutdowns and DecommissionsSonoma County Central Landfill, Petaluma, California(February 1, 2021 through July 31, 2021)

Well ID	Shutdown	Start-up	Days Offline	Reason for Shutdown/Startup
SCEW2018	5/7/21 0:00	NA	NA	Well Permanently Decommissioned During Construction Activities Due to Poor Gas Quality
SCV104-A	5/7/21 0:00	NA	NA	Well Permanently Decommissioned During Construction Activities Due to Poor Gas Quality
SCV227-0	5/7/21 0:00	NA	NA	Well Permanently Decommissioned During Construction Activities Due to Poor Gas Quality
SCV240-0	5/7/21 0:00	NA	NA	Well Permanently Decommissioned During Construction Activities Due to Poor Gas Quality
SCV241-0	5/7/21 0:00	NA	NA	Well Permanently Decommissioned During Construction Activities Due to Poor Gas Quality
SCEW2101	NA	5/20/21 9:31	NA	Initial Startup of New Vertical Extraction Well
SCEW2102	NA	5/20/21 9:21	NA	Initial Startup of New Vertical Extraction Well
SCEW2103	NA	5/20/21 10:59	NA	Initial Startup of New Vertical Extraction Well
SCEW2104	NA	5/19/21 11:31	NA	Initial Startup of New Vertical Extraction Well
SCEW2105	NA	5/19/21 9:54	NA	Initial Startup of New Vertical Extraction Well
SCEW2106	NA	5/19/21 9:34	NA	Initial Startup of New Vertical Extraction Well
SCEW2107	NA	5/19/21 10:04	NA	Initial Startup of New Vertical Extraction Well
SCEW2108	NA	5/20/21 9:48	NA	Initial Startup of New Vertical Extraction Well
SCEW2109	NA	5/19/21 12:18	NA	Initial Startup of New Vertical Extraction Well
SCEW2110	NA	5/19/21 12:02	NA	Initial Startup of New Vertical Extraction Well
SCEW2111	NA	5/19/21 12:42	NA	Initial Startup of New Vertical Extraction Well
SCEW2112	NA	5/19/21 12:57	NA	Initial Startup of New Vertical Extraction Well
SCEW2113	NA	5/20/21 8:55	NA	Initial Startup of New Vertical Extraction Well
SCEW2114	NA	5/20/21 8:47	NA	Initial Startup of New Vertical Extraction Well
SCEW2115	NA	5/20/21 8:37	NA	Initial Startup of New Vertical Extraction Well
SCEW2116	NA	5/20/21 8:27	NA	Initial Startup of New Vertical Extraction Well
SCEW2117	NA	5/20/21 8:14	NA	Initial Startup of New Vertical Extraction Well
SCEW2118	NA	5/20/21 8:02	NA	Initial Startup of New Vertical Extraction Well
SCEW2119	NA	5/20/21 7:45	NA	Initial Startup of New Vertical Extraction Well
SCEW2120	NA	5/19/21 14:15	NA	Initial Startup of New Vertical Extraction Well
SCEW2121	NA	5/19/21 14:24	NA	Initial Startup of New Vertical Extraction Well
SCEW2122	NA	5/19/21 14:34	NA	Initial Startup of New Vertical Extraction Well
SCEW2123	NA	5/19/21 14:45	NA	Initial Startup of New Vertical Extraction Well
SCEW2124	NA	5/20/21 7:25	NA	Initial Startup of New Vertical Extraction Well
SCEW2125	NA	5/19/21 13:40	NA	Initial Startup of New Vertical Extraction Well
SCEW2126	NA	5/19/21 13:26	NA	Initial Startup of New Vertical Extraction Well
SCEC0018	6/22/21 0:00	NA	NA	Well Permanently Decommissioned Due to Poor Gas Quality

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

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SC000H52	5/26/2021 14:15	0.71	0.71	Adjusted Valve
SC000H52	5/26/2021 14:18	-0.79	-0.89	In Compliance
SC0V106A	3/25/2021 12:38	-0.01	0.05	Adjusted Valve
SC0V106A	3/26/2021 17:06	-0.13	-0.08	In Compliance
SC0V106A	5/7/2021 8:18	0.04	0.05	Adjusted Valve
SCOV106A	5/7/2021 8:21	-0.08	-0.09	In Compliance
600/4404	C /2 /2024 42:40	4.74	4 72	
SCOVIIOA	6/2/2021 13:10	1.74	1.72	Adjusted Valve
SCUVIIUA	6/7/2021 14:37	1.48	-0.25	Adjusted valve, in Compliance
	7/21/2021 8:42	1 99	-0.19	Adjusted Valve In Compliance
JCOVIIOA	7/21/2021 0.42	1.55	-0.15	Aujusteu valve, in compliance
SCEC0006	4/5/2021 13:08	0.01	0.01	Adjusted Valve
SCEC0006	4/5/2021 13:12	-0.14	-0.15	In Compliance
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SCEC0006	5/27/2021 9:41	0.73	0.73	Adjusted Valve
SCEC0006	5/27/2021 9:43	-0.08	-0.11	In Compliance
SCEC0022	5/10/2021 8:32	0.05	0.04	Adjusted Valve
SCEC0022	5/10/2021 8:35	-6.52	-7.01	In Compliance
SCEC0024	E/10/2021 9:19	8 OF	8 OF	Adjusted Value
SCEC0024	5/10/2021 8:18	8.05	8.05	
3CEC0024	5/10/2021 8.21	-0.44	-0.58	in compliance
SCEW2001	5/26/2021 10:45	0.9	0.92	Adjusted Valve
SCEW2001	5/26/2021 10:49	-0.12	-0.14	In Compliance
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SCEW2002	2/4/2021 11:53	0	0.03	Adjusted Valve
SCEW2002	2/11/2021 11:16	-0.85	-0.84	In Compliance
SCEW2002	5/26/2021 10:33	0.89	0.89	Adjusted Valve
SCEW2002	6/4/2021 9:07	-1.82	-1.6	In Compliance
CCEW/2002	2/4/2021 11:22	0.02	0	Adjusted Mehre
SCEW2003	2/4/2021 11:23	-0.03	0 17	Adjusted valve
3CEVV2005	2/4/2021 11.20	-0.17	-0.17	in compliance
SCEW2003	2/4/2021 11:27	0.02	0.01	Adjusted Valve
SCEW2003	2/10/2021 12:00	-0.13	-0.13	In Compliance
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SCEW2003	5/26/2021 9:40	0.81	0.8	Adjusted Valve
SCEW2003	5/26/2021 9:42	0.8	0.81	Second Reading
SCEW2003	5/26/2021 9:46	-0.08	-0.1	In Compliance
	- 4 4			
SCEW2004	5/26/2021 9:23	1.04	1.06	Adjusted Valve
SCEW2004	5/26/2021 9:27	-0.07	-0.07	In Compliance
SCEW/200E	5/26/2021 0.52	0.51	0 5 2	Adjusted Valvo
SCEW2003	5/26/2021 8:56	-0.02	-0 1	In Compliance
502 ##2005	5/20/2021 0.50	0.05	0.1	in compliance
SCEW2007	5/26/2021 9:02	0.65	0.68	Adjusted Valve
SCEW2007	5/26/2021 9:06	-0.18	-0.17	In Compliance
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SCEW2007	5/27/2021 8:20	0.66	0.69	Adjusted Valve
SCEW2007	5/27/2021 8:23	-0.07	-0.11	In Compliance

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
	_ /= _ /=			
SCEW2008	5/26/2021 9:14	0.92	0.93	Adjusted Valve
3CE VV 2008	5/20/2021 9.18	-0.14	-0.15	in compliance
SCEW2010	5/26/2021 10:56	1.01	1.03	Adjusted Valve
SCEW2010	5/26/2021 10:59	-0.06	-0.05	In Compliance
SCEW2011	5/26/2021 11:12	0.91	0.93	Adjusted Valve
SCEW2011	5/26/2021 11:20	-0.19	-0.21	In Compliance
66514/2014	F /2C /2024 0:07	0.60	0.72	A diserts of Malker
SCEW2014	5/26/2021 8:07	0.69	0.72	Adjusted Valve
JCL W2014	5/20/2021 8.10	-0.24	-0.25	in compliance
SCEW2015	5/26/2021 8:20	1.11	1.12	Adjusted Valve
SCEW2015	5/26/2021 8:24	-0.17	-0.2	In Compliance
SCEW2017	5/26/2021 7:56	1.16	1.18	Adjusted Valve
SCEW2017	5/26/2021 8:00	-0.29	-0.29	In Compliance
CCFW/2101	F /20 /2021 0:21	0.12	0.12	Adjusted Mehre
SCEW2101 SCEW2101	5/20/2021 9:31	0.12	0.12	Adjusted valve
SCEW2101	5/21/2021 10:00	-0.08	-0.04	
SCEW2102	5/20/2021 9:21	0.09	0.11	Adjusted Valve
SCEW2102	5/20/2021 9:23	0.12	0.13	Second Reading
SCEW2102	5/21/2021 9:50	0.04	0.04	Adjusted Valve
SCEW2102	5/21/2021 9:53	-0.09	-0.1	In Compliance
SCEW/2102	E/20/2021 10.E0	0.08	0.00	Adjusted Valvo
SCEW2103	5/20/2021 10:39	0.08	0.09	Second Reading
SCEW2103	5/21/2021 9:28	0.03	0.03	Adjusted Valve
SCEW2103	5/21/2021 9:31	-0.13	-0.14	In Compliance
SCEW2104	5/19/2021 11:31	0.09	0.08	Adjusted Valve
SCEW2104	5/19/2021 11:33	0.04	0.04	Second Reading
SCEW2104	5/21/2021 9:15	0.08	0.08	Adjusted Valve
SCEW2104	5/21/2021 9:19	-0.1	-0.1	In Compliance
SCEW2105	5/19/2021 9:54	0.04	0.04	Adjusted Valve
SCEW2105	5/19/2021 9:56	0.02	0.04	Second Reading
SCEW2105	5/21/2021 9:05	-0.22	-0.13	In Compliance
SCEW2106	5/19/2021 9:34	0.03	0.04	Adjusted Valve
SCEW2106	5/19/2021 9:36	0.03	0.04	Second Reading
SCEW2106	5/21/2021 8:54	-0.12	-0.08	In Compliance
SCEW2106	5/24/2021 16:04	0.07	0.06	Adjusted Valve
SCEW2106	5/24/2021 16:04	-0.11	-0.14	In Compliance
				F · · · ·
SCEW2107	5/19/2021 10:04	0.04	0.04	Adjusted Valve
SCEW2107	5/19/2021 10:07	0.03	0.03	Second Reading
SCEW2107	5/21/2021 9:01	-0.14	-0.06	In Compliance
00514/04/05	5/20/2021 0 10		0.07	
SCEW2108	5/20/2021 9:48	0.06	0.07	Adjusted Valve
SCEW2108	5/21/2021 9:30	0.09	0.09	Adjusted Valve
202002100	5, 22, 2022 5.55	0.00	0.00	

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCEW2108	5/21/2021 9.42	-0.08	-0.08	In Compliance
302112100	5/21/2021 5.12	0.00	0.00	
SCEW2109	5/19/2021 12:18	0.04	0.07	Adjusted Valve
SCEW2109	5/21/2021 10:10	0.03	0.05	Adjusted Valve
SCEW2109	5/21/2021 10:16	-0.1	-0.11	In Compliance
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SCEW2110	5/19/2021 12:02	0.03	0.02	Adjusted Valve
SCEW2110	5/19/2021 12:04	0.01	0.02	Second Reading
SCEW2110	5/19/2021 12:20	0.08	0.1	Third Reading
SCEW2110	5/21/2021 10:28	-0.14	-0.1	In Compliance
SCEW2110	5/24/2021 17:26	0.09	0.07	Adjusted Valve
SCEW2110	5/24/2021 17:28	-0.07	-0.07	In Compliance
SCEW2111	5/19/2021 12:42	0.14	0.09	Adjusted Valve
SCEW2111	5/19/2021 12:44	0.11	0.12	Second Reading
SCEW2111	5/21/2021 13:37	0.13	0.13	Adjusted Valve
SCEW2111	5/24/2021 15:49	-0.19	-0.18	In Compliance
00514/2442	E /40/2024 42 EZ	0.07	0.00	
SCEW2112	5/19/2021 12:57	0.07	0.09	Adjusted Valve
SCEW2112	5/19/2021 13:00	0.08	0.07	Second Reading
SCEW2112	5/21/2021 13:26	0.01	0.01	
SCEVV2112	5/21/2021 13:28	-0.22	-0.21	in compliance
SCEW2113	5/20/2021 8:55	0.13	0.19	Adjusted Valve
SCEW2113	5/20/2021 8:57	0.15	0.18	Second Reading
SCEW2113	5/21/2021 13:01	0.17	0.18	Adjusted Valve
SCEW2113	5/21/2021 13:06	-0.21	-0.23	In Compliance
SCEW2114	5/20/2021 8:47	0.22	0.23	Adjusted Valve
SCEW2114	5/20/2021 8:49	0.21	0.23	Second Reading
SCEW2114	5/21/2021 12:53	0.19	0.18	Adjusted Valve
SCEW2114	5/21/2021 12:57	-0.14	-0.15	In Compliance
	- /			
SCEW2115	5/20/2021 8:37	0.27	0.27	Adjusted Valve
SCEW2115	5/20/2021 8:39	0.22	0.21	Second Reading
SCEW2115	5/21/2021 12:45	0.11	0.13	Adjusted Valve
SCEW2115	5/21/2021 12:49	-0.25	-0.23	In Compliance
SCEW2116	5/20/2021 8.27	0.06	0.07	Adjusted Valve
SCEW2110	5/20/2021 8:27	0.00	0.07	Second Reading
SCEW2110	5/21/2021 0.25	0.10	0.10	Adjusted Valve
SCEW2116	5/21/2021 12:39	-0.25	-0.24	
502112110	372172021 12:33	0.23	0.21	
SCEW2117	5/20/2021 8:14	0.07	0.09	Adjusted Valve
SCEW2117	5/20/2021 8:17	0.12	0.12	Second Reading
SCEW2117	5/21/2021 12:26	0.11	0.11	Adjusted Valve
SCEW2117	5/21/2021 12:29	-0.14	-0.12	In Compliance
SCEW2118	5/20/2021 8:02	0.08	0.1	Adjusted Valve
SCEW2118	5/20/2021 8:05	0.1	0.1	Second Reading
SCEW2118	5/21/2021 12:18	0.03	0.05	Adjusted Valve
SCEW2118	5/21/2021 12:20	-0.18	-0.17	In Compliance
	- /			
SCEW2119	5/20/2021 7:45	0.03	0.06	Adjusted Valve
SCEW2119	5/20/2021 7:47	0.09	0.09	Second Reading

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCEW2119	5/21/2021 12:09	0.08	0.1	Adjusted Valve
SCEW2119	5/21/2021 12:11	-0.42	-0.39	In Compliance
	-/ / -	-		
SCEW2120	5/19/2021 14:15	0.34	0.38	Adjusted Valve
SCEW2120	5/19/2021 14:17	0.36	0.34	Second Reading
SCEW2120	5/21/2021 10:46	0	0.01	Adjusted Valve
SCEW2120	5/21/2021 10:48	-0.11	-0.1	In Compliance
SCEW2121	5/19/2021 14:24	0.5	0.5	Adjusted Valve
SCEW2121	5/19/2021 14:26	0.25	0.31	Second Reading
SCEW2121	5/21/2021 10:52	0.13	0.16	Adjusted Valve
SCEW2121	5/21/2021 10:55	-0.09	-0.1	In Compliance
SCEW2121	5/24/2021 14:26	0.01	-0.03	Adjusted Valve, In Compliance
SCEW2122	5/19/2021 14:34	0.71	0.66	Adjusted Valve
SCEW2122	5/19/2021 14:36	0.7	0.74	Second Reading
SCEW2122	5/21/2021 11:00	0.03	0.07	Adjusted Valve
SCEW2122	5/21/2021 11:04	-0.1	-0.11	In Compliance
SCEW(2122	F /10 /2021 14:4F	0.02	0.01	Adjusted Mehue
SCEW2123	5/19/2021 14:45	0.93	0.91	
SCEW2123	5/19/2021 14:47	1.18	1.17	Adjusted Value
SCEW2123	5/21/2021 11.42	0.44	0.47	
3CEVV2123	5/21/2021 11.40	-0.16	-0.2	in compliance
SCFW/2124	5/20/2021 7:25	0.03	0.03	Adjusted Valve
SCEW2124	5/20/2021 7:25	0.05	0.05	Second Reading
SCEW2124	5/21/2021 11:32	0.54	0.55	Adjusted Valve
SCEW2124	5/21/2021 11:32	-0.24	-0.24	
	0, 22, 2022 22:00		0.2.1	
SCEW2125	5/19/2021 13:40	0.46	0.5	Adjusted Valve
SCEW2125	5/21/2021 11:19	0.11	0.15	Adjusted Valve
SCEW2125	5/21/2021 11:21	-0.31	-0.26	In Compliance
SCEW2125	5/26/2021 12:39	0.73	0.72	Adjusted Valve
SCEW2125	5/26/2021 12:43	-0.21	-0.21	In Compliance
SCEW2126	5/19/2021 13:26	0.18	0.17	Adjusted Valve
SCEW2126	5/19/2021 13:28	0.16	0.17	Second Reading
SCEW2126	5/21/2021 11:12	-0.01	0	Adjusted Valve
SCEW2126	5/21/2021 11:14	-0.25	-0.25	In Compliance
SCEW2126	5/26/2021 12:27	0.6	0.61	Adjusted Valve
SCEW2126	5/26/2021 12:33	-0.07	-0.07	In Compliance
601102001	2/24/2024 44 22		0.44	A.1 1.7.1
SCHC2001	3/24/2021 11:39	0.1	0.11	Adjusted Valve
SCHC2001	3/24/2021 11:45	-0.27	-0.21	In Compliance
SCHC2001	4/28/2021 11.12	21 13	21 12	
SCHC2001	<u>4/28/2021 11.12</u>	18.4	18 39	Second Reading
SCHC2001	4/30/2021 9.04	-0.11	-0.09	In Compliance
00.102001	.,	0.11	0.00	
SCHC2001	5/25/2021 9:33	1.23	1.26	Adjusted Valve
SCHC2001	5/25/2021 9:36	1.38	1.38	Second Reading
SCHC2001	6/10/2021 13:04	0.01	0.01	Adjusted Valve
SCHC2001	6/10/2021 13:10	-0.03	-0.02	In Compliance

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCHC2001	7/1/2021 10:04	0	-0.02	Adjusted Valve, In Compliance
SCLEW-06	6/17/2021 8:48	0.15	-0.19	Adjusted Valve, In Compliance
SCV003-0	7/14/2021 11:00	26.67	-0.17	Adjusted Valve, In Compliance
50104.24	7/21/2021 6-55	0.12	0.1	Adjusted Valvo In Compliance
3CV04-2A	7/21/2021 0.33	0.15	-0.1	Aujusted valve, in compliance
SCV049-A	5/25/2021 9:22	0.07	0.05	Adjusted Valve
SCV049-A	5/25/2021 9:24	-0.4	-0.4	In Compliance
	4/22/2021 14.50	0.00	0.08	Adjusted Makes
SCV050-A SCV050-A	4/22/2021 14:56	-0.05	-0.08	
	.,, _0 1.00	0.00	0.00	
SCV050-A	5/6/2021 13:15	0.03	0.03	Adjusted Valve
SCV050-A	5/6/2021 13:17	-0.13	-0.1	In Compliance
SCV050-A	5/25/2021 11:54	1 11	1 12	Adjusted Valve
SCV050-A	5/25/2021 12:00	-0.45	-0.46	In Compliance
SCV050-A	6/17/2021 10:14	0.01	-0.15	Adjusted Valve, In Compliance
SCV051-A	2/4/2021 14:20	0.11	-0.04	Adjusted Valve, In Compliance
SCV051-A	5/25/2021 12:07	1.2	1.21	Adjusted Valve
SCV051-A	5/25/2021 12:13	-0.26	-0.3	In Compliance
SCV064-5	6/11/2021 10:15	0.54	-0.28	Adjusted Valve, In Compliance
	6/11/2021 0.15	22.65	0.3	Adjusted Value In Compliance
30000-0	0/11/2021 9.15	23.05	-0.5	Aujusted valve, in compliance
SCV065-0	7/7/2021 12:09	2.81	-1.15	Adjusted Valve, In Compliance
SCV065-0	7/20/2021 9:43	0.28	-0.28	Adjusted Valve, In Compliance
SCV066-5	5/28/2021 7:45	6.08	5.64	Adjusted Valve
SCV066-5	5/28/2021 7:48	-0.16	-0.17	In Compliance
	- /			
SCV066-5	7/14/2021 10:32	15.89	-0.27	Adjusted Valve, In Compliance
SCV066-A	7/14/2021 8:21	0.07	-0.1	Adjusted Valve, In Compliance
SCV067-5	2/5/2021 10:38	0.11	0.14	Adjusted Valve
SCV067-5	2/5/2021 10:44	-0.25	-0.28	In Compliance
SCV067-5	5/28/2021 7:31	0.06	0.09	Adjusted Valve
SCV067-5	5/28/2021 7:35	-0.12	-0.14	In Compliance
SCV067-5	7/14/2021 7:59	0.3	-0.1	Adjusted Valve, In Compliance
SCV068-5	6/23/2021 11:44	0.23	-0.53	Adjusted Valve. In Compliance
SCV074-A	6/2/2021 11:15	0.1	0.1	Adjusted Valve
SCV074-A	6/2/2021 11:17	-0.33	-0.35	In Compliance
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Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCV076-1	6/29/2021 7:35	2.22	-0.76	Adjusted Valve, In Compliance
SCV077-1	4/7/2021 12:25	0.04	0.05	Adjusted Valve
SCV077-1	4/7/2021 12:28	-5.74	-5.96	In Compliance
SCV078-1	7/26/2021 12:52	0.38	-0.63	Adjusted Valve, In Compliance
SCV070 1	7/14/2021 14:20	1 20	0.27	Adjusted Valva In Compliance
300079-1	//14/2021 14.29	1.29	-0.57	Aujusteu valve, în compliance
SCV081-1	6/2/2021 7:42	11.44	11.44	Adjusted Valve
SCV081-1	6/2/2021 7:42	11.44	11.44	Second Reading
SCV081-1	6/2/2021 7:46	10.58	10.54	Third Reading
SCV081-1	6/10/2021 8:43	7.12	-0.33	Adjusted Valve, In Compliance
SCV081-1	7/9/2021 13:18	5.17	-5.21	Adjusted Valve, In Compliance
SCV082-1	7/22/2021 10:59	4.19	4.17	Adjusted Valve
SCV082-1	7/22/2021 11:01	4.2	4.21	Second Reading
	6/11/2021 10:22	0.09	0.25	Adjusted Valva In Compliance
3CV095-A	0/11/2021 10.22	0.08	-0.25	Aujusteu valve, in compliance
SCV1007A	3/24/2021 10:25	0.02	0.02	Adjusted Valve
SCV1007A	3/24/2021 10:27	-1.16	-1.18	In Compliance
SCV1007A	5/25/2021 10:05	0.92	0.94	Adjusted Valve
SCV1007A	5/25/2021 10:11	-0.22	-0.21	In Compliance
SCV1007A	7/14/2021 13:31	0.04	-0.13	Adjusted Valve, In Compliance
60/101.0	7/1/2021 12:25	0.05	0.2	Adjusted Makes In Consultance
SCV101-0	//1/2021 12:35	0.05	-0.3	Adjusted valve, in compliance
SCV102-A	4/8/2021 10:51	0.04	0.05	Adjusted Valve
SCV102-A	4/8/2021 10:54	-0.85	-0.89	
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SCV102-A	5/25/2021 9:44	1.14	1.15	Adjusted Valve
SCV102-A	5/25/2021 9:48	-0.24	-0.22	In Compliance
SCV103-A	3/24/2021 12:37	0.02	0.03	Adjusted Valve
SCV103-A	3/24/2021 12:40	-0.84	-0.84	In Compliance
CO/402 A	F /2F /2024 0:4F	0.22	0.22	
SCV103-A	5/25/2021 9:15	0.22	0.22	Adjusted Valve
SCV103-A	5/26/2021 13:52	-0.41	-0.46	
30V103 A	5/20/2021 14:05	0.41	0.40	
SCV103-A	6/7/2021 13:41	0.29	-0.25	Adjusted Valve, In Compliance
	-,,			
SCV103-A	6/17/2021 12:59	0.12	-0.17	Adjusted Valve, In Compliance
SCV107-0	7/1/2021 8:46	2.15	-0.35	Adjusted Valve, In Compliance
	- / /			
SCV109-A	7/23/2021 7:40	0.12	-0.35	Adjusted Valve, In Compliance
SC)/114 0	6/1/2021 12:10	2.10	2 10	Adjusted Value
SCV114-0	6/1/2021 13:10	5.19 _0.21	2.13	
30114-0	0/1/2021 13.23	-0.31	-0.23	
SCV114-0	7/22/2021 9:42	0.29	-0.25	Adjusted Valve, In Compliance

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCV116-A	5/20/2021 11:53	-0.03	0	Adjusted Valve
SCV116-A	5/20/2021 11:57	-0.15	-0.16	In Compliance
SCV/12EA0	7/1/2021 0:04	0.20	0.11	Adjusted Valva In Compliance
SCV125AU	7/1/2021 9.04	0.39	-0.11	Adjusted Valve, In compliance
SCV125A0	7/14/2021 11:35	0.33	-0.04	Adjusted Valve. In Compliance
	.,,			
SCV127A0	7/2/2021 13:42	1.73	-0.1	Adjusted Valve, In Compliance
SCV128-A	7/21/2021 8:55	8.45	-0.28	Adjusted Valve, In Compliance
	- / /			
SCV132-0	3/25/2021 12:09	0.14	0.19	Adjusted Valve
SCV132-0	3/25/2021 12:13	0.03	-0.24	Adjusted valve, in compliance
SCV132-0	4/20/2021 11:17	0.03	0.02	Adjusted Valve
SCV132-0	4/20/2021 11:20	-0.09	-0.09	In Compliance
				·
SCV132-0	7/22/2021 8:50	0.06	-0.08	Adjusted Valve, In Compliance
SCV133-0	7/21/2021 8:27	1.81	-0.19	Adjusted Valve, In Compliance
SCV/124_0	2/20/2021 14.22	0.24	0.25	Adjusted Valve
SCV134-0	3/29/2021 14:32	-0.24	-0.25	
5671510	5/25/2021 11:55	0.21	0.23	
SCV135-0	4/20/2021 13:36	0.01	0.01	Adjusted Valve
SCV135-0	4/20/2021 13:39	-0.36	-0.37	In Compliance
SCV135-0	6/24/2021 10:45	0.03	-0.11	Adjusted Valve, In Compliance
SCV/136-0	7/26/2021 12:05	0.18	-1 36	Adjusted Valve In Compliance
301130 0	772072021 12:05	0.10	1.50	Adjusted Valve, in compliance
SCV137-0	4/7/2021 9:45	0.22	0.23	Adjusted Valve
SCV137-0	4/7/2021 9:52	-0.06	-0.07	In Compliance
SCV138-0	6/2/2021 10:17	1.26	1.15	Adjusted Valve
SCV138-0	6/2/2021 10:22	-0.47	-0.42	In Compliance
SCV/120-0	3/26/2021 14:01	2 21	2.72	Adjusted Valve
SCV139-0	3/26/2021 14:01	-0.56	-0.62	
	-,,			
SCV139-0	4/21/2021 9:51	3.05	3.04	Adjusted Valve
SCV139-0	4/21/2021 10:41	-2.4	-2.36	In Compliance
SCV139-0	6/24/2021 10:03	3.37	-0.21	Adjusted Valve, In Compliance
SCV/141-0	5/25/2021 12:12	0.28	0.3	Adjusted Valve
SCV141-0	5/25/2021 13:15	-0.3	-0.34	
0012120	5, 20, 2021 10:10	0.0	0.01	
SCV142-0	3/10/2021 13:17	0.19	0.23	Adjusted Valve
SCV142-0	3/10/2021 13:20	-2.88	-3	In Compliance
SCV142-0	5/25/2021 13:31	0.99	1	Adjusted Valve
SCV142-0	5/25/2021 13:34	-0.15	-0.17	In Compliance
SU/11/3-0	5/25/2021 12:10	1	0 98	Adjusted Value
30143-0	5/25/2021 12.13	±	0.30	

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCV143-0	5/25/2021 12:23	-0.47	-0.5	In Compliance
				·
SCV143-0	6/21/2021 13:27	0.04	-0.09	Adjusted Valve, In Compliance
SCV/1/12-0	7/2/2021 11:16	0.32	-0.05	Adjusted Valve In Compliance
307143-0	//2/2021 11:10	0.32	-0.03	Aujusteu valve, in compliance
SCV144-0	5/25/2021 13:56	0.93	0.95	Adjusted Valve
SCV144-0	5/25/2021 14:02	-0.25	-0.23	In Compliance
SCV146-0	4/21/2021 9:25	0.02	0.01	Adjusted Valve
SCV146-0	4/21/2021 9:28	-0.18	-0.18	In Compliance
COV140 A	4/20/2021 11:21	0.01	0.01	Adjusted) (alus
SCV149-A	4/28/2021 11:31	0.01	0.01	Adjusted Valve
SCV149-A	4/28/2021 11.34 5/2/2021 15:08	-14 77	-14.76	
3CV149-A	5/5/2021 15.08	-14.77	-14.70	
SCV202-0	2/15/2021 12:36	3.74	3.8	Adjusted Valve
SCV202-0	2/15/2021 13:25	2.65	2.68	Second Reading
SCV202-0	2/17/2021 10:18	-22.67	-22.56	In Compliance
SCV220-0	7/19/2021 9:57	0.3	-0.08	Adjusted Valve, In Compliance
	. / . /			
SCV223-0	4/9/2021 9:34	0.23	0.23	Adjusted Valve
SCV223-0	4/9/2021 9:38	-0.35	-0.44	In Compliance
SCV/223-0	A/30/2021 9·51	0.14	0.12	Adjusted Valve
SCV223-0	4/30/2021 9:54	-0.07	-0.07	
507225 0	1,30,2021 3.31	0.07	0.07	
SCV223-0	7/19/2021 10:33	0.43	-0.09	Adjusted Valve, In Compliance
SCV225-0	2/15/2021 13:36	0.47	0.51	Adjusted Valve
SCV225-0	2/16/2021 15:13	-0.77	-0.7	In Compliance
50/220.0	F /2C /2021 12:1F	0.07	0.99	Adjusted) (alus
SCV226-0	5/26/2021 12:15	0.87	0.88	Adjusted Valve
300220-0	5/20/2021 12.22	-0.15	-0.15	in compliance
SCV230-0	5/27/2021 11:43	0.21	0.22	Adjusted Valve
SCV230-0	5/27/2021 11:47	-0.97	-0.93	In Compliance
SCV234-0	6/24/2021 8:37	0.02	-0.15	Adjusted Valve, In Compliance
50V22E 0	2/15/2021 14:22	0.55	0.57	Adjusted Value
SCV235-0	2/15/2021 14:23	0.55	15 97	
307233-0	2/1//2021 10.22	-13.90	-13.87	in compliance
SCV235-0	5/4/2021 10:36	0.15	0.16	Adjusted Valve
SCV235-0	5/5/2021 8:04	-1.04	-1.01	In Compliance
SCV236-0	2/15/2021 12:25	1.97	1.97	Adjusted Valve
SCV236-0	2/15/2021 12:29	1.93	1.94	Second Reading
SCV236-0	2/15/2021 13:14	0.98	1.04	Third Reading
SCV236-0	2/15/2021 13:17	0.96	1.01	Fourth Reading
SCV236-0	2/17/2021 10:08	-23.22	-23.25	In Compliance
60/226.0	4/0/2024 40:07	250	2.50	Adjusto - Malur
SCV236-0	4/9/2021 10:0/	3.50	3.59	Adjusted Valve
SCV230-0	4/3/2021 10.20 4/16/2021 12:27	-27 0/	-27.06	
JCV230-0	7/ 10/ 2021 12.3/	27.04	-27.00	in compliance

Well ID	Date and Time	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	Comments
SCV236-0	5/27/2021 10:12	0.87	0.9	Adjusted Valve
SCV236-0	6/3/2021 12:02	-1.63	-0.24	In Compliance
SCV49-5A	3/25/2021 8:19	0.13	0.13	Adjusted Valve
SCV49-5A	3/25/2021 8:22	-0.55	-0.55	In Compliance
SCV49-5A	5/6/2021 13:22	0.01	0.04	Adjusted Valve
SCV49-5A	5/6/2021 13:24	-0.11	-0.12	In Compliance
SCV49-5A	5/25/2021 11:45	0.9	0.93	Adjusted Valve
SCV49-5A	5/25/2021 11:49	-0.18	-0.21	In Compliance
SCV51-5A	5/25/2021 12:29	0.99	1.07	Adjusted Valve
SCV51-5A	5/25/2021 12:33	-0.55	-0.49	In Compliance
SCV68-1A	7/7/2021 11:51	8.9	-25.53	Adjusted Valve, In Compliance
SCV88-5A	7/1/2021 7:13	0.15	-0.23	Adjusted Valve, In Compliance

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

Well ID	Date and Time	Oxygen (%)	Comments
SC000H03	2/5/2021 13:13	7.2	Adjusted Valve
SC000H03	2/8/2021 8:22	3.6	In Compliance
SC000H03	6/11/2021 7:36	5.7	Adjusted Valve
SC000H03	6/11/2021 7:39	7.9	Second Reading
SC000H03	6/23/2021 13:10	6.6	Adjusted Valve
SC000H03	6/23/2021 13:13	5	Second Reading
SC000H03	7/7/2021 11:10	11.2	Adjusted Valve
SC000H03	7/7/2021 11:12	12.6	Second Reading
SC000H03	7/20/2021 7:45	20.7	Adjusted Valve
SC000H03	7/20/2021 7:48	13.2	Second Reading
SC000H03	7/20/2021 7:53	10.4	Third Reading
SC000H04	6/11/2021 7:48	6.2	Adjusted Valve
SC000H04	6/11/2021 7:50	6.2	Second Reading
SC000H04	6/23/2021 13:22	5.2	Adjusted Valve
SC000H04	6/23/2021 13:24	14.2	Second Reading
SC000H04	7/7/2021 11:22	10.8	Adjusted Valve
SC000H04	7/7/2021 11:26	3.5	In Compliance
SC000H04	7/27/2021 14:09	11.4	Adjusted Valve
SC000H04	7/27/2021 14:11	10.8	Second Reading
SC000H52	6/24/2021 12:36	15.8	Adjusted Valve
SC000H52	6/24/2021 12:38	13	Second Reading
SC000H52	7/7/2021 12:40	0.3	In Compliance
SCEC0008	5/29/2021 11:45	6.8	Adjusted Valve
SCEC0008	5/29/2021 11:47	2.1	In Compliance
SCEC0009	3/17/2021 11:22	5.2	Adjusted Valve
SCEC0009	3/17/2021 11:25	0	In Compliance
66569949	2/46/2024 42 25	0.5	
SCEC0018	2/16/2021 13:25	9.5	Adjusted Valve
SCEC0018	2/16/2021 13:29	9.8	Second Reading
SCEC0018	2/18/2021 7:50	17.7	Adjusted Valve
SCEC0018	2/18/2021 7:53	18.4	Second Reading
SCEC0018	2/22/2021 9:41	11.8	Adjusted Valve
SCEC0018	2/22/2021 9:46	11.2	Second Reading
SCEC0018	2/23/2021 13:29	0.4	In Compliance
66560010	2/22/2021 12:22	6	
SCEC0018	2/23/2021 13:33		Adjusted Valve
SCEC0018	2/24/2021 15.56	13.4	Aujusted Valve
SCEC0018	2/24/2021 15.50	7.0	Adjusted Volvo
SCEC0018	3/1/2021 11.18	7.9	Adjusted Valve
SCEC0018	2/9/2021 9:00	14.9	Adjusted Valve
SCEC0010	3/0/2021 13.20	16.2	Aujusteu vaive
SCEC0010	2/11/2021 12:40	11.2	Adjusted Value
SCEC0018	3/11/2021 13.40	10.8	Second Reading
SCEC0010	3/12/2021 13.43	7.6	
SCEC0018	3/12/2021 11.52	93	Second Reading
SCEC0018	3/15/2021 11:37	14.2	Adjusted Valve
SCEC0018	3/15/2021 11:17	13.4	Second Reading
SCEC0018	3/18/2021 9:35	17.6	Adjusted Valve
SCEC0018	3/18/2021 9:37	17.2	Second Reading
SCEC0018	3/19/2021 13:16	5.1	Adjusted Valve
SCEC0018	3/19/2021 13:19	9.4	Second Reading
SCEC0018	3/23/2021 8:55	19.3	Adjusted Valve

Well ID	Date and Time	Oxygen (%)	Comments
SCEC0018	3/23/2021 8:57	19.1	Second Reading
SCEC0018	3/26/2021 10:27	13.1	Adjusted Valve
SCEC0018	3/26/2021 10:29	14.7	Second Reading
SCEC0018	4/5/2021 11:00	15.3	Adjusted Valve
SCEC0018	4/5/2021 11:02	15.5	Second Reading
SCEC0018	4/9/2021 10:41	12.3	Adjusted Valve
SCEC0018	4/9/2021 10:43	12.4	Second Reading
SCEC0018	4/21/2021 11:26	7	Adjusted Valve
SCEC0018	4/21/2021 11:29	6	Second Reading
SCEC0018	5/10/2021 9:06	12.3	Adjusted Valve
SCEC0018	5/10/2021 9:08	11.8	Second Reading
SCEC0018	5/14/2021 9:41	17.4	Adjusted Valve
SCEC0018	5/14/2021 9:43	17.3	Second Reading
SCEC0018	5/17/2021 12:42	10.9	Adjusted Valve
SCEC0018	5/17/2021 12:43	11.2	Second Reading
SCEC0018	5/27/2021 8:02	18.3	Adjusted Valve
SCEC0018	5/27/2021 8:03	18.1	Second Reading
SCEC0018	6/3/2021 7:55	17.4	Adjusted Valve
SCEC0018	6/3/2021 7:57	15.6	Second Reading
SCEC0018	6/10/2021 10:47	5.6	Adjusted Valve
SCEC0018	6/10/2021 10:49	6.3	Second Reading
SCEC0018	6/15/2021 7:53	16.7	Adjusted Valve
SCEC0018	6/15/2021 7:55	17.8	Second Reading
SCEC0018	6/18/2021 8:33	11.9	Adjusted Valve
SCEC0018	6/18/2021 8:35	11.9	Second Reading
SCEC0018	6/22/2021 14:36	13.6	Adjusted Valve
SCEC0018	6/22/2021 14:38	7.4	Well Permanently Decommissioned due to Poor
50200010	0,22,2021 11.00	,	Gas Quality
SCEC0019	6/3/2021 7:48	16.5	Adjusted Valve
SCEC0019	6/3/2021 7:50	14.6	In Compliance - HOV of 15% Oxygen
	6/40/2024 0.26	10.2	
SCEC0019	6/18/2021 8:26	19.3	Adjusted Valve
SCEC0019	6/18/2021 8:28	19.7	Second Reading
SCEC0019	7/8/2021 8:11	20.8	Adjusted Valve
SCEC0019	7/8/2021 8:13	20.9	Adjusted Volus
SCEC0019	7/26/2021 12:19	20.3	Adjusted Valve
SCEC0019	7/20/2021 12.21	20.5	Adjucted Volvo
SCEC0019	7/27/2021 11.14	20.2	Aujusteu Valve
3010013	//2//2021 11.10	20.3	
SCEC0033	3/17/2021 10:40	10.1	Adjusted Valve
SCEC0033	3/17/2021 10:49	94	Second Reading
SCEC0033	3/19/2021 10:51	0	
50200033	5/ 15/ 2021 11.30		
SCECOO33	6/28/2021 8·42	10.3	Adjusted Valve
SCEC0033	6/28/2021 8:44	9.9	Second Reading
SCEC0033	7/8/2021 9:07	8.1	Adjusted Valve
SCEC0033	7/8/2021 9:15	8.1	Second Reading
SCEC0033	7/26/2021 12:29	0.4	
2.3200000	.,,	1	
SCEC0207	5/10/2021 9:47	19.2	Adjusted Valve
SCEC0207	5/10/2021 9:50	0.4	
	0, 10, 2021 0.00		
SCEW2001	4/22/2021 11:31	11.4	Adjusted Valve
SCEW2001	4/22/2021 11:34	10.8	Second Reading
SCEW2001	4/23/2021 10:30	0	In Compliance
	, .,	-	

Well ID	Date and Time	Oxygen (%)	Comments
SCEW2001	4/28/2021 11:00	8.7	Adjusted Valve
SCEW2001	5/4/2021 11:49	0	In Compliance
SCEW2002	3/30/2021 9:29	19.2	Adjusted Valve
SCEW2002	3/30/2021 9:32	19.9	Second Reading
SCEW2002	3/30/2021 12:47	0	In Compliance
SCEW2018	2/23/2021 8:21	14.1	Adjusted Valve
SCEW2018	2/23/2021 8:24	14.2	Second Reading
SCEW2018	3/1/2021 14:11	0.2	In Compliance
SCEW2018	3/22/2021 11:32	14.7	Adjusted Valve
SCEW2018	3/22/2021 11:36	14.7	Second Reading
SCEW2018	3/26/2021 8:45	18.8	Adjusted Valve
SCEW2018	3/26/2021 8:47	18.6	Second Reading
SCEW2018	4/1/2021 12:29	17.3	Adjusted Valve
SCEW2018	4/1/2021 12:33	17.5	Second Reading
SCEW2018	4/9/2021 8:06	17.3	Adjusted Valve
SCEW2018	4/9/2021 8:09	17.3	Second Reading
SCEW2018	4/23/2021 9:33	13.7	Adjusted Valve
SCEW2018	4/23/2021 9:35	13.9	Second Reading
SCEW2018	5/3/2021 12:44	16.7	Adjusted Valve
SCEW2018	5/3/2021 12:48	17.1	Second Reading
SCEW2018	5/28/2021 9:32	20.9	Adjusted Valve
SCEW2018	5/28/2021 9:35	12.6	Second Reading
SCEW2018	6/2/2021 12:26	0	In Compliance
SCEW2110	5/19/2021 12:04	8.9	Adjusted Valve
SCEW2110	5/19/2021 12:20	0.3	In Compliance
SCEW2115	5/24/2021 13:44	5	Adjusted Valve
SCEW2115	5/24/2021 13:47	0.2	In Compliance
	_ /		
SCEW2124	5/20/2021 7:25	12.7	Adjusted Valve
SCEW2124	5/20/2021 /:28	0	In Compliance
SCHC2001	4/8/2021 11:06	11.3	Adjusted Valve
SCHC2001	4/8/2021 11:09	11.1	Second Reading
SCHC2001	4/28/2021 11:07	8.5	Adjusted Valve
SCHC2001	4/28/2021 11:12	8.6	Second Reading
SCHC2001	4/28/2021 11:55	8.7	Adjusted Volus
SCHC2001	4/30/2021 9:04 E /4/2021 9:49	9	Adjusted Valve
SCHC2001	5/4/2021 8:48	8.3	Adjusted Valve
SCHC2001	5/4/2021 8:51	8.3	
SCHC2001	5/20/2021 17:15	10	Aujusteu Valve
SCHC2001	5/20/2021 17:17	9.9	Adjusted Value
SCHC2001	5/25/2021 9.55	9.8	Aujusteu Valve
SCHC2001	6/10/2021 9:50	9.2	
30002001	0/10/2021 13:04	2.0	
SCHC2001	6/21/2021 12-55	6.6	Adjusted Value
SCHC2001	6/21/2021 12.33	0.0	Aujusteu valve
SCHC2001	7/1/2021 12:30		
SCHC2001	7/1/2021 10:01	71	Aujusteu valve
SCHC2001	7/14/2021 10:04	62	
SCHC2001	7/1//2021 12:00	6.4	Second Peoding
SCHC2001	7/21/2021 12:09	10.4	Adjusted Valva
SCHC2001	7/21/2021 11.49	10.0	Second Peoding
30002001	//21/2021 11.32	10.1	

Well ID	Date and Time	Oxygen (%)	Comments
SCHC2001	7/28/2021 11:55	11.4	Adjusted Valve
SCHC2001	7/28/2021 12:00	11.1	Second Reading
SCLEW-05	3/25/2021 8:55	6.1	Adjusted Valve
SCLEW-05	3/25/2021 8:58	6.9	Second Reading
SCLEW-05	4/6/2021 11:26	0.8	In Compliance
SCLEW-05	6/17/2021 8:09	8	Adjusted Valve
SCLEW-05	6/17/2021 8:12	3.4	In Compliance
	- / /		
SCLEW-05	7/20/2021 12:06	19.8	Adjusted Valve
SCLEW-05	7/20/2021 12:08	16.4	Second Reading
50,002.0	6/19/2021 12:EE	8.0	Adjusted Value
SCV003-0	6/16/2021 12:55	0.9	
30,0003-0	6/18/2021 12:58	0.4	In compliance
SCV003-0	7/19/2021 12:07	19	Adjusted Valve
SCV003-0	7/19/2021 12:07	8.8	Second Reading
5000000	771372021 12.10	0.0	
SCV04-2A	7/2/2021 12:48	5.3	Adjusted Valve
SCV04-2A	7/2/2021 12:51	14.2	Second Reading
SCV04-2A	7/14/2021 11:16	8.3	Adjusted Valve
SCV04-2A	7/14/2021 11:19	0.7	In Compliance
			•
SCV044-A	7/1/2021 13:01	8.6	Adjusted Valve
SCV044-A	7/1/2021 13:03	0.7	In Compliance
SCV050-A	3/11/2021 8:59	9	Adjusted Valve
SCV050-A	3/11/2021 9:02	8.9	Second Reading
SCV050-A	3/12/2021 9:05	6	Adjusted Valve
SCV050-A	3/12/2021 9:09	5.9	Second Reading
SCV050-A	3/15/2021 13:44	6.6	Adjusted Valve
SCV050-A	3/15/2021 13:47	3.4	In Compliance
	- / - /		
SCV050-A	5/6/2021 13:17	8.3	Adjusted Valve
SCV050-A	5/20/2021 16:04	3.3	In Compliance
	C/4/2021 12:22	<u> </u>	
	6/4/2021 13:22	0.1	Adjusted valve
3CV050-A	0/4/2021 13.20	1.0	
	2/4/2021 14:20	0	(Initial Even denses on 12/4/20) In Compliance
3CV051-A	2/4/2021 14.20	0	(Initial Exceedance on 12/4/20) in Compliance
	2/10/2021 14:04	<u>د ۵</u>	Adjusted Value
SCV051-A	3/10/2021 14:04	6.0	Adjusted Valve
	2/12/2021 14:07	20.2	
SCV051-A	3/12/2021 9:18	20.2	Second Reading
SCV051-A	3/15/2021 3.21	20.3	
JCV0J1-A	5/15/2021 15.51	2.2	
SCV051-A	4/6/2021 12:20	6.6	Adiusted Valve
SCV051-A	4/6/2021 12:44	6.4	Second Reading
SCV051-A	4/15/2021 12:31	5.3	Adjusted Valve
SCV051-A	4/15/2021 12:33	5.3	Second Reading
SCV051-A	4/26/2021 11:59	7.1	Adjusted Valve
SCV051-A	4/26/2021 12:03	7	Second Reading
SCV051-A	5/6/2021 13:06	7.2	Adjusted Valve
SCV051-A	5/6/2021 13:09	7.2	Second Reading
SCV051-A	5/20/2021 16:55	1.9	In Compliance
Well ID	Date and Time	Oxygen (%)	Comments
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SCV051-A	6/4/2021 13:34	7.2	Adjusted Valve
SCV051-A	6/4/2021 13:36	6.3	Second Reading
SCV051-A	6/15/2021 12:30	0.2	In Compliance
SCV057-0	7/20/2021 11:29	10.7	Adjusted Valve
SCV057-0	7/20/2021 11:31	2.6	In Compliance
SCV064-0	6/29/2021 11:03	5.3	Adjusted Valve
SCV064-0	6/29/2021 11:05	2.9	In Compliance
SCV064-5	3/24/2021 9:17	5.2	Adjusted Valve
SCV064-5	3/26/2021 9:48	4.1	In Compliance
SCV064-5	4/26/2021 13:10	12.5	Adjusted Valve
SCV064-5	4/26/2021 13:13	3.1	In Compliance
SCV064-5	6/23/2021 12:53	5.2	Adjusted Valve
SCV064-5	6/23/2021 12:55	8.7	Second Reading
SCV064-5	7/7/2021 12:16	3.9	In Compliance
SCV064-5	7/20/2021 9:50	5.1	Adjusted Valve
SCV064-5	7/21/2021 9:42	6.7	Second Reading
SCV064-5	7/21/2021 11:13	0	In Compliance
SCV065-0	5/11/2021 15:01	5.6	Adjusted Valve
SCV065-0	5/11/2021 15:05	4.6	In Compliance
	= /22 /222 / 2 22		
SCV065-0	5/28/2021 8:23	5.2	Adjusted Valve
SCV065-0	6/7/2021 14:54	11.7	Adjusted Valve
SCV065-0	6/ //2021 14:57	11.7	Second Reading
SCV065-0	6/11/2021 9:15	20.1	Adjusted Valve
SCV065-0	6/11/2021 9.20	10.7	Adjusted Value
	6/23/2021 12:42	20.5	Adjusted Valve
SCV005-0	7/7/2021 12:40	20.3	Adjusted Valve
SCV065-0	7/7/2021 12:05	20.2	Second Reading
SCV065-0	7/14/2021 12:11	20 2	Adjusted Valve
SCV065-0	7/14/2021 9:15	20.2	Second Reading
SCV065-0	7/20/2021 9:43	20.2	Adjusted Valve
SCV065-0	7/20/2021 9:45	20.3	Second Reading
	7,20,20220110	20.0	
SCV066-5	5/28/2021 7:45	9	Adjusted Valve
SCV066-5	5/28/2021 7:48	3.7	In Compliance
SCV066-5	7/20/2021 8:48	14.1	Adjusted Valve
SCV066-5	7/20/2021 8:51	12.2	Second Reading
	· · ·		
SCV067-A	6/10/2021 11:46	6.7	Adjusted Valve
SCV067-A	6/10/2021 11:48	6.7	Second Reading
SCV067-A	6/23/2021 12:13	5.6	Adjusted Valve
SCV067-A	6/23/2021 12:16	2.9	In Compliance
SCV067-A	7/20/2021 8:35	9	Adjusted Valve
SCV067-A	7/20/2021 8:37	13.7	Second Reading
SCV067-A	7/28/2021 11:21	19.4	Adjusted Valve
SCV067-A	7/28/2021 11:23	19.5	Second Reading
SCV068-5	7/13/2021 13:25	19.8	Adjusted Valve

Well ID	Date and Time	Oxygen (%)	Comments	
SCV068-5	7/13/2021 13:27	20.2	Second Reading	
SCV068-5	7/20/2021 8:08	15.7	Adjusted Valve	
SCV068-5	7/20/2021 8:11	17	Second Reading	
SCV078-1	7/13/2021 9:20	13	Adjusted Valve	
SCV078-1	7/13/2021 9:22	10.3	Second Reading	
SCV078-1	7/26/2021 12:52	11.1	Adjusted Valve	
SCV078-1	7/26/2021 12:55	0	In Compliance	
			·	
SCV079-1	5/7/2021 10:20	7.3	Adjusted Valve	
SCV079-1	5/7/2021 10:24	4.7	In Compliance	
SCV079-1	6/2/2021 8:02	5	Adjusted Valve	
SCV079-1	6/2/2021 8:03	2.1	In Compliance	
SCV079-1	7/13/2021 9:10	20.5	Adjusted Valve	
SCV079-1	7/13/2021 9:12	19.1	Second Reading	
SCV079-1	7/14/2021 14:29	0	In Compliance	
SCV079-1	7/22/2021 13:25	10.2	Adjusted Valve	
SCV079-1	7/22/2021 13:28	7.7	Second Reading	
SCV079-1	7/22/2021 13:30	10.8	Third Reading	
SCV080-0	7/13/2021 9:01	8.6	Adjusted Valve	
SCV080-0	7/13/2021 9:03	20.1	Second Reading	
SCV080-0	7/14/2021 14:15	0.4	In Compliance	
SCV080-0	7/22/2021 11:13	6.8	Adjusted Valve	
SCV080-0	7/22/2021 11:16	4	In Compliance	
SCV081-1	5/27/2021 12:20	6.8	Adjusted Valve	
SCV081-1	5/27/2021 12:25	4	In Compliance	
SCV082-1	6/2/2021 7:30	9.2	Adjusted Valve	
SCV082-1	6/2/2021 7:35	8.3	Second Reading	
SCV082-1	6/15/2021 13:17	11.1	Adjusted Valve	
SCV082-1	6/15/2021 13:20	6.2	Second Reading	
SCV082-1	6/24/2021 12:23	0.9	In Compliance	
		15.0		
SCV082-1	7/9/2021 13:03	15.2	Adjusted Valve	
SCV082-1	//9/2021 13:05	1.5	In Compliance	
CC) /000 0	C/1C/2021 0.2C		A diverse d Malver	
SCV098-0	6/16/2021 9:36	11	Adjusted valve	
SCV098-0	6/16/2021 9:40	13.5	Second Reading	
50098-0	//1/2021 /:04	3.2		
SCV/100 F	6/16/2021 11/EE	15.2	Adjusted Value	
SCV100-5	6/16/2021 11:55	15.5	Adjusted Valve	
SCV100-5	7/1/2021 11.30	6.0	Adjucted Valva	
SCV100-5	7/1/2021 0.33	0.0	Aujusted Valve	
SCV100-5	7/16/2021 0.37	10.5		
SCV100-5	7/16/2021 7.30	67	Second Reading	
SCV100-5	7/26/2021 7.40	0.7		
SCV100-5	7/26/2021 13:13	10.2	Second Reading	
SCV100-5	7/26/2021 13:18	10.5	Third Reading	
300100-3	772072021 13.13	10.4		
SCV103-4	5/25/2021 9.13	5	Adjusted Valve	
SCV103-A	5/25/2021 9:15	49		
301103 A	5, 25, 2021 5.15			

Well ID	Date and Time	Oxygen (%)	Comments
SCV107-0	6/16/2021 12:08	8.8	Adjusted Valve
SCV107-0	6/16/2021 12:10	2.1	In Compliance
SCV107-0	7/21/2021 7:56	8.5	Adjusted Valve
SCV107-0	7/21/2021 7:58	4.5	In Compliance
SCV112-0	7/22/2021 9:00	6.1	Adjusted Valve
SCV112-0	//22/2021 9:02	6.1	Second Reading
SCV(112.0	6/1/2021 12:59	8.2	Adjusted Valve
SCV113-0	6/1/2021 12:58	5.1	Second Reading
SCV113-0	6/10/2021 13:01	0.3	
300113-0	0/10/2021 5.20	0.5	
SCV113-0	6/10/2021 9:45	8.1	Adjusted Valve
SCV113-0	6/10/2021 9:56	1	In Compliance
			·
SCV115-0	6/17/2021 7:06	7.3	Adjusted Valve
SCV115-0	6/17/2021 7:09	14.9	Second Reading
SCV115-0	7/2/2021 7:51	1.3	In Compliance
SCV115-0	7/22/2021 9:55	5.8	Adjusted Valve
SCV115-0	7/22/2021 9:57	0.6	In Compliance
SCV122-0	5/28/2021 8:49	5.3	Adjusted Valve
SCV122-0	5/28/2021 8:52	2.3	In Compliance
60/422.0	C/44/2024 7.5C	F 4	
SCV122-0	6/11/2021 7:56	5.1	Adjusted Valve
SCV122-0	6/24/2021 8:56	11.1	
301122-0	0/24/2021 0.50	1.5	in compliance
SCV122-0	7/14/2021 9:36	17.7	Adjusted Valve
SCV122-0	7/14/2021 9:38	4	In Compliance
			·
SCV124-0	6/11/2021 8:10	6.3	Adjusted Valve
SCV124-0	6/11/2021 8:12	3.5	In Compliance
SCV124-0	6/29/2021 11:13	10.4	Adjusted Valve
SCV124-0	6/29/2021 11:15	14.6	Second Reading
SCV124-0	7/14/2021 9:49	13.9	Adjusted Valve
SCV124-0	7/14/2021 9:52	7.1	Second Reading
SCV124-0	7/20/2021 10:02	7.9	Adjusted Valve
SCV124-0	//20/2021 10:08	20	Second Reading
SCV/127A0	6/30/2021 10:06	14.5	Adjusted Valve
SCV127A0	6/30/2021 10:00	21	
3012770	0/00/2021 10:00	2.1	
SCV128-A	7/2/2021 13:28	7.9	Adjusted Valve
SCV128-A	7/2/2021 13:30	4.3	In Compliance
			·
SCV133-0	7/1/2021 9:19	5.7	Adjusted Valve
SCV133-0	7/1/2021 9:20	0.2	In Compliance
SCV136-0	7/30/2021 15:39	7.8	Adjusted Valve
SCV136-0	7/30/2021 15:41	2.1	In Compliance
		<u> </u>	
SCV137-0	4/7/2021 9:45	14.4	Adjusted Valve
SCV137-0	4/7/2021 9:52	0	In Compliance

Well ID	Date and Time	Oxygen (%)	Comments	
SCV137-0	4/21/2021 10:59	11		
SCV137-0	4/21/2021 11:01	9.6	Second Reading	
SCV137-0	5/7/2021 13:47	9.9	Adjusted Valve	
SCV137-0	5/7/2021 13:52	10.4	Second Reading	
SCV137-0	5/21/2021 7:39	13.3	Adjusted Valve	
SCV137-0	5/21/2021 /:42	12.7	Second Reading	
SCV137-0	6/2/2021 10:29	10.5	Adjusted Valve	
SCV137-0	6/2/2021 10:29	10.5	Second Reading	
SCV137-0	6/2/2021 10:31	9.9	Adjusted Value	
SCV137-0	6/10/2021 9.05	13.0	Aujusted Valve	
SCV137-0	6/10/2021 9:05	12.5	Adjusted Volvo	
SCV137-0	6/21/2021 13:40	11.7	Aujusteu Valve	
SCV137-0	6/21/2021 15:49	11.8 C		
SCV137-0	6/24/2021 10.25	10.4	Aujusteu Valve	
SCV137-0	7/12/2021 10:26	0.4		
SCV137-0	7/13/2021 12:10	0.5	Second Reading	
SCV137-0	7/15/2021 12:19	5.5		
SCV137-0	7/14/2021 12:32	3.9		
30137-0	7/14/2021 12.33	4.4		
SCV137-0	7/22/2021 12:03	6.2	Adjusted Valve	
SCV137-0	7/22/2021 12:05	5.8	Second Reading	
501157 0	772272021 12:05	5.0		
SCV138-0	6/2/2021 10.17	5.6	Adjusted Valve	
SCV138-0	6/2/2021 10:22	43		
	0,2,2021 10.22			
SCV142-0	3/25/2021 9:20	5.4	Adjusted Valve	
SCV142-0	3/25/2021 9:23	5.7	Second Reading	
SCV142-0	4/6/2021 11:08	3.1	In Compliance	
			•	
SCV142-0	6/4/2021 12:02	5.7	Adjusted Valve	
SCV142-0	6/4/2021 12:06	5.1	Second Reading	
SCV142-0	6/15/2021 12:04	0.1	In Compliance	
SCV143-0	3/26/2021 10:06	8.7	Adjusted Valve	
SCV143-0	3/30/2021 14:36	3	In Compliance	
SCV143-0	6/4/2021 13:45	6.8	Adjusted Valve	
SCV143-0	6/4/2021 13:53	8.8	Second Reading	
SCV143-0	6/21/2021 13:27	0.3	In Compliance	
SCV143-0	7/20/2021 13:02	6.1	Adjusted Valve	
SCV143-0	7/20/2021 13:04	5.8	Second Reading	
SCV144-0	2/23/2021 10:05	7.2	Adjusted Valve	
SCV144-0	2/23/2021 10:09	7.1	Second Reading	
SCV144-0	3/1/2021 13:38	0	In Compliance	
	a /ac /aca			
SCV144-0	3/25/2021 8:43	5.2	Adjusted Valve	
SCV144-0	3/25/2021 8:46	5.3	Second Reading	
SCV144-0	3/26/2021 10:09	8.7	Adjusted Valve	
SCV144-0	3/26/2021 10:11	8.6	Second Reading	
SCV144-0	3/30/2021 14:23	0.4	In Compliance	
	4/6/2001 11 27			
SCV144-0	4/6/2021 11:35	5.7	Adjusted Valve	
SCV144-0	4/0/2021 11:39	5./	In Compliance	
30 144-0	4/15/2021 12.00	0.1		
1		1	1	

Well ID	Date and Time	Oxygen (%)	Comments
SCV144-0	4/26/2021 10:44	6.6	Adjusted Valve
SCV144-0	4/26/2021 10:46	6.7	Second Reading
SCV144-0	5/6/2021 12:07	3.8	In Compliance
			•
SCV144-0	6/4/2021 12:30	7.7	Adjusted Valve
SCV144-0	6/7/2021 15:12	4.7	In Compliance
			· · · ·
SCV146-0	2/5/2021 11:29	8.7	Adjusted Valve
SCV146-0	2/5/2021 11:32	9.8	Second Reading
SCV146-0	2/10/2021 12:53	0	In Compliance
SCV149-A	6/16/2021 10:19	5.3	Adjusted Valve
SCV149-A	6/16/2021 10:22	4.4	In Compliance
SCV149-A	7/1/2021 7:26	5	Adjusted Valve
SCV149-A	7/1/2021 7:27	1.1	In Compliance
SCV149-A	7/23/2021 8:05	15.9	Adjusted Valve
SCV149-A	7/23/2021 8:07	13	Second Reading
SCV218-0	3/26/2021 8:42	19.1	Adjusted Valve
SCV218-0	4/2/2021 12:56	0	In Compliance
SCV218-0	5/18/2021 8:19	12.9	Adjusted Valve
SCV218-0	5/18/2021 8:22	17	Second Reading
SCV218-0	5/28/2021 15:03	13.4	Adjusted Valve
SCV218-0	5/28/2021 15:05	16.6	Second Reading
SCV218-0	6/8/2021 8:18	20.3	Adjusted Valve
SCV218-0	6/8/2021 8:20	20.6	Second Reading
SCV218-0	6/15/2021 8:12	19.9	Adjusted Valve
SCV218-0	6/15/2021 8:15	18.9	Second Reading
SCV218-0	6/23/2021 8:11	19.6	Adjusted Valve
SCV218-0	6/23/2021 8:14	20.1	Second Reading
SCV218-0	7/7/2021 10:10	18.3	Adjusted Valve
SCV218-0	7/10/2021 10:12	19.6	Second Reading
SCV218-0	7/19/2021 9:28	10.1	Adjusted valve
SCV218-0	7/19/2021 9:32	17.2	Second Reading
30/218-0	7/19/2021 9.30	1.2	in compliance
SCV219-0	7/8/2021 11:00	10.7	Adjusted Valve
SCV219-0	7/8/2021 11:05	7.8	Second Beading
SCV219-0	7/19/2021 11:11	3.1	
5072150	771372021 3.43	5.1	
SCV220-0	4/16/2021 10.19	16.2	Adjusted Valve
SCV220-0	4/16/2021 10:22	19.7	Second Reading
SCV220-0	4/30/2021 9:35	10.5	Adjusted Valve
SCV220-0	4/30/2021 9:45	13.4	Second Reading
SCV220-0	5/10/2021 13:53	20.1	Adjusted Valve
SCV220-0	5/10/2021 13:57	2.9	In Compliance
	, ,	-	
SCV220-0	6/8/2021 8:45	14.6	Adjusted Valve
SCV220-0	6/8/2021 8:48	16.7	Second Reading
SCV220-0	6/15/2021 8:23	10.4	Adjusted Valve
SCV220-0	6/15/2021 8:28	9.9	Second Reading
SCV220-0	6/23/2021 8:30	15.7	Adjusted Valve
SCV220-0	6/23/2021 8:32	15.7	Second Reading
SCV220-0	7/8/2021 12:25	5.2	Adjusted Valve
SCV220-0	7/8/2021 12:28	9.4	Second Reading

Well ID	Date and Time	Oxygen (%)	Comments	
SCV220-0	7/19/2021 9:57	0	In Compliance	
SCV222-0	2/5/2021 13:37	0.3	(Initial Exceedance on 11/6/2020) In Compliance	
SCV222-0	3/2/2021 13:48	18.2	Adjusted Valve	
SCV222-0	3/2/2021 13:51	13.4	Second Reading	
SCV222-0	3/5/2021 8:16	1.3	In Compliance	
50V222.0	4/2/2021 11.57	6.2		
SCV222-0	4/2/2021 11:57	0.3	Adjusted Valve	
SCV222-0	4/2/2021 12:06	/./	Second Reading	
SCV222-0	4/9/2021 9.44	19.1	Aujusteu valve	
SCV222-0	4/9/2021 9.46	15.4		
307222-0	4/10/2021 9.51	2.2		
SCV222-0	5/14/2021 8.18	10.7	Adjusted Valve	
SCV222-0	5/14/2021 8:23	18.9	Second Reading	
SCV222-0	5/18/2021 8:46	18.6	Adjusted Valve	
SCV222-0	5/27/2021 10:32	17.5	Adjusted Valve	
SCV222-0	5/27/2021 10:32	14.9	Second Reading	
SCV222-0	5/27/2021 10:38	16.1	Third Reading	
SCV222-0	6/8/2021 9.21	18.4	Adjusted Valve	
SCV222-0	6/8/2021 9:23	19,1	Second Reading	
SCV222-0	6/15/2021 9:37	19.7	Adjusted Valve	
SCV222-0	6/15/2021 9:39	18.6	Second Reading	
SCV222-0	6/23/2021 8:51	8.2	Adjusted Valve	
SCV222-0	6/23/2021 8:54	12.9	Second Reading	
SCV222-0	7/7/2021 10:19	13.6	Adjusted Valve	
SCV222-0	7/7/2021 10:22	13.3	Second Reading	
SCV222-0	7/19/2021 10:11	11	Adjusted Valve	
SCV222-0	7/19/2021 10:14	8.3	Second Reading	
SCV223-0	4/2/2021 11:37	6.9	Adjusted Valve	
SCV223-0	4/2/2021 11:40	6.9	Second Reading	
SCV223-0	4/9/2021 9:34	0	In Compliance	
SCV223-0	4/16/2021 9:36	6.8	Adjusted Valve	
SCV223-0	4/16/2021 9:42	7.5	Second Reading	
SCV223-0	4/30/2021 9:51	0.1	In Compliance	
SCV223-0	6/8/2021 9:30	7	Adjusted Valve	
SCV223-0	6/8/2021 9:33	7.1	Second Reading	
SCV223-0	6/8/2021 9:40	0.3	In Compliance	
	c /22 /2224 2 =2		A 19 A 137 1	
SCV223-0	6/23/2021 8:59	5.2	Adjusted Valve	
SCV223-0	6/23/2021 9:01	5./	Second Reading	
SCV223-0	7/7/2021 10:28	5	Adjusted Valve	
SCV223-0	7/7/2021 10:30	5.2	Second Reading	
SCV223-0	//19/2021 10:33	0	In Compliance	
	2/16/2021 15.12	7 /	Adjusted Value	
SCV225-U	2/10/2021 15:13	/.4 EE	Aujusteu valve	
SCV225-U	2/10/2021 15:15	2.5		
501225-0	2/10/2021 13.1/	5.0		
SCV225-0	3/23/2021 0.21	20.3	Adjusted Valve	
SCV225-0	3/23/2021 9.31	20.5	Second Reading	
SCV225-0	3/26/2021 3.34	17.2	Adjusted Valve	
SCV225-0	3/26/2021 10:33	17.2	Second Reading	
SCV225-0	4/2/2021 11:09	7.7	Adjusted Valve	
	., _, _0 11.00			

Well ID	Date and Time	Oxygen (%)	Comments
SCV225-0	4/2/2021 11:13	8.4	Second Reading
SCV225-0	4/9/2021 9:14	5.2	Adjusted Valve
SCV225-0	4/9/2021 9:18	5.4	Second Reading
SCV225-0	4/16/2021 9:16	2.9	In Compliance
SCV226-0	2/16/2021 15:22	6.1	Adjusted Valve
SCV226-0	2/16/2021 15:26	6.1	Second Reading
SCV226-0	2/18/2021 8:23	10.1	Adjusted Valve
SCV226-0	2/22/2021 10:27	7.3	Adjusted Valve
SCV226-0	2/22/2021 10:30	7.4	Second Reading
SCV226-0	2/23/2021 13:58	7.7	Adjusted Valve
SCV226-0	2/23/2021 14:00	6.2	Second Reading
SCV226-0	3/1/2021 13:19	8.5	Adjusted Valve
SCV226-0	3/2/2021 14:20	8.1	Adjusted Valve
SCV226-0	3/2/2021 14:23	8.2	Second Reading
SCV226-0	3/4/2021 9:57	12.3	Adjusted Valve
SCV226-0	3/4/2021 10:00	13.1	Second Reading
SCV226-0	3/5/2021 8:55	20.2	Adjusted Valve
SCV226-0	3/8/2021 13:47	19.5	Adjusted Valve
SCV226-0	3/8/2021 13:52	21	Second Reading
SCV226-0	3/11/2021 14:06	13.4	Adjusted Valve
SCV226-0	3/11/2021 14:09	12.6	Second Reading
SCV226-0	3/12/2021 12:28	4.8	In Compliance
SCV226-0	3/23/2021 9:21	6.7	Adjusted Valve
SCV226-0	3/23/2021 9:25	6.7	Second Reading
SCV226-0	3/26/2021 10:46	9.2	Adjusted Valve
SCV226-0	3/26/2021 10:50	9.1	Second Reading
SCV226-0	4/2/2021 11:19	7.8	Adjusted Valve
SCV226-0	4/2/2021 11:22	7.3	Second Reading
SCV226-0	4/9/2021 9:05	7.2	Adjusted Valve
SCV226-0	4/9/2021 9:08	7.2	Second Reading
SCV226-0	4/16/2021 9:06	7.9	Adjusted Valve
SCV226-0	4/16/2021 9:09	8	Second Reading
SCV226-0	4/30/2021 9:59	11.4	Adjusted Valve
SCV226-0	4/30/2021 10:02	17.2	Second Reading
SCV226-0	5/5/2021 9:10	14.8	Adjusted Valve
SCV226-0	5/5/2021 9:14	8.7	Second Reading
SCV226-0	5/6/2021 11:25	0	In Compliance
	= / /		
SCV226-0	5/14/2021 9:53	19.1	Adjusted Valve
SUV226-0	5/14/2021 9:56	20.9	
SCV226-0	5/18/2021 9:21	18.5	Adjusted valve
SCV226-0	5/18/2021 9:24	20.2	
SCV226-0	5/26/2021 12:15	9.1	Adjusted valve
SCV226-0	5/26/2021 12:22	8.3	Adjusted Value
SCV220-0	6/8/2021 10:02	10.5	Adjusted Valve
SCV220-0	6/15/2021 10.04	20	Adjusted Value
SCV220-0	6/15/2021 10.12	0.0	Aujusted Valve
SCV220-0	6/23/2021 10.14	10.5	
SCV220-0	6/23/2021 9.32	0.5	Second Reading
SCV220-0	7/7/2021 9.34	9.1	
301220-0	1/1/2021 10.30	0.3	
SCV230-0	5/18/2021 10.34	14.4	Adjusted Valve
SCV230-0	5/18/2021 10:34	11 2	Second Reading
SCV230-0	5/27/2021 10:37	18.3	Adjusted Valve
SCV230-0	5/27/2021 11:43	10.5	
507230-0	J/2//2021 11.4/		

Well ID	Date and Time	Oxygen (%)	Comments		
SCV234-0	2/3/2021 12:47	8.5	Adjusted Valve		
SCV234-0	2/3/2021 12:54	5.7	Second Reading		
SCV234-0	2/10/2021 13:41	5.8	Adjusted Valve		
SCV234-0	2/10/2021 13:50	5.8	Second Reading		
SCV234-0	2/10/2021 13:58	6.1	Third Reading		
SCV234-0	2/10/2021 14:03	6.3	Fourth Reading		
SCV234-0	2/16/2021 15:52	0.9	In Compliance		
SCV234-0	2/2/2021 8.24	Q Q	Adjusted Valve		
SCV234-0	3/5/2021 8:24	8.8			
SCV234-0	3/5/2021 8:43	8.4	Second Reading		
SCV234-0	3/5/2021 8:46	8.5	Third Reading		
SCV234-0	3/8/2021 13:33	9.1	Adjusted Valve		
SCV234-0	3/8/2021 13:36	9	Second Reading		
SCV234-0	3/11/2021 13:53	8.5	Adjusted Valve		
SCV234-0	3/11/2021 13:56	8.7	Second Reading		
SCV234-0	3/12/2021 12:09	4.2	In Compliance		
SCV234-0	3/15/2021 11:29	5.5	Adjusted Valve		
SCV234-0	3/15/2021 11:33	9.3	Second Reading		
SCV234-0	3/17/2021 12:52	4.2	In Compliance		
	- / /				
SCV234-0	3/17/2021 12:56	5.7	Adjusted Valve		
SCV234-0	3/1//2021 12:59	/	Second Reading		
SCV234-0	3/18/2021 8:08	10.7	Adjusted Valve		
SCV234-0	3/18/2021 8:16	14.4	Second Reading		
SCV234-0	3/23/2021 11:48	1	In compliance		
SCV234-0	4/5/2021 14.12	73	Adjusted Valve		
SCV234-0	4/5/2021 14:15	7.5	Second Reading		
SCV234-0	4/9/2021 10:50	9.3	Adjusted Valve		
SCV234-0	4/9/2021 10:52	9.2	Second Reading		
SCV234-0	4/16/2021 14:44	4.9	In Compliance		
SCV234-0	5/18/2021 10:02	10.9	Adjusted Valve		
SCV234-0	5/18/2021 10:05	10.8	Second Reading		
SCV234-0	5/28/2021 15:09	8.9	Adjusted Valve		
SCV234-0	5/28/2021 15:11	9.3	Second Reading		
SCV234-0	6/8/2021 11:31	11.6	Adjusted Valve		
SCV234-0	6/8/2021 11:34	11.4	Second Reading		
SCV234-0	6/15/2021 10:25	10.4	Adjusted Valve		
SCV234-0	6/15/2021 10:29	10.4	Second Reading		
SCV234-0	6/24/2021 8:37	7	Adjusted Valve		
SCV234-0	6/24/2021 8:39	6	Second Reading		
SCV234-0	6/28/2021 11:54	0.3	In Compliance		
SCV224-0	7/0/2021 7:06	11 7	Adjusted Valve		
SCV234-0	7/9/2021 7:08	11.7	Second Reading		
SCV234-0	7/23/2021 14:44	0.4	In Compliance		
	,,,				
SCV235-0	3/1/2021 10:18	9.6	Adjusted Valve		
SCV235-0	3/1/2021 10:20	10.2	Second Reading		
SCV235-0	3/5/2021 9:15	6.3	Adjusted Valve		
SCV235-0	3/5/2021 9:18	6.2	Second Reading		
SCV235-0	3/8/2021 13:09	0.2	In Compliance		
SCV236-0	SCV236-0 4/2/2021 14:04 20.3		Adjusted Valve		

Well ID	Date and Time	Oxygen (%)	Comments
SCV236-0	4/2/2021 14:09	20.4	Second Reading
SCV236-0	4/5/2021 9:53	20.1	Adjusted Valve
SCV236-0	4/5/2021 9:57	20.7	Second Reading
SCV236-0	4/9/2021 10:07	0	In Compliance
SCV236-0	4/16/2021 12:37	20.5	Adjusted Valve
SCV236-0	4/16/2021 12:39	20.5	Second Reading
SCV236-0	4/23/2021 8:01	21	Adjusted Valve
SCV236-0	4/23/2021 8:03	21	Second Reading
SCV236-0	5/5/2021 7:48	20.7	Adjusted Valve
SCV236-0	5/5/2021 7:50	20.9	Second Reading
SCV236-0	5/14/2021 9:27	20.7	Adjusted Valve
SCV236-0	5/14/2021 9:30	20.7	Second Reading
SCV236-0	5/17/2021 11:05	20.7	Adjusted Valve
SCV236-0	5/17/2021 11:12	20.7	Second Reading
SCV236-0	5/27/2021 9:59	19.7	Adjusted Valve
SCV236-0	5/27/2021 10:03	19.9	Second Reading
SCV236-0	5/27/2021 10:12	0.3	In Compliance
			·
SCV236-0	6/3/2021 12:02	19.7	Adjusted Valve
SCV236-0	6/3/2021 12:09	20.5	Second Reading
SCV236-0	6/10/2021 11:01	19.1	Adjusted Valve
SCV236-0	6/10/2021 11:03	19.5	Second Reading
SCV236-0	6/23/2021 10:20	17.8	Adjusted Valve
SCV236-0	6/23/2021 10:24	18	Second Reading
SCV236-0	7/7/2021 9:48	17.9	Adjusted Valve
SCV236-0	7/7/2021 9:53	18.3	Second Reading
SCV236-0	7/26/2021 12:08	0.2	In Compliance
	.,	0.2	
SCV243-0	2/3/2021 12:01	6.4	Adjusted Valve
SCV243-0	2/10/2021 13:20	5.3	Second Reading
SCV243-0	2/10/2021 13:32	3.7	In Compliance
	_,,		
SCV243-0	2/16/2021 15:07	14	Adjusted Valve
SCV243-0	2/18/2021 8:16	3.2	In Compliance
SCV243-0	5/18/2021 9:00	10.3	Adjusted Valve
SCV243-0	5/18/2021 9:03	8.3	Second Reading
SCV243-0	5/27/2021 11:35	6.6	Adjusted Valve
SCV243-0	5/27/2021 11:38	7.7	Second Reading
SCV243-0	6/8/2021 9:43	1.8	In Compliance
	0,0,20220.10	1.0	
SCV243-0	6/23/2021 9:11	5.2	Adjusted Valve
SCV243-0	6/23/2021 9:13	12.3	Second Beading
SCV243-0	7/7/2021 10:37	10.8	Adjusted Valve
SCV243-0	7/7/2021 10:39	15.3	Second Beading
SCV243-0	7/19/2021 10:46	10	Adjusted Valve
SCV243-0	7/19/2021 10:10	14.9	Second Reading
SCV243-0	7/28/2021 10:58	57	
SCV243-0	7/28/2021 10:00	45	In Compliance
5002450	,,20,2021 11.00		
SCV49-5A	3/11/2021 8.50	75	Adjusted Valve
SCV/0-50	3/11/2021 8:53	86	Second Reading
SCV49-5A	3/12/2021 8:53	3.0	
JUVHJUJA	5/ 12/ 2021 0.34	5.7	
SC1/10-51	4/6/2021 12.50	51	Adjucted Value
SCV/0-50	4/6/2021 12:03 4/6/2021 12:01	5.4	Second Reading
		2.3 2 E	
3CV49-3A	4/15/2021 12.42	<u> </u>	

Well ID	Date and Time	Oxygen (%)	Comments
SCV49-5A	4/22/2021 14:44	5.2	Adjusted Valve
SCV49-5A	4/22/2021 14:47	5.3	Second Reading
SCV49-5A	SCV49-5A 5/6/2021 13:22		In Compliance
SCV49-5A	6/4/2021 13:10	8.8	Adjusted Valve
SCV49-5A	6/4/2021 13:13	9.6	Second Reading
SCV49-5A	6/15/2021 12:48	4.9	In Compliance
SCV51-5A	4/6/2021 12:17	6.8	Adjusted Valve
SCV51-5A	4/6/2021 12:41	6.3	Second Reading
SCV51-5A	4/15/2021 12:20	2.7	In Compliance
SCV51-5A	4/26/2021 11:21	10.1	Adjusted Valve
SCV51-5A	4/26/2021 11:25	9.8	Second Reading
SCV51-5A	5/6/2021 12:48	8	Adjusted Valve
SCV51-5A	5/6/2021 12:52	8	Second Reading
SCV51-5A	5/21/2021 7:57	8.3	Adjusted Valve
SCV51-5A	5/21/2021 8:02	8.4	Second Reading
SCV51-5A	5/25/2021 12:29	5.3	Adjusted Valve
SCV51-5A	5/25/2021 12:33	5.3	Second Reading
3CV31-5A	0/10/2021 7.55	1.5	
	2/24/2021 12:27	0	Adjusted Valva
SCV52-5A	3/24/2021 12:27	82	Aujusteu Valve
SCV52-5A	3/24/2021 12:30	0.2	
3CV32-3A	5/20/2021 12.25	0.4	
SCV/52-5A	5/25/2021 8.57	83	Adjusted Valve
SCV52-5A	5/25/2021 8:57	0.7	
30V32 3A	5/25/2021 5.00	0.7	
SCV52-5A	6/7/2021 13:27	16.2	Adjusted Valve
SCV52-5A	6/7/2021 13:31	11.8	Second Reading
SCV52-5A	SCV52-5A 6/15/2021 13:31		Adjusted Valve
SCV52-5A	6/15/2021 13:42	15.6	Second Reading
SCV52-5A	6/17/2021 12:44	10	Adjusted Valve
SCV52-5A	6/17/2021 12:46	8	Second Reading
SCV52-5A	7/1/2021 11:07	4.5	In Compliance
SCV52-5A	7/1/2021 11:10	6.4	Adjusted Valve
SCV52-5A	7/8/2021 11:36	8.9	Adjusted Valve
SCV52-5A	7/8/2021 11:38	19.1	Second Reading
SCV52-5A	7/20/2021 7:32	20.9	Adjusted Valve
SCV52-5A	7/20/2021 7:34	20.9	Second Reading
SCV52-5A	7/28/2021 12:36	20.3	Adjusted Valve
SCV52-5A	7/28/2021 12:39	20.3	Second Reading
SCV68-1A	5/11/2021 11:07	6.4	Adjusted Valve
SCV68-1A	5/11/2021 11:10	7.2	Second Reading
SCV68-1A	5/14/2021 12:19	5	Adjusted Valve
SCV68-1A	5/14/2021 12:21	5.4	Second Reading
SCV68-1A	5/28/2021 7:24	19.1	Adjusted Valve
SCV68-1A	5/28/2021 7:27	19.7	Second Reading
SCV68-1A	6/10/2021 11:24	17.9	Adjusted Valve
SCV68-1A	6/10/2021 11:27	18.3	Second Reading
SCV68-1A	6/23/2021 11:58	17.8	Adjusted Valve
SCV68-1A	6/23/2021 12:02	19.6	Second Reading
SCV68-1A	////2021 11:51	16.9	Adjusted Valve
SCV68-1A	7/7/2021 11:53	18.1	Second Reading

Well ID	Date and Time	Oxygen (%)	Comments	
SCV68-1A	7/20/2021 8:18	18.9	Adjusted Valve	
SCV68-1A	7/20/2021 8:20	20.4	Second Reading	
SCV68-1A	7/28/2021 11:29	18.8	Adjusted Valve	
SCV68-1A	7/28/2021 11:31	19.3	Second Reading	
SCV88-5A	5/18/2021 11:58	6.4	Adjusted Valve	
SCV88-5A	5/18/2021 12:00	7.4	Second Reading	
SCV88-5A	6/1/2021 9:32	5.9	Adjusted Valve	
SCV88-5A	6/1/2021 9:35	5.9	Second Reading	
SCV88-5A	6/1/2021 9:38	5.7	Third Reading	
SCV88-5A	6/10/2021 8:24	6.2	Adjusted Valve	
SCV88-5A	6/10/2021 8:27	6	Second Reading	
SCV88-5A	6/16/2021 9:48	2.2	In Compliance	
SCV89-5A	2/19/2021 10:37	12	(Initial Exceedance on 1/8/21) Adjusted Valve	
SCV89-5A	2/19/2021 10:40	12.1	Second Reading	
SCV89-5A	3/3/2021 10:36	12.5	Adjusted Valve	
SCV89-5A	3/3/2021 10:40	12.5	Second Reading	
SCV89-5A	3/5/2021 9:59	10	Adjusted Valve	
SCV89-5A	3/8/2021 10:53	10.5	Adjusted Valve	
SCV89-5A	3/8/2021 10:57	13.7	Second Reading	
SCV89-5A	3/12/2021 10:36	20.2	Adjusted Valve	
SCV89-5A	3/12/2021 10:40	16.4	Second Reading	
SCV89-5A	3/15/2021 14:23	12.3	Adjusted Valve	
SCV89-5A	3/15/2021 14:26	12.9	Second Reading	
SCV89-5A	3/18/2021 11:10	12.3	Adjusted Valve	
SCV89-5A	3/18/2021 11:12	13	Second Reading	
SCV89-5A	3/19/2021 14:07	15.2	Adjusted Valve	
SCV89-5A	3/19/2021 14:10	15.6	Second Reading	
SCV89-5A	3/23/2021 12:23	10.3	Adjusted Valve	
SCV89-5A	3/23/2021 12:25	10.5	Second Reading	
SCV89-5A	3/26/2021 8:26	20.4	Adjusted Valve	
SCV89-5A	3/26/2021 8:28	20.9	Second Reading	
SCV89-5A	4/1/2021 10:12	7.9	Adjusted Valve	
SCV89-5A	4/1/2021 10:14	8.6	Second Reading	
SCV89-5A	4/9/2021 8:32	20.2	Adjusted Valve	
SCV89-5A	4/9/2021 8:36	19.8	Second Reading	
SCV89-5A	4/19/2021 9:43	19.7	Adjusted Valve	
SCV89-5A	4/19/2021 9:45	18	Second Reading	
SCV89-5A	4/20/2021 10:46	1.4	In Compliance	
SCV89-5A	7/1/2021 7:56	8.6	Adjusted Valve	
SCV89-5A	7/1/2021 7:57	9.2	Second Reading	
SCV89-5A	7/14/2021 11:48	0.4	In Compliance	

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

Well ID	Date and Time	Initial Temp [°F]	Adjusted Temp [°F]	Comments
SCOV108A	2/4/2021 8:06	134.3	134.3	Adjusted Valve
SCOV108A	2/8/2021 9:26	130.9	129.9	In Compliance
SC0V108A	2/19/2021 11:19	133.8	133.9	Adjusted Valve
SC0V108A	2/22/2021 11:48	135.5	135.4	Adjusted Valve
SC0V108A	2/22/2021 12:17	100.1	100.1	In Compliance
SC0V108A	3/3/2021 11:36	134.7	134.7	Adjusted Valve
SCOV108A	3/5/2021 9:50	134.1	134.2	Adjusted Valve
SCOV108A	3/8/2021 12:37	129.3	129.4	In Compliance
SC0V108A	3/8/2021 12:42	133	133	Adjusted Valve
SC0V108A	3/12/2021 10:22	132.4	132.4	Adjusted Valve
SC0V108A	3/12/2021 10:27	132.8	132.8	Second Reading
SC0V108A	3/15/2021 14:14	132.8	132.8	Adjusted Valve
SC0V108A	3/15/2021 14:16	133	133	Second Reading
SCOV108A	3/18/2021 10:58	131.8	131.8	Adjusted Valve
SCOV108A	3/18/2021 11:03	132	132	Second Reading
SCOV108A	3/19/2021 13:58	132.7	132.8	Adjusted Valve
SCOV108A	3/19/2021 14:02	132.9	132.8	Second Reading
SCOV108A	3/23/2021 13:03	133.4	133.4	Adjusted Valve
SCOV108A	3/23/2021 13:06	133.5	133.5	Second Reading
SCOV108A	3/26/2021 8:17	132.3	132.3	Adjusted Valve
SCOV108A	3/26/2021 8:21	132.3	132.3	Second Reading
SCOV108A	3/30/2021 13:55	133.6	133.7	Adjusted Valve
SCOV108A	3/30/2021 13:59	133.7	133.7	Second Reading
SCOV108A	4/1/2021 11:09	133.9	133.9	Adjusted Valve
SCOV108A	4/1/2021 11:11	133.9	133.9	Second Reading
SCOV108A	4/9/2021 8:23	132.7	132.7	Adjusted Valve
SCOV108A	4/9/2021 8:26	132.8	132.8	Second Reading
SC0V108A	4/23/2021 8:26	132.9	132.9	Adjusted Valve
SC0V108A	4/23/2021 8:29	132.9	132.9	Adjusted Valva
SC0V108A	4/27/2021 9.51	133.5	133.5	Adjusted Valve
SC0V108A	4/2//2021 9.34 E/6/2021 9.42	122.2	133.2	Adjusted Valvo
SC0V108A	5/6/2021 8:43	132.2	132.3	Second Reading
SC0V108A	5/19/2021 8.47	132.5	132.5	
SC0V108A	5/19/2021 15:24	106	10/ 3	
300V100A	5/15/2021 15.50	100	104.5	in compliance
SC0V108A	7/1/2021 8:57	131.6	132	Adjusted Valve
SC0V108A	7/8/2021 12:05	135	128.4	Adjusted Valve, In Compliance
	.,0,2022 22:00	100		
SC0V110A	7/21/2021 8:42	134.2	134.3	Adjusted Valve
SC0V110A	7/21/2021 8:47	133.9	133.9	Second Reading
SC0V110A	7/23/2021 8:25	129.6	129.6	In Compliance
	, , , , , , , ,			
SCV051-A	3/15/2021 14:10	132.8	132.8	Adjusted Valve
SCV051-A	3/18/2021 10:32	72.9	73.5	In Compliance
				·
SCV125A0	7/1/2021 9:04	131	132.5	Adjusted Valve
SCV125A0	7/1/2021 9:06	132.8	132.8	Second Reading
SCV125A0	7/14/2021 11:35	131.8	132.1	Adjusted Valve
SCV125A0	7/14/2021 11:37	131.9	131.8	Second Reading
SCV125A0	7/14/2021 11:37	131.9	131.8	Third Reading
SCV125A0	7/21/2021 8:10	128.4	128.4	In Compliance
SCV128-A	7/21/2021 9:02	136.1	136.1	Adjusted Valve
SCV128-A	7/21/2021 9:33	86.9	87	In Compliance

Well ID	Date and Time	Initial Temp [°F]	Adjusted Temp [°F]	Comments
SCV234-0	2/3/2021 12:47	139	135.9	Adjusted Valve
SCV234-0	2/3/2021 12:54	126.8	127.2	In Compliance
SCV234-0	3/12/2021 12:09	131.7	130.2	Adjusted Valve, In Compliance
SCV234-0	3/15/2021 11:29	132.3	130.4	Adjusted Valve, In Compliance
SCV234-0	3/17/2021 12:52	141.8	142.6	Adjusted Valve
SCV234-0	3/17/2021 12:56	147.9	147.8	Second Reading
SCV234-0	3/17/2021 12:59	147.8	147.8	Third Reading
SCV234-0	3/18/2021 8:08	128.9	127.6	In Compliance
SCV234-0	7/9/2021 7:06	133.2	133	Adjusted Valve
SCV234-0	7/9/2021 7:08	131.9	131.4	Second Reading
SCV234-0	7/23/2021 14:44	110	109.9	In Compliance

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

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:

0 U

Signature of Responsible Official

8-26-2021

Date

Rob Sherman Name of Responsible Official Appendix B – Existing GCCS Layout



Appendix C – LFGTE Facility Downtime Logs

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime	
2/1/2021 0:00	3/1/2021 0:00	672.00	1 (S-4)	Out of service pending overhaul	
2/2/2021 11:36	2/2/2021 11:42	0.10	2 (S-5)	Detonation	
2/3/2021 6:36	2/23/2021 10:24	483.80	2 (S-5)	PG&E outage/Circuit switcher failure/PLC failure/service	
2/1/2021 0:00	2/2/2021 13:00	37.00	3 (S-6)	Battery failure	
2/3/2021 6:36	2/8/2021 10:40	124.07	3 (S-6)	PG&E outage/Circuit switcher failure/service	
2/9/2021 17:44	2/11/2021 13:28	43.73	3 (S-6)	Switchgear control voltage failure	
2/23/2021 10:06	2/23/2021 10:20	0.23	3 (S-6)	Detonation	
2/26/2021 2:22	2/26/2021 9:38	7.27	3 (S-6)	Battery fault	
2/3/2021 6:36	2/8/2021 10:48	124.20	4 (S-7)	PG&E outage/Circuit switcher failure	
2/8/2021 13:10	2/8/2021 13:36	0.43	4 (S-7)	Blower swap	
2/9/2021 17:44	2/12/2021 9:24	63.67	4 (S-7)	Switchgear control voltage failure	
2/12/2021 10:28	2/12/2021 10:32	0.07	4 (S-7)	Detonation	
2/16/2021 9:12	2/16/2021 11:56	2.73	4 (S-7)	Service	
2/23/2021 10:06	2/23/2021 10:20	0.23	4 (S-7)	Detonation	
2/3/2021 6:34	2/6/2021 14:56	80.37	5 (S-9)	PG&E outage/Circuit voltage failure/service	
2/9/2021 20:28	2/11/2021 12:36	40.13	5 (S-9)	Switchgear control voltage failure	
2/3/2021 6:32	2/6/2021 14:52	80.33	6 (S-10)	PG&E outage/Circuit switcher failure	
2/8/2021 9:14	2/8/2021 11:26	2.20	6 (S-10)	Tuning	
2/9/2021 20:28	2/11/2021 12:36	40.13	6 (S-10)	Switchgear control voltage failure	
2/3/2021 6:32	2/6/2021 14:54	80.37	7 (S-11)	PG&E outage/Circuit switcher failure	
2/9/2021 20:28	2/11/2021 13:24	40.93	7 (S-11)	Switchgear control voltage failure	
2/3/2021 6:32	2/6/2021 15:16	80.73	8 (S-12)	PG&E outage/Circuit switcher failure/service	
2/9/2021 20:30	2/11/2021 12:30	40.00	8 (S-12)	Switchgear control voltage failure	
2/15/2021 14:10	2/15/2021 14:20	0.17	8 (S-12)	Detonation	
2/22/2021 18:50	2/23/2021 13:10	18.33	8 (S-12)	Battery issue	
2/24/2021 17:50	2/25/2021 8:38	14.80	8 (S-12)	Charging issue	
2/1/2021 0:00	3/1/2021 0:00	672.00	9 (S-13)	Out of service pending overhaul	
2/1/2021 0:00	3/1/2021 0:00	672.00	10 (S-14)	Long-Term Standby	
3/1/2021 0:00	4/1/2021 0:00	744.00	1 (S-4)	Out of service pending overhaul	
3/17/2021 9:50	3/19/2021 6:50	45.00	2 (S-5)	VFD installation	
3/23/2021 8:14	3/23/2021 13:44	5.50	2 (S-5)	VFD tuning	
3/25/2021 11:22	3/25/2021 11:58	0.60	2 (S-5)	Detonation	
3/17/2021 9:50	3/19/2021 8:52	47.03	3 (S-6)	VFD installation	
3/19/2021 8:58	3/19/2021 9:02	0.07	3 (S-6)	Tuning	
3/19/2021 9:14	3/19/2021 9:22	0.13	3 (S-6)	Tuning	
3/19/2021 10:02	3/19/2021 10:42	0.67	3 (S-6)	Tuning	
3/19/2021 11:02	3/19/2021 11:08	0.10	3 (S-6)	Tuning	
3/19/2021 12:10	3/19/2021 12:16	0.10	3 (S-6)	Tuning	
3/19/2021 12:40	3/19/2021 13:18	0.63	3 (S-6)	Tuning	
3/19/2021 13:50	3/19/2021 13:58	0.13	3 (S-6)	Tuning	
3/21/2021 11:36	3/24/2021 12:54	73.30	3 (S-6)	Troubleshooting and service	
3/25/2021 11:22	3/25/2021 11:56	0.57	3 (S-6)	VFD tuning	
3/30/2021 13:06	3/30/2021 13:24	0.30	3 (S-6)	Detonation	
3/17/2021 9:50	3/19/2021 6:54	45.07	4 (S-7)	VFD installation and service	
3/23/2021 8:14	3/23/2021 13:46	5.53	4 (S-7)	VFD tuning	
3/25/2021 11:22	3/25/2021 11:54	0.53	4 (S-7)	VFD tuning	
3/10/2021 9:16	3/10/2021 11:24	2.13	5 (S-9)	Service	
3/10/2021 12:26	3/10/2021 12:50	0.40	5 (S-9)	Tuning	
3/19/2021 21:16	3/24/2021 11:52	110.60	5 (S-9)	Turbo failure and service	
3/16/2021 8:14	3/16/2021 12:14	4.00	6 (S-10)	Service	
3/16/2021 13:36	3/16/2021 13:48	0.20	6 (S-10)	Tuning	
3/23/2021 9:36	3/23/2021 13:34	3.97	6 (S-10)	Control issue	

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime	
3/25/2021 5:52	3/25/2021 6:26	0.57	6 (S-10)	Voltage issue	
3/2/2021 11:24	3/2/2021 11:32	0.13	7 (S-11)	Tuning	
3/22/2021 9:22	3/22/2021 15:00	5.63	7 (S-11)	Service	
3/24/2021 5:12	4/1/2021 0:00	186.80	7 (S-11)	High temp shutdown/Cracked exhaust manifold	
3/6/2021 3:54	4/1/2021 0:00	620.10	8 (S-12)	Dropped valve	
3/1/2021 0:00	4/1/2021 0:00	744.00	9 (S-13)	Out of service pending overhaul	
3/1/2021 0:00	4/1/2021 0:00	744.00	10 (S-14)	Long-Term Standby	
4/1/2021 0:00	5/1/2021 0:00	720.00	1 (S-4)	Out of service pending overhaul	
4/15/2021 9:00	4/15/2021 10:06	1.10	2 (S-5)	Cut header in field	
4/15/2021 10:08	4/15/2021 10:20	0.20	2 (S-5)	Cut header in field	
4/22/2021 14:52	4/22/2021 14:58	0.10	2 (S-5)	Detonation	
4/23/2021 8:30	4/23/2021 8:44	0.23	2 (S-5)	Tuning	
4/15/2021 8:58	4/15/2021 10:18	1.33	3 (S-6)	Cut header in field	
4/15/2021 14:36	4/15/2021 14:46	0.17	3 (S-6)	Cut header in field	
4/18/2021 4:34	4/20/2021 8:56	52.37	3 (S-6)	Failed battery charger	
4/21/2021 14:08	4/22/2021 14:06	23.97	3 (S-6)	Charging issue	
4/15/2021 8:58	4/15/2021 10:16	1.30	4 (S-7)	Cut header in field	
4/15/2021 8:56	4/15/2021 10:48	1.87	5 (S-9)	Cut header in field	
4/20/2021 15:24	4/20/2021 15:30	0.10	5 (S-9)	Tuning	
4/23/2021 9:40	4/23/2021 14:10	4.50	5 (S-9)	Service	
4/11/2021 5:58	4/14/2021 9:46	75.80	6 (S-10)	Troubleshooting and repairs	
4/15/2021 8:54	4/15/2021 10:54	2.00	6 (S-10)	Cut header in field	
4/21/2021 9:48	4/22/2021 8:42	22.90	6 (S-10)	VFD programming	
4/23/2021 9:40	4/23/2021 14:04	4.40	6 (S-10)	Radiator repair	
4/27/2021 7:40	4/27/2021 8:16	0.60	6 (S-10)	Tuning	
4/27/2021 15:04	4/27/2021 15:12	0.13	6 (S-10)	Tuning	
4/28/2021 9:22	4/28/2021 9:32	0.17	6 (S-10)	Tuning	
4/28/2021 11:24	4/28/2021 12:12	0.80	6 (S-10)	Tuning	
4/1/2021 0:00	4/21/2021 13:34	493.57	7 (S-11)	Exhaust manifold replacement	
4/21/2021 14:14	4/22/2021 10:30	20.27	7 (S-11)	VFD programming	
4/23/2021 9:40	4/23/2021 14:26	4.77	7 (S-11)	Tuning	
4/1/2021 0:00	4/5/2021 12:30	108.50	8 (S-12)	Liner and head replacement	
4/5/2021 15:58	4/6/2021 7:42	15.73	8 (S-12)	Adjustment and tuning	
4/12/2021 15:14	4/12/2021 15:34	0.33	8 (S-12)	Tuning	
4/13/2021 9:16	4/13/2021 9:52	0.60	8 (S-12)	Tuning	
4/15/2021 8:58	4/15/2021 10:54	1.93	8 (S-12)	Cut header in field	
4/22/2021 10:30	5/1/2021 0:00	205.50	8 (S-12)	Out of service pending electrical upgrade	
4/1/2021 0:00	5/1/2021 0:00	720.00	9 (S-13)	Out of service pending electrical upgrade	
4/1/2021 0:00	5/1/2021 0:00	720.00	10 (S-14)	Long-Term Standby	
5/1/2021 0:00	6/1/2021 0:00	744.00	1 (S-4)	Out of service pending overhaul	
5/1/2021 6:24	5/1/2021 11:56	5.53	2 (S-5)	PG&E planned outage	
5/3/2021 10:24	5/4/2021 6:44	20.33	2 (S-5)	PG&E planned outage	
5/4/2021 11:42	6/1/2021 0:00	660.30	2 (S-5)	Out of service pending overhaul	
5/1/2021 6:24	5/1/2021 11:52	5.47	3 (S-6)	PG&E planned outage	
5/3/2021 10:24	5/4/2021 6:40	20.27	3 (S-6)	PG&E planned outage	
5/4/2021 8:56	5/4/2021 10:44	1.80	3 (S-6)	Tuning	
5/4/2021 11:04	5/4/2021 11:22	0.30	3 (S-6)	Tuning	
5/4/2021 11:24	5/4/2021 12:54	1.50	3 (S-6)	Breaker linkage issue	
5/7/2021 15:04	5///2021 15:50	0.77	3 (5-6)	Service	
5/1//2021 10:38	5/1//2021 10:44	0.10	3 (5-6)	Battery Issue	
5/1//2021 11:22	5/1//2021 11:28	0.10	3 (5-6)	Battery Issue	
5/18/2021 10:14	5/18/2021 10:32	0.30	3 (5-6)	Battery issue	

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
5/20/2021 20:34	5/21/2021 14:02	17.47	3 (S-6)	Charger repairs
5/1/2021 6:24	5/3/2021 9:36	51.20	4 (S-7)	PG&E planned outage
5/3/2021 10:24	5/4/2021 6:38	20.23	4 (S-7)	PG&E planned outage and service
5/17/2021 10:38	5/17/2021 10:42	0.07	4 (S-7)	Tuning
5/18/2021 9:20	5/18/2021 9:22	0.03	4 (S-7)	Tuning
5/18/2021 12:30	5/18/2021 12:38	0.13	4 (S-7)	Tuning
5/19/2021 10:52	5/19/2021 11:00	0.13	4 (S-7)	tuning
5/28/2021 11:32	5/28/2021 11:46	0.23	4 (S-7)	Detonation
5/1/2021 6:28	5/1/2021 11:40	5.20	5 (S-9)	PG&E planned outage
5/3/2021 10:22	5/3/2021 17:46	7.40	5 (S-9)	PG&E planned outage
5/4/2021 9:02	5/4/2021 10:34	1.53	5 (S-9)	Water leak
5/4/2021 10:50	5/4/2021 12:00	1.17	5 (S-9)	Troubleshooting
5/7/2021 8:02	5/7/2021 8:26	0.40	5 (S-9)	Phase 2 outage breaker work
5/11/2021 7:52	5/11/2021 8:12	0.33	5 (S-9)	Phase 2 outage breaker work
5/28/2021 13:30	5/28/2021 13:38	0.13	5 (S-9)	Detonation
5/1/2021 6:28	5/1/2021 11:26	4.97	6 (S-10)	PG&E planned Outage
5/3/2021 10:22	5/3/2021 17:48	7.43	6 (S-10)	PG&E planned outage
5/4/2021 7:08	5/4/2021 8:58	1.83	6 (S-10)	Tuning
5/7/2021 8:04	5/7/2021 8:26	0.37	6 (S-10)	Phase 2 outage breaker work
5/10/2021 7:58	5/10/2021 11:18	3.33	6 (S-10)	Troubleshooting
5/11/2021 7:52	5/11/2021 8:10	0.30	6 (S-10)	Phase 2 outage breaker work
5/1/2021 6:28	5/1/2021 11:42	5.23	7 (S-11)	PG&E planned outage
5/3/2021 10:24	5/3/2021 17:48	7.40	7 (S-11)	PG&E planned outage
5/7/2021 8:04	5/7/2021 8:30	0.43	7 (S-11)	Phase 2 outage breaker work
5/11/2021 7:54	5/11/2021 8:08	0.23	7 (S-11)	Phase 2 outage breaker work
5/13/2021 8:04	5/13/2021 8:36	0.53	7 (S-11)	Service
5/1/2021 0:00	6/1/2021 0:00	744.00	8 (S-12)	Out of service pending overhaul
5/1/2021 0:00	6/1/2021 0:00	744.00	9 (S-13)	Out of service pending overhaul
5/1/2021 0:00	6/1/2021 0:00	744.00	10 (S-14)	Long-Term Standby
6/1/2021 0:00	7/1/2021 0:00	720.00	1 (S-4)	Out of service pending overhaul
6/5/2021 6:44	6/7/2021 11:04	52.33	3 (S-6)	PG&E outage
6/13/2021 7:14	6/14/2021 9:12	25.97	3 (S-6)	Electrical issue
6/14/2021 9:24	6/14/2021 10:00	0.60	3 (S-6)	Breaker trip
6/16/2021 19:00	6/17/2021 11:22	16.37	3 (S-6)	Service
6/22/2021 13:42	6/22/2021 13:48	0.10	3 (S-6)	Breaker trip
6/25/2021 6:36	6/25/2021 12:02	5.43	3 (S-6)	Breaker trip
6/25/2021 14:14	6/28/2021 9:58	67.73	3 (S-6)	Troubleshooting
6/28/2021 10:04	6/28/2021 11:08	1.07	3 (S-6)	breaker trip
6/29/2021 9:38	ongoing	38.37	3 (S-6)	Troubleshooting
6/5/2021 6:44	6/7/2021 10:54	52.17	4 (S-7)	PG&E outage
6/16/2021 19:00	6/17/2021 11:22	16.37	4 (S-7)	Service
6/25/2021 7:00	ongoing	137.00	4 (S-7)	Dropped valve/ head failure
6/5/2021 6:44	6/5/2021 20:24	13.67	5 (S-9)	PG&E outage
6/13/2021 20:18	6/14/2021 9:16	12.97	5 (S-9)	Detonation
6/14/2021 9:20	6/14/2021 9:26	0.10	5 (S-9)	Water level sensor repairs
6/15/2021 9:20	6/15/2021 10:06	0.77	5 (S-9)	Water level sensor repairs
6/15/2021 10:18	6/15/2021 10:24	0.10	5 (S-9)	Water level sensor repairs
6/21/2021 9:18	6/21/2021 9:38	0.33	5 (S-9)	Water level sensor repairs
6/21/2021 9:44	6/21/2021 9:50	0.10	5 (S-9)	Water level sensor repairs
6/21/2021 10:00	6/21/2021 10:14	0.23	5 (S-9)	Water level sensor repairs
6/21/2021 10:16	6/21/2021 10:28	0.20	5 (S-9)	Water level sensor repairs
6/29/2021 9:36	6/29/2021 10:20	0.73	5 (S-9)	Service

Shutdown Date/Time	Startup Date/Time	Duration (Hours)	Engine(s)	Reason for Downtime
6/5/2021 6:44	6/5/2021 20:10	13.43	6 (S-10)	PG&E outage
6/15/2021 9:22	6/15/2021 10:02	0.67	6 (S-10)	Tuning
6/23/2021 11:24	6/23/2021 11:32	0.13	6 (S-10)	Detonation
6/25/2021 9:28	6/25/2021 9:36	0.13	6 (S-10)	Detonation
6/25/2021 9:46	6/25/2021 9:54	0.13	6 (S-10)	Detonation
6/5/2021 6:44	6/7/2021 9:24	50.67	7 (S-11)	PG&E outage
6/15/2021 9:18	6/15/2021 10:04	0.77	7 (S-11)	Service
6/15/2021 12:24	6/15/2021 12:28	0.07	7 (S-11)	Detonation
6/22/2021 11:34	6/22/2021 11:40	0.10	7 (S-11)	Detonation
6/23/2021 7:22	6/23/2021 10:36	3.23	7 (S-11)	Tuning
6/1/2021 0:00	6/15/2021 14:02	350.03	8 (S-12)	Electrical upgrades
6/15/2021 14:38	6/16/2021 8:30	17.87	8 (S-12)	Testing circuits
6/18/2021 10:36	6/18/2021 10:46	0.17	8 (S-12)	Testing circuits
6/23/2021 11:16	6/23/2021 11:28	0.20	8 (S-12)	Testing circuits
6/24/2021 10:26	6/24/2021 10:32	0.10	8 (S-12)	Tuning
6/25/2021 1:02	6/25/2021 6:46	5.73	8 (S-12)	Low water shutdown
6/1/2021 0:00	7/1/2021 0:00	720.00	9 (S-13)	Out of service pending overhaul
6/1/2021 0:00	7/1/2021 0:00	720.00	10 (S-14)	Long-Term Standby
7/1/2021 0:00	7/13/2021 9:30	297.50	1 (S-4)	Startup after overhaul
7/1/2021 0:00	8/1/2021 0:00	744.00	2 (S-5)	Out of service pending overhaul
7/1/2021 0:00	7/6/2021 13:22	133.37	3 (S-6)	Main switchgear outage
7/6/2021 14:12	7/7/2021 9:48	19.60	3 (S-6)	Valve adjustment
7/8/2021 12:42	7/8/2021 13:00	0.30	3 (S-6)	Tuning
7/8/2021 13:14	7/8/2021 13:30	0.27	3 (S-6)	Tuning
7/8/2021 14:08	7/8/2021 14:48	0.67	3 (S-6)	Tuning
7/8/2021 15:38	7/8/2021 15:40	0.03	3 (S-6)	Tuning
7/10/2021 10:22	7/12/2021 7:22	45.00	3 (S-6)	Breaker fault
7/13/2021 10:36	7/13/2021 10:50	0.23	3 (S-6)	Tuning
7/13/2021 11:12	7/13/2021 12:14	1.03	3 (S-6)	Regulator repairs
7/14/2021 12:10	7/14/2021 12:36	0.43	3 (S-6)	Tuning
7/14/2021 12:42	7/14/2021 13:04	0.37	3 (S-6)	Tuning
7/14/2021 13:12	7/15/2021 8:06	18.90	3 (S-6)	Troubleshooting
7/30/2021 17:26	8/1/2021 0:00	30.57	3 (S-6)	Detonation
7/1/2021 0:00	7/7/2021 12:50	156.83	4 (S-7)	Main switchgear outage
7/14/2021 16:04	7/14/2021 16:18	0.23	4 (S-7)	Detonation
7/27/2021 11:38	7/27/2021 11:48	0.17	4 (S-7)	Detonation
7/12/2021 9:56	7/12/2021 14:56	5.00	5 (S-9)	Regulator repairs
7/14/2021 15:18	7/14/2021 16:28	1.17	5 (S-9)	Adjustment
7/16/2021 14:14	7/16/2021 14:26	0.20	5 (S-9)	Tuning
7/19/2021 13:52	7/19/2021 14:06	0.23	5 (S-9)	Detonation
7/19/2021 19:52	7/19/2021 22:58	3.10	5 (S-9)	Low water level
7/20/2021 8:56	7/20/2021 12:22	3.43	5 (S-9)	Tuning
7/21/2021 9:32	7/21/2021 9:38	0.10	5 (S-9)	Detonation
7/23/2021 11:42	7/23/2021 11:48	0.10	5 (S-9)	Tuning
7/13/2021 11:04	7/13/2021 14:32	3.47	6 (S-10)	Service
7/14/2021 14:08	7/14/2021 15:16	1.13	6 (S-10)	Tuning
7/16/2021 14:00	7/16/2021 14:04	0.07	6 (S-10)	Detonation
7/19/2021 17:34	7/19/2021 22:52	5.30	6 (S-10)	High water temp shutdown
7/19/2021 22:54	7/19/2021 23:08	0.23	6 (S-10)	Tuning
7/14/2021 10:10	7/14/2021 14:16	4.10	7 (S-11)	Regulator repairs
7/22/2021 11:06	7/22/2021 13:28	2.37	7 (S-11)	Service
7/8/2021 14:00	7/8/2021 14:06	0.10	8 (S-12)	Detonation

Shutdown Date/Time	own Date/Time Startup Date/Time		Engine(s)	Reason for Downtime
7/13/2021 15:52	7/14/2021 6:46	14.90	8 (S-12)	Detonation
7/14/2021 14:20	7/14/2021 14:32	0.20	8 (S-12)	Detonation
7/14/2021 15:52	7/14/2021 16:30	0.63	0.63 8 (S-12) Tuning	
7/15/2021 23:18	7/16/2021 7:04	7.77	77 8 (S-12) Detonation	
7/16/2021 20:46	7/19/2021 7:42	58.93	8 (S-12)	Service
7/19/2021 8:14	7/19/2021 8:20	0.10	8 (S-12)	Tuning
7/19/2021 20:54	7/19/2021 23:10	2.27	8 (S-12)	Detonation
7/23/2021 9:56	7/23/2021 10:08	0.20	8 (S-12)	Detonation
7/23/2021 12:48	7/23/2021 12:52	0.07	8 (S-12)	Detonation
7/1/2021 0:00	8/1/2021 0:00	744.00	9 (S-13)	Out of service pending overhaul
7/1/2021 0:00	8/1/2021 0:00	744.00	10 (S-14)	Long-Term Standby
TOTAL DOWNTIME ¹		147.19		

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

Appendix D – Surface Emission and GCCS Component Leak Monitoring Results

SCS FIELD SERVICES

June 6, 2021 File No. 07221077.00

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

Subject: Sonoma Central Landfill - Petaluma, California

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

Dear Mr. Cheney:

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

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

Sincerely,

Whitney Stackhouse Project Manager SCS Field Services

High Muer

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 2021

Presented to:



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

SCS FIELD SERVICES

File No. 07221078.00 Task 01 | June 6, 2021

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

Sonoma Central Landfill

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

INTRODUCTION

This letter provides results of the March 24, 25, 26, 31 and April 21, 2021, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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

SUMMARY AND CONCLUSIONS

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

On, March 24, 25, 26, 31 and April 21, 2021, SCS performed first quarter 2021 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that three (3) locations exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that all areas had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments and installation of new bentonite plugs) by SCS personnel. Based on these monitoring results no additional follow up testing was required.

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

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

During the monitoring event, there were no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results, no further action 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, one (1) location was observed to exceed the 200 ppmv, reporting threshold. When these readings are observed, the locations are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report. Please see the figure in Attachment 3 for location details.

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

SURFACE EMISSIONS MONITORING

On March 24, 25, 26, 31 and April 21, 2021, the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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

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

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

SURFACE EMISSIONS MONITORING PROCEDURES

Surface emissions monitoring was conducted in accordance with the LMR and NSPS requirements. Monitoring was performed with the FID inlet held within 3-inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 -feet apart over the surface of the landfill. Cracks, holes and other cover penetrations in the surface were also tested. Surface emissions readings were monitored continuously and recorded every 5 seconds. Any areas in exceedance of the 200 or 500 ppmv standards (reporting and compliance levels, respectively) would be GPS tagged and stake-marked for on-site personnel to perform remediation or repairs.

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

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

TESTING RESULTS

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

On March 24, 25, and 26, 2021, SCS performed first quarter 2021 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that three (3) locations exceeded the 500 ppmv maximum concentration. The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on March 31 and April 21, 2021, respectively, indicated that all areas had returned to compliance following system adjustments and remediation (wellfield adjustment and borehole repairs using bentonite and soil) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, calculated integrated grid monitoring indicated no areas exceedances of the 25-ppmv requirement during this monitoring event. Based on these monitoring results no follow up testing was required. Results of the initial 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 2021.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On March 24 and 26, 2021, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and PGF Facility.

Monitoring was performed with the detector inlet held one-half of an inch from pressurized pipe and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 65.6 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS and PGF were in compliance at the time of our testing.

PROJECT SCHEDULE

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

STANDARD PROVISIONS

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

Attachment 1

Landfill Grid



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LEGEND

 	APPROXIMATE LINER BOUNDARY
 500	EXISTING 10' CONTOUR
 	EXISTING GAS PIPE, ABOVE GRADE
	EXISTING GAS FIFE, 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	
© LW-170	
⊕ EW−165	EXISTING VERTICAL GAS EXTRACTION WELL
(1) 88.5	EXISTING VERTICAL GAS EXTRACTION WELL WITH PUMP ADDED
8	EXISTING REMOTE WELLHEAD
->>-	EXISTING CONTROL VALVE
it	EXISTING BLIND FLANGE
it	EXISTING FLANGE CONNECTION
-D	EXISTING REDUCER FITTING
	EXISTING END CAP
	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.



SONOMA COUNTY CENTRAL LANDFILL PETALUMA, CALIFORNIA



SURFACE EMISSIONS MONITORING **GRID MAP**

Attachment 2

Surface Pathway



First Quarter 2021 LMR Surface Emissions Monitoring Pathway Sonoma Central Landfill, Petaluma, California Attachment 3

Instantaneous and Component Emissions Monitoring Results

First Quarter 2021

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

Instantaneous Data Report for March 24, 25, 26, 31 and April 21, 2021

Highest Component Reading

Location	Initial Monitoring (ppmv) March 26, 2021	10-Day Follow Up Monitoring (ppmv) March 31, 2021	20-Day Follow Up Monitoring (ppmv) April 21, 2021
V049-A	7,600	60	160
Condensate Sump 3	2,600	180	55
V217-0	1,700	60	100

Highest Pressurized Pipe Reading

Location	Date	Concentration (ppmv)
Flare	3/24/2021	3.3
PGF Facility	3/26/2021	65.6

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


First Quarter 2021 Emissions Monitoring Locations Greater Than 500 ppmv Sonoma Central Landfill, Petaluma, California



First Quarter 2021 Emissions Monitoring Locations Between 200-499 ppmv Sonoma Central Landfill, Petaluma, California Attachment 4

Integrated Monitoring Results

Point Name	Record Date	FID Concentration (ppm)	Comments
SC001	3/24/2021 12:54	1.41	
SC002	3/24/2021 10:22	1.66	
SC003	3/24/2021 10:29	2.18	
SC004	3/25/2021 10:36	3.40	
SC005	3/24/2021 11:38	2.44	
SC006	3/24/2021 10:11	1.89	
SC007	3/24/2021 10:25	2.34	
SC008	3/24/2021 10:24	4.48	
SC009	3/24/2021 10:31	8.53	
SC010	3/25/2021 10:36	9.94	
SC011	3/24/2021 11:23	6.88	
SC012	3/24/2021 12:13	5.28	
SC013	3/24/2021 11:38	7.97	
SC014	3/25/2021 09:29	1.74	
SC015	3/24/2021 10:07	2.25	
SC016	3/24/2021 10:37	1.92	
SC017	3/24/2021 10:21	8.96	
SC018	3/24/2021 10:34	6.46	
SC019	3/25/2021 10:40	8.48	
SC020	3/24/2021 11:22	5.05	
SC021	3/24/2021 12:05	3.07	
SC022	3/24/2021 11:40	5.39	
SC023	3/24/2021 11:29	8.42	
SC024	3/25/2021 09:35	1.93	
SC025	3/24/2021 10:06	2.14	
SC026	3/24/2021 10:34	4.27	
SC027	3/24/2021 10:35	3.48	
SC028	3/24/2021 10:26	2.99	
SC029	3/25/2021 10:40	2.93	
SC030	3/24/2021 11:19	2.33	
SC031	3/24/2021 12:02	2.96	
SC032	3/24/2021 11:42	4.89	
SC033	3/24/2021 11:32	6.13	
SC034	3/25/2021 09:35	1.51	
SC035	3/24/2021 10:12	1.67	
SC036	3/24/2021 10:35	5.57	
SC037	3/24/2021 10:28	4.51	
SC038	3/24/2021 10:34	3.06	
SC039	3/25/2021 10:35	7.16	
SC040	3/24/2021 11:18	3.86	
SC041	3/24/2021 11:59	3.98	
SC042	3/24/2021 12:22	2.99	
SC043	3/24/2021 11:30	5.47	

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2 PE

Point Name	Record Date	FID Concentration (ppm)	Comments
SC044			Exempted By Site
SC045			Exempted By Site
SC046			Exempted By Site
SC047			Exempted By Site
SC048			Exempted By Site
SC049			Exempted By Site
SC050			Exempted By Site
SC051	3/26/2021 12:08	2.70	
SC052	3/25/2021 12:28	4.20	
SC053	3/26/2021 08:49	2.12	
SC054	3/26/2021 09:26	2.95	
SC055	3/26/2021 09:54	5.48	
SC056			Exempted By Site
SC057			Exempted By Site
SC058			Exempted By Site
SC059			Exempted By Site
SC060			Exempted By Site
SC061			Exempted By Site
SC062	3/26/2021 11:57	4.54	
SC063	3/25/2021 12:30	5.11	
SC064	3/26/2021 08:49	1.82	
SC065	3/26/2021 09:25	2.58	
SC066	3/26/2021 09:54	5.87	
SC067			Exempted By Site
SC068	3/24/2021 10:42	1.62	
SC069			Exempted By Site
SC070			Exempted By Site
SC071			Exempted By Site
SC072			Exempted By Site
SC073			Exempted By Site
SC074			Exempted By Site
SC075	3/26/2021 12:31	2.29	
SC076	3/25/2021 09:46	5.10	
SC077	3/25/2021 10:23	2.79	
SC078	3/25/2021 10:24	1.88	
SC079	3/25/2021 10:30	2.51	
SC080			Exempted By Site
SC081			Exempted By Site
SC082			Inaccessible-Fenced
SC083	3/24/2021 11:41	3.04	
SC084	3/25/2021 11:09	4.73	
SC085			Exempted By Site
SC086			Exempted By Site

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Point Name	Record Date	FID Concentration (ppm)	Comments
SC087			Exempted By Site
SC088			Exempted By Site
SC089	3/26/2021 09:43	2.27	
SC090	3/25/2021 12:12	3.95	
SC091	3/26/2021 09:06	2.26	
SC092	3/25/2021 09:55	8.09	
SC093	3/25/2021 10:26	6.28	
SC094	3/25/2021 10:23	3.39	
SC095	3/25/2021 10:32	2.59	
SC096			Exempted By Site
SC097			Exempted By Site
SC098			Exempted By Site
SC099	3/24/2021 11:36	3.95	
SC100	3/24/2021 11:41	4.94	
SC101	3/25/2021 11:08	5.48	
SC102			Exempted By Site
SC103	3/26/2021 10:22	2.54	
SC104	3/25/2021 11:52	2.69	
SC105	3/26/2021 09:43	3.84	
SC106	3/25/2021 12:12	9.10	
SC107	3/26/2021 09:04	6.46	
SC108	3/25/2021 09:52	11.84	
SC109	3/25/2021 10:34	8.63	
SC110	3/25/2021 10:30	3.51	
SC111	3/25/2021 10:30	2.74	
SC112			Exempted By Site
SC113			Exempted By Site
SC114			Exempted By Site
SC115	3/24/2021 11:33	3.77	
SC116	3/24/2021 11:37	4.55	
SC117	3/25/2021 11:03	3.71	
SC118	3/25/2021 13:08	1.86	
SC119	3/25/2021 11:51	3.74	
SC120	3/26/2021 09:47	5.33	
SC121	3/25/2021 12:07	8.65	
SC122	3/26/2021 09:05	7.25	
SC123	3/25/2021 09:49	7.53	
SC124	3/25/2021 10:28	9.15	
SC125	3/25/2021 10:24	5.00	
SC126	3/25/2021 10:39	2.73	
SC127			Exempted By Site
SC128			Exempted By Site
SC129			Exempted By Site

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Point Name	Record Date	FID Concentration (ppm)	Comments
SC130	3/24/2021 11:34	5.65	
SC131	3/24/2021 11:34	5.06	
SC132	3/25/2021 11:46	2.41	
SC133	3/26/2021 09:43	3.23	
SC134			Not on Grid Map
SC135	3/25/2021 12:06	1.54	
SC136	3/26/2021 09:06	3.82	
SC137	3/25/2021 09:43	3.48	
SC138	3/25/2021 10:26	7.59	
SC139	3/25/2021 10:28	8.60	
SC140	3/25/2021 10:33	2.33	
SC141			Exempted By Site
SC142			Exempted By Site
SC143			Exempted By Site
SC144	3/24/2021 11:35	6.02	
SC145	3/24/2021 11:39	6.73	
SC146	3/26/2021 11:17	9.35	
SC147	3/26/2021 09:44	2.04	
SC148	3/25/2021 12:06	2.39	
SC149	3/26/2021 09:04	2.12	
SC150	3/25/2021 09:51	3.34	
SC151	3/25/2021 10:26	2.07	
SC152	3/25/2021 10:23	1.54	
SC153	3/25/2021 10:40	1.59	
SC154			Exempted By Site
SC155			Exempted By Site
SC156			Exempted By Site
SC157	3/24/2021 11:32	3.80	
SC158	3/24/2021 11:32	3.70	
SC159			Exempted By Site
SC160			Exempted By Site
SC161			Exempted By Site
SC162			Exempted By Site
SC163			Exempted By Site

Attachment 5

Calibration Logs

	CALIBRATION AN	D PERTINEN		
Date: 324-2		Site Name:	Sonom	
Inspector(s): Brant	Wade	Instrument:	TVA 2020	
WEATHER OBSERVATIONS				
Wind Speed: MPH	Wind Direction:	/	Barometric Pressure: 30	″Hg
Air Temperature: 55 •F	General Weathe Conditions	SUMO	1	
CALIBRATION INFORMATION				
re-monitoring Calibration Precision Check				
nd calculate the average algebraic difference recision must be less than or equal to 10% of the strument Serial Number:	between the instrument the colibration gas value.	reading and the	calibration gas as a percent	age. The calibration
rial Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds
1 .	501	100.0000	1	2
2 ,2	502	1	2	2
3	499	1	4	6
V.				
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	Average Difference.			
	= 100%- = <i>QQ</i> .7	1_3 %	_/500 × 100%	
pan Sensitivity:				
rial 1: Counts Observed for the Span=_	142176	Trial 3: Cour	nts Observed for the Span=	142 702
Counters Observed for the Zero=	4585	Count	ers Observed for the Zero=	4600
rial 2: Counts Observed for the Span=_	142 486			
Counters Observed for the Zero=	4597			
ost Monitoring Calibration Check				
ero Air	Cal Gas			
	Reading:	500	ppm	
eading:ppm				
ACKGROUND CONCENTRATIONS CHECKS	s I ,			
ACKGROUND CONCENTRATIONS CHECKS	Entrance	2	Reading:	opm
ACKGROUND CONCENTRATIONS CHECKS pwind Location Description:	Entrance Cyridis	e L	Reading: 1.2 Reading: 1.5	opm

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		CALIBRATION AN		ΤΟΔΤΑ	
			DPERIMEN	II DATA	
Date:	5-24-	-2	Site Name;	Sonomer	
Inspector(s):	Hunter of	+	Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS			. 91	
Wind Speed:	МРН	Wind Direction:	_	Barometric Pressure:	"Hg
Air Temperature:	St °F	General Weathe Conditions	suny	_	
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
and calculate the precision must b	e average algebraic difference e less than or equal to 10% of I Number: <u>54</u> 2	e between the instrument f the calibration gas value.	reading and the c	Cal Gas Concentration	age. The calibration
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2		499		(2
3	1	498		2	3
Calibration Precis	sion= Average Difference/Cal	Average Difference: Gas Conc. X 100%	*Perform recalibration	1 - 3 If average difference is greater than 3	10
Calibration Preci	sion= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%-	*Perform recalibration	l - 3 If average difference is greater than 1 /500 x 100%	10
Calibration Preci:	sion= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 94.7	*Perform recalibration	l ~ 3 If average difference is greater than 1 /500 x 100%	10
Calibration Preci	sion= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = QA_2 ?	*Perform recalibration	l - 3 If average difference is greater than 1 /500 x 100%	10
Calibration Precis Span Sensitivity:	sion= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = $Qa_?$?	*Perform recalibration	l ~ 3 If average difference is greater than 1 /500 x 100%	10
Calibration Preci: Span Sensitivity: <u>Trial 1:</u> Co	sion= Average Difference/Cal unts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100% = $9a_{2}?$ 128972	*Perform recalibration 1_3 % T <u>rial 3:</u> Court	(- 3 If average difference is greater than 1 /500 x 100%	129457
Calibration Precis Span Sensitivity: Trial 1: Co Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 92.7 128972 3759	*Perform recalibration (1 - 3 If average difference is greater than 1 /500 x 100% Its Observed for the Span= ers Observed for the Zero=	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100% - = $9a_{?}?$ 128972 3759 3259 128972 3759	*Perform recalibration 1_3 % Trial 3: Counte	1 - 3 If average difference is greater than 1 /500 x 100%	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co <u>Cour</u> Trial 2: Co Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Span=	Average Difference: Gas Conc. X 100% = 100% - = $9a_{?}?$ 128972 3759 3759 128972 3759 3759 3259 3469	*Perform recalibration (3 % Trial 3: Counte	1 - 3 If average difference is greater than 1 /500 x 100% hts Observed for the Span= ers Observed for the Zero=	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Gas Conc. X 100% = 100% - = $9a_{?}?$ 128972 3759 128972 3759 128975 3469	*Perform recalibration 1_3 % Trial 3: Counte	I - 3 If average difference is greater than 1 /500 x 100% Ints Observed for the Span= ers Observed for the Zero=	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co Cour Post Monitoring 0 Zero Air Reading:	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Gas Conc. X 100% = 100% = $9a_{?}?$ 128972 3759 528972 3759 528972 Cal Gas Reading:	Perform recalibration 1.3 % Trial 3: Counte 500	1 - 3 If average difference is greater than 1 /500 x 100% Ints Observed for the Span= ers Observed for the Zero=	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co Cour Frial 2: Co Cour Post Monitoring 0 Zero Air Reading: SACKGROUND 0	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check	Average Difference: Gas Conc. X 100% = 100%- = $94.?$ 128972 3759 528972 3759 528972 3759 528972 Cal Gas Reading:	Perform recalibration 1.3 % Trial 3: Counte 500	1 - 3 If average difference is greater than 1 /500 x 100% Ints Observed for the Span= ers Observed for the Zero=	129457 3488
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co Cour Post Monitoring 0 Zero Air Reading: BACKGROUND 0 Jpwind Location	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check Concentrations checks Description:	Average Difference: Gas Conc. X 100% = 100%- = 92.7 128972 3759 128972 3759 128972 3759 128972 Cal Gas Reading: FMU Conce	*Perform recalibration 1_3 % Trial 3: Counte 500	$\frac{1 - 3}{16 \text{ average difference is greater than 1}}$ $\frac{1}{500 \times 100\%}$ Reading: $\frac{1}{500 \times 100\%}$	ррт
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co Cour Post Monitoring 0 Zero Air Reading: SACKGROUND 0 Jpwind Location	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check CONCENTRATIONS CHECKS Description: on Description:	Average Difference: Gas Conc. X 100% = 100%- = 94.7 12897 2 12897 2 375 9 12897 2 375 9 12897 2 Gat Gas Reading: FUN ANCE Gat Gas	Perform recalibration 1.3 % Trial 3: Counte 500	I - 3 I if average difference is greater than 1 /500 x 100% Ints Observed for the Span= ers Observed for the Zero= ppm Reading: Image: Image: </td <td>ррт арт</td>	ррт арт

C

		SURFACE EMISS			
Date:	3-24-2		Site Name:	Sonoma	
Inspector(s):	Bryan DC	noa	Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS			4	
Wind Speed:	мрн	Wind Direction:	_	Barometric Pressure: 30	"Hg
Air Temperature:	54 .F	General Weath Condition	er s: <u>\$UNY</u>		
CALIBRATION I	NFORMATION		/		
Pre-monitoring C	Calibration Precision Check				
nstrument Serial	l Number:	of the calibration gas value	, county and the	Cal Gas Concentration:	500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds
2		500		0	
3	0 -	500		0	
alibration Precis	ion= Average Difference/Ca	al Gas Conc. X 100% = 100%	,3	_/500 x 100%	
		= 99,99	%		
pan Sensitivity:			True to		
rial 1: Cou	unts Observed for the Span	128948	Cou	nts Observed for the Span=	129547
Coun	iters Observed for the Zero	289	Count	ters Observed for the Zero=	29 \$ 77
rial 2: Cou	unts Observed for the Span	129203	_		
Coun	ters Observed for the Zero	2909			
ost Monitoring (Calibration Check				
ero Air eading:	ppm	Cal Gas Reading:	500	ppm	
	CONCENTRATIONS CHECK	S			
				b d .	
pwind Location	Description:	Entrance	÷	Reading:	pm
Ipwind Location I	Description: on Description:	Entrance Chrid 15	52	Reading: 1. 5	ipm ipm

	CALIBRATION AND	PERTINEN	TDATA	
Date: 3-7-4-	-21	Site Name:	Son DM CM	
nspector(s): Llam MCC	FINN	Instrument:	TVA 2020	·
WEATHER OBSERVATIONS	,			
	Mind		Damanakia	
Wind Speed: MPH			Pressure:	"Hg
Air Temperature:°F	General Weather Conditions:	Samy		
CALIBRATION INFORMATION		/		
Pre-monitoring Calibration Precision Check				
Procedure: Calibrate the instrument. Make a	total of three measurement	ts bv alternating	zero air and the calibration	a aas. Record the readinas
and calculate the average algebraic difference	e between the instrument re	eading and the o	calibration gas as a percent	age. The calibration
precision must be less than or equal to 10% of	the calibration gas value.			
nstrument Serial Number: 127	3		Cal Gas Concentration:	500ppm
Trial Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds
	500			3
3 0	500		0	7
alibration Precision= Average Difference/Cal	Average Difference:	*Perform recalibration	• 33 If average difference is greater than	10
alibration Precision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%	*Perform recalibration	• 33 If average difference is greater than /500 x 100%	10
alibration Precision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 99.94	*Perform recalibration - 3 %	• 33 If average difference is greater than /500 x 100%	10
Calibration Precision= Average Difference/Cal pan Sensitivity:	Average Difference: Gas Conc. X 100% = 100%- = 99.94	*Perform recalibration . 3 %	• 33 If average difference is greater than /500 x 100%	.0
Calibration Precision= Average Difference/Cal pan Sensitivity: rial 1: Counts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364	*Perform recalibration - 3 % T <u>rial 3:</u> Cour	• 33 If average difference is greater than /500 x 100%	128605
Calibration Precision= Average Difference/Cal pan Sensitivity: rial 1: Counts Observed for the Span= Counters Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 2866	*Perform recalibration - 3 % T <u>rial 3:</u> Court	• 33 If average difference is greater than /500 x 100% Its Observed for the Span= ers Observed for the Zero=	128605 2887
Calibration Precision= Average Difference/Cal pan Sensitivity: rial 1: Counts Observed for the Span= Counters Observed for the Zero= rial 2: Counts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128718	*Perform recalibration . 3 % <u>Frial 3:</u> Court	• 33 If average difference is greater than /500 x 100% hts Observed for the Span= ers Observed for the Zero=	128605 2887
Calibration Precision= Average Difference/Cal pan Sensitivity: rial 1: Counts Observed for the Span= Counters Observed for the Zero= rial 2: Counts Observed for the Span= Counters Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 128718 2969	*Perform recalibration - 3 % <u>Trial 3:</u> Court	• 33 If average difference is greater than /500 x 100% hts Observed for the Span= ers Observed for the Zero=	128605 2887
Counters Observed for the Span= Counters Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 128718 2969	*Perform recalibration - 3 % <u>Frial 3:</u> Court	• 33 If average difference is greater than /500 x 100% Its Observed for the Span= ers Observed for the Zero=	128605 2887
Counters Observed for the Span= Counters Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 2866 128718 2969 Cal Gas	*Perform recalibration - 3 % Trial 3: Court Count	• 33 If average difference is greater than /500 x 100% Its Observed for the Span= ers Observed for the Zero=	128605 2887
Counters Observed for the Span= Counters Observed for the Zero= ost Monitoring Calibration Check ero Air eading:	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 2866 128718 2969 Cal Gas Reading:	*Perform recalibration . 3 % <u>Trial 3:</u> Court <u>Count</u>	.33 If average difference is greater than /500 x 100%	128605 2887
Counters Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= rial 2: Counts Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= ost Monitoring Calibration Check ero Air eading: ACKGROUND CONCENTRATIONS CHECKS	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 2866 128718 2969 Cal Gas Reading:	*Perform recalibration - 3 % Trial 3: Court Count	a 33 If average difference is greater than /500 x 100% hts Observed for the Span= ers Observed for the Zero=	128605 2887
Calibration Precision= Average Difference/Cal pan Sensitivity: rial 1: Counts Observed for the Span= Counters Observed for the Zero= rial 2: Counts Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= ost Monitoring Calibration Check ero Air eading: ppm ACKGROUND CONCENTRATIONS CHECKS pwind Location Description:	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128364 128718 2969 Cal Gas Reading: = 00%- = 29%	*Perform recalibration - 3 % Trial 3: Count Count	 33 If average difference is greater than /500 x 100% Its Observed for the Span= ers Observed for the Zero= ppm Reading: 2 	128605 2887
Counters Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= rial 2: Counters Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= St Monitoring Calibration Check Pro Air Bading: Councentration Schecks Sowind Location Description:	Average Difference: Gas Conc. X 100% = 100%- = 99.94 128369 128718 2969 Cal Gas Reading: ENEV CNCC (N 12157	*Perform recalibration - 3 % Trial 3: Count Count	and average difference is greater than /500 x 100% hts Observed for the Span= ers Observed for the Zero= ppm Reading: ↓. ∠ Reading: ↓. ∠	128605 2887 2887

Data

		SURFACE EMISSI	ONS MONIT	ORING	
		CALIBRATION AN	D PERTINEN	IT DATA	
Date:	3-24-	21	Site Name:	Sonoma	
Inspector(s):			Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
		Wind //		Barometric	
Wind Speed:	МРН	Direction: NW	-	Pressure: 30	"Hg
Air	al	General Weathe	er 🕜		
Temperature:	_ <u>S4</u> •F	Conditions	Sunny	- -	
CALIBRATION I	INFORMATION		/		
Pre-monitoring (Calibration Precision Check				
Procedure: Calib	orate the instrument. Make	e a total of three measureme	nts by alternating	g zero air and the calibration	n gas. Record the readings
and calculate th precision must h	e average algebraic differe he less than or equal to 10%	nce between the instrument	reading and the	calibration gas as a percent	age. The calibration
	に 1055 にれれ り, とくれば, 10 10人	1 i <i>a</i> i			
Instrument Seria	al Number:			Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	ICal Gas C	oncCal Gas Reading	Response Time (seconds)
1	01	500		0	3
2	s16	501		1	3
3	02	502		2	2
		= 100%- = 49.?	%	_/500 x 100%	
			,,		
Span Sensitivity:			Trial 2:		
Co	unts Observed for the Spa	1 = 16667	Cour	nts Observed for the Span=	162997
Cour	nters Observed for the Zero	= 1782	Count	ers Observed for the Zero=	4823
Trial 2: Co	unts Observed for the Spar	1620824			
Cour	nters Observed for the Zero	= 4799			
Post Monitoring	Calibration Check				
Zero Air Reading: -	ppm	Cal Gas Reading:	560	ppm	
BACKGROUND	CONCENTRATIONS CHEC	KS			
Jpwind Location	Description:	Entrance	2	Reading: 1.3	ppm
Oownwind Locati	on Description:	Givid 152	-	Reading:	ppm
lotes:	Wind speed averages were exceeded 20 miles per hou	observed to remain below th r. No rainfall had occurred w	he alternative rec vithin the previou	uested 10 miles per hour ar s 24 hours of the monitoring	nd no instantaneous speeds g event. Therefore, site

meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

-lasti

SCS DataServices - Secure Environmental Data

	7 2 1		DPERIMEN		
Date:	5-24-	2	Site Name:	SONOMEN	
Inspector(s):	Don Gibsa	on	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:мрн	Direction: 1/4	-	Barometric Pressure: <u>50</u>	- "Нд
Air Temperature	St *F	General Weathe Conditions	Sunny	<u>_</u>	
CALIBRATION	INFORMATION		/		
re-monitoring	Calibration Precision Check				
Procedure: Calif	hrate the instrument Make a t	otal of three measuremen	ats hy alternating	zero air and the calibratio	n and Pocord the reading
ind calculate th	ne average algebraic difference	between the instrument	readina and the	calibration aas as a percent	age. The calibration
precision must b	be less than or equal to 10% of	the calibration gas value.			y
nature and Cari	122	0			23.17.1
nstrument Seria	al Number:	0		Cal Gas Concentration:	500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (second
1	.1	500		0	3
2	.2	501			2
3	\$77,8	500		0	
alibration Preci	ision= Average Difference/Cal G	Average Difference: Gas Conc. X 100%	*Perform recalibration	l n if average difference is greater than	10
Calibration Preci	ision= Average Difference/Cal G	Average Difference: Gas Conc. X 100%	*Perform recalibration	n if average difference is greater than	10
alibration Preci	ision= Average Difference/Cal C	Average Difference: Gas Conc. X 100% = 100%-	*Perform recalibration	n if average difference is greater than _/500 x 100%] 10
alibration Preci	ision= Average Difference/Cal G	Average Difference: Gas Conc. X 100% = 100%- = 99.8	*Perform recalibration	n if average difference is greater than _/500 x 100%	10
Calibration Preci	ision= Average Difference/Cal C	Average Difference: Gas Conc. X 100% = 100%- = 99.8	*Perform recalibration	n if average difference is greater than _/500 x 100%] 10
alibration Preci pan Sensitivity: rial 1:	ision≃ Average Difference/Cal G	Average Difference: Gas Conc. X 100% = 100%- = 99.8	*Perform recalibration % Trial 3:	t n if average difference is greater than _/500 x 100%	10
alibration Preci pan Sensitivity: rial 1: Co	ision= Average Difference/Cal G	Average Difference: Gas Conc. X 100% = 100%- = 99.8 [62078.	*Perform recalibration % Trial 3: Court	t n if average difference is greater than _/500 x 100% nts Observed for the Span=	162503
Calibration Preci pan Sensitivity: rial 1: Cou	ision= Average Difference/Cal G punts Observed for the Span= nters Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 99.8 162078. 2599	*Perform recalibration % Trial 3: Count	t n if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero≈	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou	ision= Average Difference/Cal C punts Observed for the Span= nters Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 99.8 162078 2599 162258	*Perform recalibration * Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero≃	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou	ision= Average Difference/Cal C punts Observed for the Span= nters Observed for the Zero= punts Observed for the Span=	Average Difference: 5as Conc. X 100% = 100%- = 99.8 162078 2599 162259 3615	*Perform recalibration * Perform recalibration % Trial 3: Count Count	t n if average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero=	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou Cou	ision= Average Difference/Cal G punts Observed for the Span= <u>nters Observed for the Zero=</u> punts Observed for the Span= <u>nters Observed for the Zero=</u>	Average Difference: Gas Conc. X 100% = 100%- = 99.8 [62078: 2599 162258 3615	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero≃	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou cour ost Monitoring	ision= Average Difference/Cal G ounts Observed for the Span= <u>nters Observed for the Zero=</u> ounts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check	Average Difference: Gas Conc. X 100% = 100% = 99.8 162078 2599 162258 3615	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero≃	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou rial 2: Cou cour	ision= Average Difference/Cal C ounts Observed for the Span= nters Observed for the Zero= ounts Observed for the Span= nters Observed for the Span= Calibration Check	Average Difference: 5as Conc. X 100% = 100%- = 99.8 162078 2599 162259 3615 Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero=	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou cou sost Monitoring ero Air eading:	ision= Average Difference/Cal C punts Observed for the Span= nters Observed for the Zero= punts Observed for the Span= nters Observed for the Span= Calibration Check	Average Difference: Gas Conc. X 100% = 100% = 99.8 162078 2599 162259 3615 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero≈	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou cou ost Monitoring ero Air eading: ACKGROUND	ision= Average Difference/Cal C ounts Observed for the Span= 	Average Difference: Gas Conc. X 100% = 100% = 99.8 162078 2599 162259 3615 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero≈	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou ost Monitoring ero Air eading: ACKGROUND of pwind Location	ision= Average Difference/Cal C punts Observed for the Span= 	Average Difference: 5as Conc. X 100% = 100%- = 99.8 162078 2599 162259 3615 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	t n if average difference is greater than _/500 x 100% Ints Observed for the Span= ers Observed for the Zero= ppm Reading: 1.3	162503 3649
Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou cou cou cou cou cou cou cou cou cou c	ision= Average Difference/Cal C ounts Observed for the Span= <u>nters Observed for the Zero=</u> ounts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check Calibration Check Description:	Average Difference: Gas Conc. X 100% = 100% = 99.8 162078 2599 162259 3615 Cal Gas Reading: 16700	*Perform recalibration *Perform recalibration % Trial 3: Count Count Count Count	t n if average difference is greater than $_{500 \times 100\%}$ nts Observed for the Span= <u>ers Observed for the Zero=</u> ppm Reading: 1.3 Reading: 1.6	162 <u>503</u> 3649 ррт

		SURFACE EMISSI			
	3-2 4-2		DPERIMEN	Sanaaa c	Λ
Date:	211		Site Name:		
Inspector(s):	Pablo		Instrument;	TVA 2020	
WEATHER OBS	ERVATIONS			*	
Wind Speed:	2.7 мрн	Wind Direction: <u>N</u> W	_	Barometric Pressure: 50	- "Hg
Air Temperature:	54 F	General Weathe Conditions	Sunny	_	
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
and calculate th precision must b Instrument Seria	e average algebraic difference e less than or equal to 10% of I Number:	e between the instrument the calibration gas value 2	reading and the	calibration gas as a percent Cal Gas Concentration:	age. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds)
2	, 2	500		7	<u> </u>
3	-1 -	499		1	2
	sion= Average Difference/Cal	Gas Conc. X 100% = 100%- - 997.7	1,9	_/500 x 100%	
		- [[, (<i>,</i> ,,		
Span Sensitivity: Trial 1:			Trial 3:		
Co	unts Observed for the Span=	142420	Cour	nts Observed for the Span=	142850
Cour	nters Observed for the Zero=	587/	Count	ers Observed for the Zero=	3905
Co	unts Observed for the Span=	142 620			
Cour	nters Observed for the Zero=	3883			
Post Monitoring (Calibration Check				
Zero Air Reading:	ppm	Cal Gas Reading:	500	ppm	
BACKGROUND	CONCENTRATIONS CHECKS				
Jpwind Location	Description:	Entranc	e	Reading: 1.2	ppm
Downwind Locati	on Description:	Chrid 15	2	Reading: 1, U	ppm
Notes: N	Nind speed averages were ob exceeded 20 miles per hour. I neteorological conditions we	served to remain below th No rainfall had occurred w re within the requested al:	ne alternative rec ithin the previou ternatives of the	uested 10 miles per hour a s 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speeds g event. Therefore, site bove mentioned date.

	7 2 4 -		PERTINE		
Date:	5-24-0		Site Name:	sonom	a
Inspector(s):			Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			а. С	
Wind Speed	: 27 мрн	Wind Direction:		Barometric Pressure: 30	"Hg
Air Temperature	55 1	General Weather Conditions:	sung	_	
CALIBRATION	INFORMATION		/		
Pre-monitoring	Calibration Precision Check				
Procedure: Calit and calculate th precision must t Instrument Seria	brate the instrument. Make a ne average algebraic difference be less than or equal to 10% o al Number:	total of three measurement e between the instrument re f the calibration gas value.	s by alternatin eading and the	g zero air and the calibrat calibration gas as a perce Cal Gas Concentration	on gas. Record the readings ntage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds)
1	. 1	498	-	2.	4
2	2	499			5
3		501	-	١	5
	,	= 100% = 79.7 g	1.3	_/500 x 100%	
Coope Constitution					
Trial 1:			rial 3:		
Co	ounts Observed for the Span=	1/276	Cou	nts Observed for the Span	- 171839
Cou	inters Observed for the Zero=	4177	Count	ers Observed for the Zero	= 4225
<u>Frial 2:</u> Co	ounts Observed for the Span=	171501			
Cou	nters Observed for the Zero=	4196			
Post Monitoring	Calibration Check				
ero Air Reading:	ppm	Cal Gas Reading:	500	ppm	
BACKGROUND	CONCENTRATIONS CHECKS				
Jpwind Location	Description:	Entrance	-	Reading: 1.2	_ ppm
ownwind Locat	ion Description:	Grid 157	_	Reading: 1.4	_ppm
lotes:	Wind speed averages were of exceeded 20 miles per hour	oserved to remain below the	alternative rec	quested 10 miles per hour	and no instantaneous speeds

meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

Alghanian Ball

<u>SCS Dataservices – Secure Environmental Da</u>

		SURFACE EMI	SSIONS MONI	TORING	
		CALIBRATION	AND PERTINE		
	2-7-4-1	\mathcal{L}		6	
Date:			Site Name:	Bhoma	
inspector(s):	Kyan Haslo	M	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			-6	
Wind Speed	а:мрн	Wind Direction:	w -	Barometric Pressure: <u>30</u>	- "Hg
Ai Temperature	ir 55 °F	General Wea Condit	ather ions: <u>SUNNY</u>	_	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Cali. and calculate tl precision must . Instrument Seri	brate the instrument. Make he average algebraic differen be less than or equal to 10% ial Number:	a total of three measure nce between the instrum of the calibration gas vo	ements by alternatin lent reading and the llue.	g zero air and the calibration calibration gas as a percent Cal Gas Concentration	n gas. Record the re age. The calibration
11121	Zero Air Reading		Cal Gas (ConcCal Gas Reading	Response Time (s
2	2	498		2	5
3		199		1	1
Calibration Prec	cision= Average Difference/C	Average Difference al Gas Conc. X 100%	e: *Perform recalibratio	n if average difference is greater than	10
Calibration Prec	cision= Average Difference/C	Average Difference al Gas Conc. X 100% = 10	e: Perform recalibratio	n if average difference is greater than /500 x 100%	10
Calibration Prec	cision= Average Difference/C	Average Difference al Gas Conc. X 100% = 10 = 90	e: *Perform recalibratio 00%	n if average difference is greater than /500 x 100%	10
Calibration Prec	cision= Average Difference/C	Average Difference al Gas Conc. X 100% = 10 = 99	e: *Perform recalibratic)00%C	n if average difference is greater than /500 x 100%	10
Calibration Prec Span Sensitivity Frial 1: Co	cision= Average Difference/C : ounts Observed for the Span	Average Difference al Gas Conc. X 100% = 10 = 99 = 1432	e: *Perform recalibratio 00%	n if average difference is greater than _/500 x 100% nts Observed for the Span=	10 10 10 10 10 10
Calibration Prec Span Sensitivity Frial 1: Cou	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero	Average Difference al Gas Conc. X 100% = 10 = 99 = <u>11935</u> = <u>1135</u>	e: *Perform recalibration 00%- 1% <u>Trial 3:</u> Count	n if average difference is greater than /500 x 100% nts Observed for the Span= ters Observed for the Zero=	11 11 11 11 11 11 11 11 11 11 11 11 11
Calibration Prec Span Sensitivity Trial 1: Cou Frial 2: Cou	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span	Average Difference al Gas Conc. X 100% = 10 = 99 = <u>11435</u> = <u>114526</u>	e: *Perform recallibration 00%- 7 % 7 % Trial 3: Count Count	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	114810 4182
Calibration Prec Span Sensitivity Trial 1: Cou Frial 2: Cou	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span unters Observed for the Zero	Average Difference al Gas Conc. X 100% = 10 = 99 = <u>11435</u> = <u>11435</u> = <u>114526</u> = <u>11458</u>	e: *Perform recallibration 00%- 7 % 7 % Trial 3: Count Count	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	114810 4182
Calibration Prec Span Sensitivity Trial 1: Cou Frial 2: Cou Post Monitoring	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span unters Observed for the Zero ; Calibration Check	Average Difference al Gas Conc. X 100% = 10 = 99 = <u>114312</u> = <u>11435</u> = <u>114526</u> = <u>11458</u>	e: *Perform recallibration 00%- 1 % <u>Trial 3:</u> Court Court	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	11 11 11 11 11 11 11 11 11 11 11 11 11
Calibration Prec Span Sensitivity Trial 1: Cou Cou Frial 2: Cou Post Monitoring Pero Air Reading:	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span unters Observed for the Zero calibration Check	Average Difference al Gas Conc. X 100% = 10 = 99 = 11935 = 11935 = 11935 = 119526 = 119526 = 119526 = 119526 Cal Gas Reading:	e: *Perform recallibratio 00% 	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	114810 4(82
Calibration Prec Span Sensitivity Frial 1: Cou Cou Frial 2: Cou Post Monitoring Pero Air Reading: BACKGROUND	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Zero ounts Observed for the Zero calibration Check Calibration Check	Average Difference al Gas Conc. X 100% = 10 = 99 = 11935 = 11935 = 11935 = 11935 = 119526 = 119526 = 119526 Cal Gas Reading: (S	e: *Perform recallibration 00% 1 % Count Count 	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	114810 4(82
Calibration Prec Span Sensitivity Trial 1: Cou Cou Trial 2: Cou Post Monitoring Cou Post Monitoring Cou Post Monitoring Cou Dost Monitoring Cou Dost Monitoring Cou Dost Monitoring	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Zero ounts Observed for the Span unters Observed for the Zero counts Observed for the Zero ppm CONCENTRATIONS CHECK Description:	Average Difference al Gas Conc. X 100% = 10 = 99 = 11935 = 11935 = 11935 = 119526 = 119526 = 119526 = 119526 Cal Gas Reading: KS	e: *Perform recallbratic 00%- 1 % <u>Trial 3:</u> Cour Court 500 Acce	ppm	11481 4(82
Calibration Prec Span Sensitivity Trial 1: Co Cou Prial 2: Co Cou Post Monitoring Prial 2: Co Cou Prial 2: Co Cou Cou Cou Cou Cou Cou Cou	cision= Average Difference/C : ounts Observed for the Span unters Observed for the Zero ounts Observed for the Zero ounts Observed for the Zero counts Observed for the Zero ounts Obse	Average Difference al Gas Conc. X 100% = 10 = 99 = 11935 = 11935 = 11935 = 11935 = 119526 = 119526 = 119526 = 119526 Cal Gas Reading: KS E-N trai	e: *Perform recallibratic 00% 7 % 6 6 5 00 Cour Cour 5 5 00 6 6 6 6 6 6 6 6 6 7 % 6 7 % 6 7 % 6 7 % 6 0 % 7 % 6 0 % 7 % 6 0 % 7 % 7 % 7 % 7 % 7 % 7 % 7 %	ppm Reading: <u>1.2</u> Reading: <u>1.4</u>	ррт ppm

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1				·P.	ost
		SURFACE EMISSI	ONS MONI	TORING	
		CALIBRATION AN	D PERTINE	NT DATA	
Date:	3.24	21	Site Name:	Sonor	201
Inspector(s):	Brant	Wade	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed	:МРН	Wind Direction: WN	N N	Barometric Pressure: 30	_ "Hg
Air Temperature	45°F	General Weathe Conditions	clean	(
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calib	prate the instrument. Make a	a total of three measureme	nts by alternatin	a zero air and the calibratio	n aas Record the readinas
and calculate th	e average algebraic differen	ce between the instrument	reading and the	calibration gas as a percent	tage. The calibration
precision must b	pe less than or equal to 10% o	of the calibration gas value.			
Instrument Seria	al Number: 54	15		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seconds
1		5124			2
3	1	507	-	7	
	0 ,	= 100%-	99.7	_/500 × 100%	
		=99.7	%		
inan Sensitivity:					
i <mark>rial 1:</mark> Co	ounts Observed for the Span=	141039	<u>Trial 3:</u> Cou	ints Observed for the Span=	141674
Cou	nters Observed for the Zero=	4672	Coun	ters Observed for the Zero=	4720
Trial 2: Co	ounts Observed for the Span=	141357			
Cou	nters Observed for the Zero=	4694			
ost Monitoring	Calibration Check				
ero Air		Cal Gas			
eading:	ppm	Reading:	500	ррт	
ACKGROUND	CONCENTRATIONS CHECK	S			
pwind Location	Description:	Entrance	e	Reading: 12	ppm
ownwind Locati	ion Description:	(7/1d 152) 	Reading: 1, 4	ppm
otes:	Wind speed averages were o exceeded 20 miles per hour. meteorological conditions w	bserved to remain below th No rainfall had occurred w ere within the requested alt	ne alternative re- ithin the previou ternatives of the	quested 10 miles per hour a us 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speeds g event. Therefore, site bove mentioned date.

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The second second second	a la constant de la c					
I without the low Vierney	A present of the states of the section of the state	the state of the second	colline and the second	the life way have been been and	and the second s	A Distant of the
	H + D V - V A V A H - V - V -	V-V-1			1. 1. 1	
THE ALL AND A LOSS	JA K A - 2 10 R A A B	the second se	10 KL - SHEL 7 L HA Z			- D C + D C +

		SURFACE EMISSI	ONS MONIT	ORING	
Date: 3	24-21		Site Name:	Sonoma	λ
Inspector(s):	inter	OTE	Instrument:	TVA 2020	
WEATHER OBSERVAT	ONS				
Wind Speed:	ОМРН	Wind Direction:	ŝ	Barometric Pressure: <u>SO</u>	_ "Hg
Air ل Temperature:	5_•F	General Weather Conditions	dear	-	
CALIBRATION INFORM	IATION				
Pre-monitoring Calibration	on Precision Check				
Procedure: Calibrate the and calculate the averag precision must be less th Instrument Serial Numbe	instrument. Make a t le algebraic difference an or equal to 10% of er:	otal of three measuremen between the instrument the calibration gas value.	nts by alternating reading and the	g zero air and the calibration calibration gas as a percent Cal Gas Concentration:	n gas. Record the readings age. The calibration
Trial 7	are Air Peading	Cal Gas Reading		Col Cos Proding	Decesso Time (seconds)
		SO3			
2		499		\	3
Calibration Precision= Av	erage Difference/Cal (Gas Conc. X 100% = 100%-	1.6	/500 x 100%	~
		= 49% (%		
Span Sensitivity: Trial 1:			Trial 3:		
Counts Ob	served for the Span=_	127853	Cour	nts Observed for the Span=	128365
Counters Ob	served for the Zero=	3471	Count	ers Observed for the Zero=	3519
Trial 2: Counts Obs	served for the Span=	128041			
Counters Ob	served for the Zero=	3496			
Post Monitoring Calibration	on Check				
Zero Air		Cal Gas			
Reading: 02	ppm	Reading:	500	ррт	
	ITRATIONS CHECKS				
Jpwind Location Descript	ion: <u> </u>	Entranc	e	Reading: 1-4	ppm
Downwind Location Descr	ription: —	Civid 15	52	Reading: 15	ppm
Notes: Wind spe exceeded	eed averages were obs d 20 miles per hour. N	served to remain below th Io rainfall had occurred w	e alternative req	uested 10 miles per hour ar s 24 hours of the monitoring	nd no instantaneous speeds g event. Therefore, site

meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

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and the second second	and the second second second	and the second se	and the second s	
300 300	A PROPERTY OF A	CONTRACTOR OF THE OWNER	The second se	A DESCRIPTION OF A DESC
CATCOL A	LL KA JAAAA		10 - 11 A IN AT D 16. • X J 11 A	

	CALIBRATION ANI	D PERTINE	NT DATA	
2-242			A	0
Date: $5 C - 1 - C$		Site Name:	SURIOM	<u> </u>
Inspector(s): Brycn	0	Instrument:	TVA 2020	
WEATHER OBSERVATIONS			140	
Wind Speed: MPH	Wind Direction: <u>WNU</u>	$\mathbf{\underline{)}}$	Barometric Pressure: <u>30</u>	"Hg
Air Temperature: <u>45</u> °F	General Weather Conditions:	clen		
CALIBRATION INFORMATION				
Pre-monitoring Calibration Precision Check				
Procedure: Calibrate the instrument. Make of and calculate the average algebraic difference precision must be less than or equal to 10% of Instrument Serial Number:	a total of three measuremen ce between the instrument r of the calibration gas value.	ts by alternatin eading and the	g zero air and the calibration calibration gas as a percento Cal Gas Concentration:	gas. Record the readings age. The calibration 500ppm
Trial Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds)
1 2	502		7	Y
2 . (198	2		6-
3 3	601		Ĩ	5
Calibration Precision= Average Difference/Ca	l Gas Conc. X 100% = 100%-	1.6	_/500 x 100%	
	= 99.7	%		
Span Sensitivity:				
Trial 1: Counts Observed for the Span=	127857	Trial 3: Cou	nts Observed for the Span=	129057
Counters Observed for the Zero=	2953	Coun	ters Observed for the Zero=	3016
Frial 2: Counts Observed for the Span=	128061			
Counters Observed for the Zero=	29.29			
Post Monitoring Calibration Check				
Zero Air	Cal Gas	~		
Reading: 🕐 ppm	Reading:	500	_ppm	
BACKGROUND CONCENTRATIONS CHECK	S			
Jpwind Location Description:	Entrance	2	Reading: <u></u>	pm
Downwind Location Description:	Civid 152	_	Reading: 1.5 p	pm
Notes: Wind speed averages were o exceeded 20 miles per hour. meteorological conditions w	bserved to remain below th No rainfall had occurred wi ere within the requested alt	e alternative realthin the previou ernatives of the	quested 10 miles per hour an us 24 hours of the monitoring LMR requirements on the ab	d no instantaneous speeds event. Therefore, site ove mentioned date.

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SEE Darden Contraction	- Contraction of Contraction of the second second	1000	a lot of the
A REAL PROPERTY AND A REAL PROPERTY AND A REAL PROPERTY.		<i>a</i>	and the life is of a
All	ALL	A	1000 AL

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		CALIBRATION A			
		CALIDRATION AI			
Date:	3-24-21		Site Name:	Sonoma	2
Inspector(s):	Liam	\sim	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	н мрн	Wind Direction:		Barometric Pressure: <u>30</u>	"Hg
Ai Temperature	r <u>√5</u> •⊧	General Weath Condition	ns: <u>(leur</u>	-	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Cali and calculate ti precision must Instrument Seri	brate the instrument. Make a be average algebraic difference be less than or equal to 10% of al Number:	total of three measurem e between the instrumen the calibration gas valu	ents by alternating at reading and the e. >	g zero air and the calibration calibration gas as a percento Cal Gas Concentration;	gas. Record the re ige. The calibration 500ppm
Trial	7				
1 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (s
2		Uas		2	5
3	.1 -	501		_	3
canoration Prec	Ision= Average Difference/Cal	Gas Conc. X 100%	1.3	_/500 × 100%	
		= 99.7	%		
Span Sensitivity	:				
		212.0	Trial 3:		
f rial 1: Co	ounts Observed for the Span=	127312	Cou	nts Observed for the Span= -	12-18:
Γ <u>rial 1:</u> Cα Cου	ounts Observed for the Span= Inters Observed for the Zero=	2882	Count	nts Observed for the Span= - ers Observed for the Zero=	1218
frial 1: Cou Trial 2: Cou	ounts Observed for the Span= Inters Observed for the Zero= Dunts Observed for the Span=	2882	Count	nts Observed for the Span= ers Observed for the Zero=	293
Γ <u>rial 1:</u> Cou Γ <u>rial 2:</u> Cou	ounts Observed for the Span= inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero=	2882 21586 2908	Count	nts Observed for the Span=	293
Frial 1: Cou Frial 2: Cou Post Monitoring	ounts Observed for the Span= Inters Observed for the Zero= Dunts Observed for the Span= Inters Observed for the Zero= Calibration Check	2882	Count	nts Observed for the Span= ers Observed for the Zero=	1218
Frial 1: Cou Trial 2: Cou Post Monitoring Pero Air Leading:	ounts Observed for the Span= inters Observed for the Zero= bunts Observed for the Span= inters Observed for the Zero= Calibration Check	2882 21586 2908 Cal Gas Reading:	SUD	nts Observed for the Span= eers Observed for the Zero=	1218
Frial 1: Cou Trial 2: Cou Post Monitoring Post Monitoring Post Air Reading: BACKGROUND	ounts Observed for the Span= inters Observed for the Zero= bunts Observed for the Span= inters Observed for the Zero= Calibration Check Calibration Check CONCENTRATIONS CHECKS	2882 21586 2908 Cal Gas Reading:	SUD	nts Observed for the Span=_ ers Observed for the Zero=	1218
Trial 1: Cou Trial 2: Cou Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring	ounts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= Calibration Check ppm CONCENTRATIONS CHECKS Description:	2882 27586 2908 Cal Gas Reading:	Count Count 500	nts Observed for the Span= rers Observed for the Zero= ppm Reading: $ \$	293 ⁻
Frial 1: Cou Cou Frial 2: Cou Post Monitoring Post Monitoring	ounts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= Calibration Check CONCENTRATIONS CHECKS Description: ion Description:	Cal Gas Reading: Entran	Count Count 500 Ce	nts Observed for the Span= rers Observed for the Zero= ppm Reading: 1.99 p Reading: 1.99 p	293 293

SC5 DataServices - Secure Environmental Data

SURFACE EMISSIONS MONITORING

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		CALIBRATION ANI	D PERTINE	IT DATA	
Date:	3-24-2		Site Name:	Sonor	ra
Inspector(s):			Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	t:мрн	Wind Direction: <u>MWM</u>	<u>\</u>	Barometric Pressure: <u>SC</u>)"Hg
Ai Temperature	17 45 °F	General Weather Conditions	cleu	5~	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Cali and calculate tl precision must Instrument Seri	brate the instrument. Make he average algebraic differe be less than or equal to 10% al Number:	e a total of three measuremer nce between the instrument 6 of the calibration gas value.	ts by alternating reading and the	g zero air and the calibratio calibration gas as a percer Cal Gas Concentration:	on gas. Record the readings stage. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds)
1	1	501	L	01	4
2	12	498	2		6
3		501			5
~		= 100%-	1.3	/500 x 100%	
From Constitution		- (((76		
Span Sensitivity			Trial 3.		11
C	ounts Observed for the Spar	$= \frac{165010}{1000}$	Cou	nts Observed for the Span-	165423
Cou	inters Observed for the Zero	- 4019	Count	ers Observed for the Zero	4005
Co	ounts Observed for the Spar	$= \frac{165276}{19117}$			
Cou	inters Observed for the Zero				
Post Monitoring	Calibration Check				
Zero Air	2	Cal Gas	~ ~ ~ ~		
Reading:	ppm	Reading:	500	ppm	
BACKGROUND	CONCENTRATIONS CHEC	KS			
Jpwind Locatior	Description:	Entrane	R	Reading:	ppm
Downwind Locat	tion Description:	Gridis	2	Reading:	ppm
Notes:	Wind speed averages were exceeded 20 miles per hou meteorological conditions	observed to remain below th r. No rainfall had occurred wi were within the requested alt	e alternative rea thin the previou ernatives of the	quested 10 miles per hour a is 24 hours of the monitori LMR requirements on the	and no instantaneous speeds ng event. Therefore, site above mentioned date.

	1 7 1 1	CALIBRATION A			
Date:	5-24-	2	Site Name:	Sonom	
Inspector	(s): Don	C7	Instrument:	TVA 2020	
WEATHE	R OBSERVATIONS			•	
	, &	Wind IS vo		Barometric 2	
Wind	Speed: MPH	Direction:		Pressure:	"Hg
Tempe	Air rature: <u>45</u> °F	General Weath Condition	ns: clea	V	
CALIBRA	TION INFORMATION				
Pre-moni [,]	toring Calibration Precision Che	eck			
Procedure and calcu precision	e: Calibrate the instrument. Mi late the average algebraic diffi must be less than or equal to 1	ake a total of three measurem erence between the instrumer 0% of the calibration gas valu	nents by alternatin It reading and the Ie.	g zero air and the calibration calibration gas as a percent	n gas. Record the re age. The calibration
Instrumer	nt Serial Number:	.20		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (s
1	.2	502	2		4
2	1	501	1		3
Calibratio	n Precision= Average Differenc	Average Difference: e/Cal Gas Conc. X 100%	*Perform recalibration	Son if average difference is greater than a	10
Calibratio	n Precision= Average Differenc	Average Difference: e/Cal Gas Conc. X 100% = 1009	*Perform recalibration	Son if average difference is greater than /500 x 100%	10
Calibratio	n Precision= Average Differenc	Average Difference: e/Cal Gas Conc. X 100% = 1009 = つくつ、	*Perform recalibratio	Son if average difference is greater than /500 x 100%	10
Calibration	n Precision= Average Differenc	Average Difference: e/Cal Gas Conc. X 100% = 1009 = つくつく、つ	*Perform recalibration	Son if average difference is greater than /500 x 100%	10
Calibration Span Sens Trial 1:	n Precision= Average Differenc itivity:	Average Difference: e/Cal Gas Conc. X 100% = 1009 = C.C., T	*Perform recallbratio	Son if average difference is greater than /500 x 100%	10
Calibration Span Sens Trial 1:	n Precision= Average Difference itivity: Counts Observed for the Sp	Average Difference: e/Cal Gas Conc. X 100% = 1009 = マモ、 pan= <u>161638</u>	*Perform recalibration %-	Son if average difference is greater than /500 x 100%	10 16199
Calibration Span Sens Trial 1:	n Precision= Average Differenc itivity: Counts Observed for the S Counters Observed for the Z	Average Difference: e/Cal Gas Conc. X 100% = 1009 = タマィ、フ pan= <u>161638</u> ero= <u>3637</u>	*Perform recalibration *Perform recalibration % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % % %	Son if average difference is greater than /500 x 100% unts Observed for the Span= ters Observed for the Zero=	16199 3691
Calibration Span Sens Trial 1: Trial 2:	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Z Counts Observed for the Sp	Average Difference: e/Cal Gas Conc. X 100% = 1009 = 92 , 7 pan= <u>161638</u> ero= <u>3637</u> pan= <u>161852</u>	*Perform recalibration %- 3 \% <u>Trial 3:</u> Coun	Son if average difference is greater than /500 x 100% unts Observed for the Span= ters Observed for the Zero=	16199 3691
Calibration Span Sens Trial 1: Frial 2:	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Z Counts Observed for the Sp Counters Observed for the Z	Average Difference: e/Cal Gas Conc. X 100% = 1009 = 99.7 pan= <u>161638</u> ero= <u>3637</u> pan= <u>161852</u> ero= <u>3657</u>	*Perform recallibration %- <u>}</u> { % Trial 3: Coun	Son if average difference is greater than /500 x 100% unts Observed for the Span= ters Observed for the Zero=	16199 3691
Calibration Span Sens Trial 1: Frial 2:	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Z Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check	Average Difference: e/Cal Gas Conc. X 100% = 1009 = $92,7$ pan= <u>161638</u> ero= <u>3637</u> pan= <u>161852</u> ero= <u>3657</u>	*Perform recalibration *Perform recalibration % % {% % Trial 3: Court Court	<pre>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>	16199 3691
Calibration Span Sens Trial 1: Frial 2: Post Monif	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Z Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check	Average Difference: e/Cal Gas Conc. X 100% = 1009 = $9.9.7$ pan= <u>161638</u> ero= <u>3637</u> pan= <u>161852</u> ero= <u>3657</u> Cal Gas	*Perform recallbration %- 1, 3 %- %- Trial 3: Count Count Count	<pre>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>	16199 3691
Calibration Span Sens Trial 1: Frial 2: Post Monif Gero Air Reading:	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Sp Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check	Average Difference: e/Cal Gas Conc. X 100% = 1009 = 92.7 pan= <u>161638</u> ero= <u>3637</u> pan= <u>161852</u> ero= <u>3657</u> Cal Gas Reading:	*Perform recallbration %- 1.3 % <u>Trial 3:</u> Count 		16199 3691
Calibration Span Sens Trial 1: Frial 2: Post Monit Reading: BACKGRO	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Z Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check ppm SUND CONCENTRATIONS CH	Average Difference: e/Cal Gas Conc. X 100% = 1009 = $9(9, 7)$ pan= <u>161638</u> ero= <u>3637</u> cal Gas Reading: ECKS	*Perform recallbration %- 1.3 % Trial 3: Count Count 		16199 3691
Calibration Span Sens Trial 1: Frial 2: Post Monit Reading: BACKGRO	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Sp Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check ppm UND CONCENTRATIONS CH cation Description:	Average Difference: e/Cal Gas Conc. X 100% = 1009 = 99.7 pan= <u>161638</u> ero= <u>3637</u> cal Gas Reading: ECKS	*Perform recalibration %- 1.3 % <u>Trial 3:</u> Count 		16199 3691
Calibration Span Sens Trial 1: Frial 2: Post Monit Post Monit Reading: BACKGRO	n Precision= Average Difference itivity: Counts Observed for the Sp Counters Observed for the Sp Counts Observed for the Sp Counters Observed for the Sp Counters Observed for the Z toring Calibration Check ppm PUND CONCENTRATIONS CH cation Description: Location Description:	Average Difference: e/Cal Gas Conc. X 100% = 1009 = 99.7 pan= <u>161638</u> ero= <u>3637</u> cal Gas Reading: ECKS EMT/GMC (Width	*Perform recalibration %- 1.3 % <u>Trial 3:</u> Count <u>Count</u> 500	Son if average difference is greater than _/500 x 100% unts Observed for the Span= ters Observed for the Zero= ters Observed for the Zero= Reading:	16199 3691 2500

		CALIDDATION AN			
		CALIBRATION AN	D PERTINE!	NIDAIA	
Date:	3-24-20	130	Site Name:	Sonom	ia
Inspector(s):	Pablo		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	н: мрн	Wind Direction:	ω	Barometric Pressure: <u>30</u>	"Hg
Ai Temperature	"(5_•F	General Weathe Condition	s: clean	(
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
procedure: Cali and calculate th precision must Instrument Seri	brate the instrument. Make the average algebraic different be less than or equal to 10% al Number:	a total of three measureme ace between the instrument of the calibration gas value.	nts by alternatin reading and the	g zero air and the calibration calibration gas as a percent Cal Gas Concentration:	n gas. Record the rea age. The calibration 500ppm
	1	1			
1 rial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (se
2	.1	500	-	0	3
2		498		2	5
Calibration Prec	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100%	*Perform recalibratio	on if average difference is greater than :	10
Calibration Prec	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100%	*Perform recalibratio	n If average difference is greater than /500 x 100%	10
Calibration Prec	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100% = TQ.T	*Perform recalibratio		10
Calibration Prec	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100% = \mathcal{P} . \mathcal{T}	*Perform recalibratio		10
Calibration Prec	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100% = 90%	*Perform recalibration *Perform recalibration %	n If average difference is greater than /500 x 100%	
Calibration Prec Span Sensitivity Trial 1:	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100% = 99.7	*Perform recalibration % Trial 3: Cou	n If average difference is greater than /500 x 100%	1 10 (4(8)(
Calibration Pred Span Sensitivity Trial 1: Cou	ision= Average Difference/Ca : : : : : : : : : : : : : : : : : : :	Average Difference: al Gas Conc. X 100% = 100% $= 79.7$ $= 191291$ $= 3889$	*Perform recalibration *Perform recalibration % <u>Trial 3:</u> Count	<pre>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></pre>	1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Span Sensitivity Trial 1: Cou Trial 2: Cou Cou Cou Cou Cou Cou	ision= Average Difference/Ca : : : : : : : : : : : : : : : : : : :	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191506	*Perform recalibration *Perform recalibration % Trial 3: Count Count		10
Calibration Pred Span Sensitivity Trial 1: Cou Frial 2: Cou	ision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= counts Observed for the Span=	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191508 = 3925	*Perform recalibration *Perform recalibration % Trial 3: Count Count		10 10 10 10 10 10 10 10 10 10 10 10 10 1
Calibration Pred Span Sensitivity Trial 1: Cou Frial 2: Cou Post Monitoring	ision= Average Difference/Ca bunts Observed for the Span unters Observed for the Zero bunts Observed for the Zero ounts Observed for the Span unters Observed for the Zero Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191508 = 3925	*Perform recalibration *Perform recalibration % <u>Trial 3:</u> Count Count		10 10 10 10 10 10 10 10 10 10 10 10 10 1
Calibration Prec	ision= Average Difference/Ca bunts Observed for the Span- unters Observed for the Zero= bunts Observed for the Zero= counts Observed for the Span= counts Observed for the Zero= Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191508 = 3925 Cal Gas Booding:	*Perform recalibration *Perform recalibration % Trial 3: Count Count		10 10 10 10 10 10 10 10 10 10 10 10
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	ision= Average Difference/Ca 	Average Difference: al Gas Conc. X 100% = 100% $= 79.7$ $= 141291$ $= 3889$ $= 141508$ $= 3425$ Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count		10 10 10 10 10 10 10 10 10 10 10 10 10 1
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND	ision= Average Difference/Ca 	Average Difference: al Gas Conc. X 100% = 100% $= 79.7$ $= 141291$ $= 3889$ $= 141508$ $= 3425$ Cal Gas Reading: S	*Perform recalibration *Perform recalibration % Trial 3: Count Count		10 10 10 29 5 1
Calibration Prec Span Sensitivity Trial 1: Cou Frial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND	ision= Average Difference/Ca ision= Average Difference/Ca ounts Observed for the Span= inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero= Calibration Check Concentrations Check Description:	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191291 = 3889 = 191506 = 3925 Cal Gas Reading: S Entronce	*Perform recalibration *Perform recalibration % Trial 3: Count Count 500		10 10 <u>(4(8)</u> <u>3</u> <u>5</u>
Calibration Prec Span Sensitivity Trial 1: Co Frial 2: Cou Post Monitoring Zero Air Reading: SACKGROUND Jpwind Locatior	ision= Average Difference/Ca unters Observed for the Span= unters Observed for the Zero= bunts Observed for the Zero= calibration Check Calibration Check Concentrations Check Description: ion Description:	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 191291 = 3889 = 191291 = 3989 = 191508 = 3925 Cal Gas Reading: S Entronce (3x, 3) = 15	*Perform recalibration *Perform recalibration % Trial 3: Count Count 500		ррт ppm

					Post
		SURFACE EMISSI	ONS MONI	TORING	
- C -		CALIBRATION AN	D PERTINE	NT DATA	
Date:	3-24-2	150	Site Name:	Sonon	9
Inspector(s):	Ryan	-1	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed	В мрн	Wind Direction: <u>UN(</u>		Barometric Pressure: <u>30</u>	"Hg
Air Temperature:	L(5_°F	General Weathe Conditions	clea	<u>(</u>	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calib and calculate th precision must b Instrument Seria	erate the instrument. Make of e average algebraic differen e less than or equal to 10% of Il Number:	a total of three measuremen ce between the instrument of the calibration gas value.	nts by alternatin reading and the	g zero air and the calibratio calibration gas as a percen Cal Gas Concentration:	n gas. Record the readings tage. The calibration
Trial	Zero Air Reading	Cal Gas Reading		Cons. Cal Cas Reading!	Bosponso Timo (secondo)
1		501			Response time (seconds)
2		498		2	
3		499		1	
Calibration Preci	sion= Average Difference/Ca	l Gas Conc. X 100%			10
		= 99.7	%	_/300 x 100%	
Span Sensitivity:					
Trial 1: Co	unts Observed for the Span=	113285	Trial 3: Cou	nts Observed for the Span=	113865
Trial 2:	unts Observed for the Span=	113671	Court		
Cour	nters Observed for the Zero=	11208			
ost Monitoring (Calibration Check				
ero Air					
leading:	ppm	Cal Gas Reading:	500	ppm	
ACKGROUND	CONCENTRATIONS CHECK	s		-	
Ipwind Location	Description:	FNtran	ce	Reading: \sum	ppm
ownwind Locatio	on Description:	CIRC F	Z	Reading: 1.5	ppm
iotes: \ e r	Nind speed averages were o exceeded 20 miles per hour. neteorological conditions we	bserved to remain below th No rainfall had occurred w ere within the requested all	ne alternative red ithin the previou ternatives of the	quested 10 miles per hour a is 24 hours of the monitorir LMR requirements on the a	nd no instantaneous speeds ig event. Therefore, site bove mentioned date.

C5 DataServices - Secure Environmental Data

			_		Pre
		SURFACE EMISSI	ONS MONI	TORING	
	1 1	CALIBRATION AN	D PERTINE	NT DATA	
Date:	3/25/21		Site Name:	Sonoma (entral
Inspector(s):	Liam M		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:_5мрн	Wind Direction:	2	Barometric Pressure: <u>SO</u>	"Hg
Ai Temperature	r <u>(</u> 2 °F	General Weathe Conditions	clern		
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calil and calculate th precision must L	brate the instrument. Make a ne average algebraic difference be less than or equal to 10% of	total of three measuremen e between the instrument the calibration gas value.	nts by alternating reading and the	g zero air and the calibratic calibration gas as a percen	n gas. Record the readings tage. The calibration
Instrument Seria	al Number: 1273)		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds)
1	a l	500	C)	4
2		295	2	-	5
alibration Preci	ision= Average Difference/Cal (Gas Conc. X 100% = 100%-	1.3	_/500 x 100%	
		= 79.0	~%		
pan Sensitivity:			T-1-1-2		
Co	ounts Observed for the Span=_	114336	Cour	nts Observed for the Span=	114761
Cou	nters Observed for the Zero=	1674	Count	ers Observed for the Zero=	2883
Co	ounts Observed for the Span=_	114529			
Cou	nters Observed for the Zero=	C051			
ost Monitoring	Calibration Check				
ero Air leading:	ppm	Cal Gas Reading:	500	ppm	
ACKGROUND	CONCENTRATIONS CHECKS				
Jpwind Location	Description:	Entrance	2	Reading:	ppm
ownwind Locati	on Description:	Gr. 215	L	Reading:	ppm
iotes:	Wind speed averages were observed averages were observed 20 miles per hour. A meteorological conditions were	served to remain below th lo rainfall had occurred wi e within the requested alt	e alternative req thin the previous ernatives of the l	uested 10 miles per hour a s 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speeds g event. Therefore, site bove mentioned date.

		CALIBRATION AN	D PERTINE	NT DATA	
Date:	3/25/21		Site Name:	Somme (en)ral
Inspector(s):	Ryant	Brian ()	Instrument:	TVA 2020	
WEATHER OBSERV	ATIONS			÷	
Wind Speed:	МРН	Wind Direction:	È	Barometric Pressure:)"Hg
Air Temperature:	12 °F	General Weathe Conditions	(leav	_	
CALIBRATION INFO	RMATION				
Pre-monitoring Calib	ration Precision Check				
Procedure: Calibrate and calculate the ave precision must be les Instrument Serial Nu	the instrument. Make a erage algebraic different is than or equal to 10% a mber: 235	a total of three measureme ce between the instrument of the calibration gas value.	nts by alternating reading and the	g zero air and the calibratic calibration gas as a percen Cal Gas Concentration:	on gas. Record the readings tage. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Beading	I Cal Gas (Conc -Cal Gas Reading	Response Time (seconds)
1	O	502	Tear day e		S S
2	+1	1999		-	C4
3		499		1	1 d
		= 100% = 99.7	« «	_/500 x 100%	
inan Sensitivity:					
Frial 1:		<i>0</i> ,	Trial 3:		011-1-7
Counts	Observed for the Span=	94484	Cou	nts Observed for the Span=	94723
Counters	Observed for the Zero=	3158	Count	ers Observed for the Zero=	3204
Trial 2: Counts	Observed for the Span=	94416			
Counters	Observed for the Zero=	3175			
ost Monitoring Calib	ration Check				
ero Air		Cal Gas			
eading:	Oppm	Reading:	500	ppm	
ACKGROUND CON	CENTRATIONS CHECK	S			
pwind Location Desc	ription:	Entrau	e	Reading: 1,2	ppm
ownwind Location D	escription:	Chrid (50	-	Reading: 1.9	ppm
otes: Wind	l speed averages were o eded 20 miles per hour.	bserved to remain below th No rainfall had occurred w	ne alternative rec within the previou	uested 10 miles per hour a s 24 hours of the monitorir	nd no instantaneous speeds ng event. Therefore, site

L

-		CALIBRATION AN	D PERTINEN	TDATA	
Date:	3/25/21		Site Name:	Sonoma C.	entral
Inspector(s):	Cody C		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			4	
		Wind		Barometric	
Wind Speed	d: MPH	Direction:	-	Pressure: <u>50</u>	"Hg
Ai Temperature	ir <u> </u>	General Weather Conditions:	dear	-	
CALIBRATION	INFORMATION				
Pre-monitoring	; Calibration Precision Check				
Procedure: Cali and calculate th precision must I	brate the instrument. Make a he average algebraic difference be less than or equal to 10% o - 117	total of three measuremen e between the instrument (f the calibration gas value.	its by alternating reading and the c	zero air and the calibration alibration gas as a percent	n gas. Record the readings age. The calibration
nstrument Seri	al Number: 092	<u> </u>		Cal Gas Concentration:	500ppm
frial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	onc-Cal Gas Reading	Response Time (seconds
2		507		7	
3	1.1	499		1	2
		= 100%-	(/500 x 100%	
		= (6(-0	%		
pan Sensitivity:	:				
riar 1: Co	ounts Observed for the Span=	109/28	<u>Trial 3:</u> Cour	ts Observed for the Span=	109576
	unters Observed for the Zero=	3680	Counte	ers Observed for the Zero=	3711
Cou					
Cou T <mark>rial 2:</mark> Co	ounts Observed for the Span=	109354			
Cou irial 2: Cou	ounts Observed for the Span= Inters Observed for the Zero=	109354			
Cou rial 2: Cou Cou ost Monitoring	ounts Observed for the Span= Inters Observed for the Zero= ; Calibration Check	109354 3694			
Cou rial 2: Cou Cou ost Monitoring ero Air	ounts Observed for the Span= unters Observed for the Zero= ; Calibration Check	109354 3694			
Cou rial 2: Cou Cou ost Monitoring ero Air eading:	ounts Observed for the Span= unters Observed for the Zero= ; Calibration Check	109354 3694 Cal Gas Reading:	500	ppm	
Cou rial 2: Cou ost Monitoring ero Air eading: ACKGROUND	ounts Observed for the Span= Inters Observed for the Zero= Calibration Check	109359 3699 Cal Gas Reading:	500	ppm	
Cou rial 2: Cou ost Monitoring ero Air eading: ACKGROUND pwind Location	ounts Observed for the Span= unters Observed for the Zero= Calibration Check ppm CONCENTRATIONS CHECKS Description:	109354 3694 Cal Gas Reading:	500 ve	ppm Reading:	pm
Cou Trial 2: Cou Cou Sost Monitoring ero Air eading: ACKGROUND pwind Location ownwind Locat	ounts Observed for the Span= unters Observed for the Zero= Calibration Check ppm CONCENTRATIONS CHECKS n Description: tion Description:	109354 3694 Cal Gas Reading: Entron Christia	500 er	ppm Reading: <u>\ S</u> Reading: <u>\ 2</u>	opm

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	meteorologic	al conditions v	were within the requested alto	ernatives
SCS	DataServices -	Secure	Environmental	Data

	CALIBE	RATION AND PERT	ΊΝΕΝΤ ΔΑΤΔ	
3/20	121			
Date:		Site Nan	ne: Johoma (.	entral
Inspector(s):	6	Instrume	ent: TVA 2020	
WEATHER OBSERVATIONS				
Wind Speed: 5	W MPH Directi	rind on: <u>ちいろ</u>	Barometric Pressure: <u>S</u> C	⊇ "Hg
Air 42 Temperature:	°F	General Weather Conditions:	eur	
CALIBRATION INFORMATION				
re-monitoring Calibration Precis	sion Check			
Procedure: Calibrate the instrum	ent. Make a total of th	ree measurements by alte	rnatina zero air and the calibratio	n aas. Record the readinas
nd calculate the average algebr	raic difference between	the instrument reading ar	nd the calibration gas as a percent	age. The calibration
recision must be less than of eq		ation gas value.		
nstrument Serial Number:	1220	-	Cal Gas Concentration:	500ppm
rial Zero Air R	eading Cal G	Gas Reading Ca	Gas ConcCal Gas Reading)	Response Time (seconds
	50	2	2	
		ac	<u> </u>	2
		19		
alibration Precision= Average Di	fference/Cal Gas Conc.	*Perform rec	alibration if average difference is greater than	10
alibration Precision= Average Di	fference/Cal Gas Conc.	*Perform rec X 100%	alibration if average difference is greater than	10
alibration Precision= Average Di	fference/Cal Gas Conc.	*Perform rec X 100% = 100%	calibration if average difference is greater than /500 x 100%	10
alibration Precision= Average Di	fference/Cal Gas Conc.	*Perform rec X 100% = 100% = QQ(1) %	calibration if average difference is greater than /500 x 100%	10
alibration Precision= Average Di Dan Sensitivity: rial 1:	fference/Cal Gas Conc.	*Perform rec X 100% = 100%- () = () % Trial 3:	alibration if average difference is greater than $ \frac{1}{500 \times 100\%} $	10 10
alibration Precision= Average Di Dan Sensitivity: rial 1: Counts Observed fo	fference/Cal Gas Conc. or the Span= 1255 C	$= 100\% - \frac{1}{2}$ $= 2(2,1) \%$ $= 7(2,1) \%$ $= 7(2,1) \%$ $= 7(2,1) \%$ $= 7(2,1) \%$ $= 7(2,1) \%$	counts Observed for the Span=	10 10 1/55387
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters Observed for	fference/Cal Gas Conc. or the Span= $\frac{1250}{56}$	$= 100\% - \frac{1}{2}$ $= 9976 - \frac{1}{2}$ $= 9976 - \frac{1}{2}$ $= 100\% - \frac{1}{2}$	counters Observed for the Zero=	10 10 195387 3872
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters Observed for rial 2: Counts Observed for	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 1355	$= 100\% - \frac{1}{100\%}$ $= 9976 \frac{100\%}{100\%}$ $= 9976 \frac{1}{100\%}$ $= 100\% - \frac{1}{100\%}$	calibration if average difference is greater than /500 x 100% Counts Observed for the Span= <u>Counters Observed for the Zero=</u>	10 10 195387 3872
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters Observed for ial 2: Counts Observed for Counters Observed for	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 135 or the Span= 386	$= 100\% - \frac{1}{100\%}$ $= 100\% - \frac{1}{100\%}$ $= 991\% - \frac{1}{100\%}$ $= 100\% - \frac{1}{100\%}$ $= 100\% - \frac{1}{100\%}$	calibration if average difference is greater than /500 x 100% Counts Observed for the Span= <u>Counters Observed for the Zero=</u>	10 10 185387 3872
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters Observed for rial 2: Counts Observed for Counters Observed for Counters Observed for	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 135 or the Span= 135	$= 00\% - \frac{100\%}{136}$ $= 100\% - \frac{1}{136}$ $= 100\% - \frac{1}{136}$	calibration if average difference is greater than /500 x 100% Counts Observed for the Span= <u>Counters Observed for the Zero=</u>	10 10 195387 3872
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters Observed for ial 2: Counts Observed for Counters Observed for Counters Observed for Counters Observed for	fference/Cal Gas Conc. or the Span= 1250 or the Zero= 366 or the Span= 135 or the Span= 135 or the Zero= 386 or the Zero= 386	$= 100\% - \frac{1}{100\%}$ $= 100\% - \frac{1}{100\%}$ $= 9976 Trial 3:$ 136 136	calibration if average difference is greater than /500 x 100% Counts Observed for the Span= Counters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10 10 1
alibration Precision= Average Di ban Sensitivity: rial 1: Counts Observed for Counters	fference/Cal Gas Conc. or the Span= 1250 or the Zero= 366 or the Span= 135 or the Zero= 386 or the Zero= 386	= 100% $= 100%$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$ $= 0.16$	counters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10 10 1
alibration Precision= Average Di <u>ban Sensitivity:</u> <u>ial 1:</u> Counts Observed for <u>Counters Observed for</u> <u>Counters Observed for </u> <u>Counters Observed for</u> <u>Counters Observed for</u> <u>Counters Observed for</u> <u>Counters Observed for</u> <u>Counters Observed for</u> <u>Counters Observed for </u> <u>Counters Observed for </u> <u>Counters Observed for </u> <u>Counters Observed</u> <u>Counters Observed</u> <u>Counters</u> <u>Counters Observed</u> <u>Counters</u> <u>Counters Observed</u> <u>Counters</u> <u>Counters Observed</u> <u>Counters</u> <u>Counters Observed</u> <u>Counters</u> <u>Counters</u> <u>Counters</u>	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 135 or the Zero= 386 or the Zero= 386 or the Zero= 386	F = 0 $F = 0$ $F =$	counters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10 10 1
alibration Precision= Average Di Dan Sensitivity: Tial 1: Counts Observed for Counters Observe	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Zero= 386 or the Zero= 386 or the Zero= 386 or the Zero= 386 or the Zero= 386	F = 0 $F = 0$ $F =$	alibration if average difference is greater than /500 x 100% Counts Observed for the Span= Counters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10 10 1
alibration Precision= Average Di Dan Sensitivity: Tial 1: Counts Observed for Counters Observe	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 135 or the Span= 135 or the Zero= 386 or the Zero= 386	= 00% $= 100%$ $= 0%$ $= 0%$ $Trial 3:$ $Trial 3:$ $Trial 3:$ $Cal Gas$ $Reading: 500$	counters Observed for the Span= Counters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10 10 1
alibration Precision= Average Di Dan Sensitivity: Tial 1: Counts Observed for Counters Observe	fference/Cal Gas Conc. or the Span= 1350 or the Zero= 366 or the Span= 135 or the Span= 135 or the Zero= $38c$ or the Zero= $38c$	= 00% $= 100%$ $= 0%$ $= 0%$ $Trial 3:$	counts Observed for the Span= Counters Observed for the Zero= ppm Reading: 1.3 Reading: 1.5	ррт ppm

1		CALIPDATION AN			
	2/ /	CALIBRATION AN	10 PERTINEN		
Date:	3/25/21		Site Name:	Sonoma (-	entra l
Inspector(s);	Biant W		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	d:МРН	Wind Direction:	5 	Barometric Pressure: 30	"Нд
Ai Temperature	ir e: <u> </u>	General Weath Condition	er (lea	$\underline{\checkmark}$	
CALIBRATION	INFORMATION				
Pre-monitoring	calibration Precision Check				
Procedure: Cali and calculate ti precision must	brate the instrument. Make he average algebraic differer be less than or equal to 10%	a total of three measurement the between the instrument of the calibration gas value	ents by alternating t reading and the 2.	g zero air and the calibratior calibration gas as a percent	gas. Record the readin age. The calibration
Instrument Seri	al Number: <u>591</u>	5		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (secor
2		501		2	
2	1	1 203		4	
		Average Difference	-	5	
0		= 100%	- 2	_/500 x 100%	
		=99.6	> %		
Span Sensitivity:					
Span Sensitivity Trial 1: Co	: ounts Observed for the Span	= 123128	Trial 3: Cour	nts Observed for the Span=_	123 681
Span Sensitivity Trial 1: Cou	: ounts Observed for the Span Inters Observed for the Zero	= 123128 = 11865	Cour	nts Observed for the Span= ers Observed for the Zero=	123681
Span Sensitivity Trial 1: Cou Trial 2: Cou	: ounts Observed for the Span Inters Observed for the Zero ounts Observed for the Span	= 123128 = 4865 = 123459	Cour	nts Observed for the Span= ers Observed for the Zero=	123681 4921
Span Sensitivity Trial 1: Cou Trial 2: Cou Cou	: ounts Observed for the Span Inters Observed for the Zero ounts Observed for the Span Inters Observed for the Zero	= 123128 = 485 = 125454 = 123454 = 4884	Court	nts Observed for the Span= ers Observed for the Zero=	123681
Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring	: ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span Inters Observed for the Zero Calibration Check	= 123128 = 11865 = 172454 = 172454 = 4884	Count	nts Observed for the Span= ers Observed for the Zero=	123681
Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	: ounts Observed for the Span unters Observed for the Zero ounts Observed for the Span inters Observed for the Zero Calibration Check	= 123128 = 485 = 4884 Cal Gas Reading:	Trial 3: Count	nts Observed for the Span= ers Observed for the Zero=	123681
Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: 3ACKGROUND	: ounts Observed for the Span unters Observed for the Zeros ounts Observed for the Span inters Observed for the Zeros Calibration Check	= 123128 = 1865 = 1865	Trial 3: Count	nts Observed for the Span= ers Observed for the Zero=	123681
Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: 3ACKGROUND	: ounts Observed for the Span <u>inters Observed for the Zero</u> : ounts Observed for the Span <u>inters Observed for the Zero</u> : Calibration Check <u>Concentrations check</u> Description:	= 123128 = 485 = 4884 Cal Gas Reading: S Intrav	Trial 3: Count Count	nts Observed for the Span= ers Observed for the Zero= ppm Reading:	123681 4921
Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND Jpwind Location Downwind Locat	: ounts Observed for the Span <u>inters Observed for the Zero</u> : ounts Observed for the Span <u>inters Observed for the Zero</u> : Calibration Check Calibration Check CONCENTRATIONS CHECK Description: ion Description:	= 123128 = 1265 = 1265	Trial 3: Count Count	nts Observed for the Span= ers Observed for the Zero= ppm Reading: 13 r Reading: 1. (r	123681 4921

		SURFACE EMISS	IONS MONI		
	2/ 1	CALIBRATION AN	ND PERTINE		٨
Date:	3/25/21		Site Name:	Sonoma (e	ndral
Inspector(s):	Briano	Ryan H	Instrument:	TVA 2020	
WEATHER O	BSERVATIONS				
		Wind		Daramatria a	
Wind Spec	ed: MPH	Direction: 50	\geq	Pressure:	"Hg
Temperatu	Air re: <u> </u>	General Weath Condition	er Is: <u>Clev</u>	$\underline{\checkmark}$	
CALIBRATIO	N INFORMATION				
Pre-monitorir	ng Calibration Precision Check				
Procedure: Co and colculate	librate the instrument. Make a	total of three measureme e hetween the instrument	ents by alternatin t reading and the	g zero air and the calibration	a gas. Record the readings
precision mus	t be less than or equal to 10% of	f the calibration gas value		constation gas as a percent	
Instrument Se	erial Number:			Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seconds)
1		501			3
2	.2	503		3	
3		501		1	4
Calibration Pre	ecision= Average Difference/Cal	Gas Conc. X 100% = 100%	- 1.6	/500 x 100%	
		= 99.7	%		
Span Sensitivit	W:				
Trial 1:	Counts Observed for the Span=	113528	Trial 3: Cou	ints Observed for the Span=	(13975
Co	ounters Observed for the Zero=	4089	Coun	ters Observed for the Zero=	4125
Trial 2:	Counts Observed for the Span=	113751			
Co	ounters Observed for the Zero=	4106	1		
Post Monitorin	ng Calibration Check		_		
Zero Air		Cal Gas			
Reading:	ppm	Reading:	500	ppm	
BACKGROUN	D CONCENTRATIONS CHECKS	_			
Jpwind Locatio	on Description:	Entran	æ	Reading:	pm
ownwind Loc	ation Description:	MV, d 15	2	Reading: 1.5	ppm
lotes:	Wind speed averages were ob exceeded 20 miles per hour. meteorological conditions we	oserved to remain below t No rainfall had occurred v re within the requested a	the alternative rea within the previou Iternatives of the	quested 10 miles per hour an us 24 hours of the monitoring LMR requirements on the ab	d no instantaneous speeds sevent. Therefore, site pove mentioned date.

SCS DataServices — Secure Environmental Data

		SURFACE EIVIISS		ORING	
	0	CALIBRATION AN	D PERTINEN	IT DATA	
Date:	3-25-21		Site Name:	Schor	10
Inspector(s);	Lam n		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:мрн	Wind Direction:	-	Barometric Pressure:	"Hg
Air Temperature	5(_°F	General Weather Conditions	Clean		
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
and calculate th precision must b Instrument Seria	ne average algebraic difference oe less than or equal to 10% of al Number:	e between the instrument i f the calibration gas value. <u>3</u>	reading and the c	Cal Gas Concentration:	stage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Co	oncCal Gas Reading	Response Time (second
1		502	2		1 U
2		444	1		3
3	-	501			6
Calibration Preci	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100%	*Perform recalibration	if average difference is greater than] n 10
Calibration Preci	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%-	*Perform recalibration	jf average difference is greater than /500 x 100%	n 10
Calibration Preci	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = $\sqrt{2}$	*Perform recalibration) if average difference is greater than	1 10
Calibration Preci	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = $900 - 100$	*Perform recalibration	if average difference is greater than /500 x 100%] n 10
Calibration Preci Span Sensitivity: Trial 1	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100% = 90%	*Perform recalibration) if average difference is greater than /500 x 100%	10
Calibration Preci Span Sensitivity: <u>Trial 1:</u> Co	ision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100% = 99.7 (13 G 27	*Perform recalibration *Perform recalibration % Trial 3: Coun	/500 x 100%] 10 113974
Calibration Preci Span Sensitivity: Trial 1: Co	ision= Average Difference/Cal punts Observed for the Span= nters Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100% = 99.7 113627 113627 2869	*Perform recalibration *Perform recalibration % Trial 3: Counte	/500 x 100% its Observed for the Span- ers Observed for the Zero-] 110 = <u>113979</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> punts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100% = 99.1 113627 2869 113813 29.63	*Perform recalibration *Perform recalibration % Trial 3: Counte	/500 x 100% hts Observed for the Span=] 10 <u>13979</u> 2897
Calibration Preci Span Sensitivity: Trial 1: Co <u>Cou</u> Trial 2: Co Cou	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> nunts Observed for the Span= <u>nters Observed for the Zero=</u>	Average Difference: Gas Conc. X 100% = 100% = 99.1 113627 2869 113813 2883	*Perform recalibration *Perform recalibration % Trial 3: Counte	/500 x 100% hts Observed for the Span=] = <u>113979</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Cour Post Monitoring	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> punts Observed for the Span= <u>nters Observed for the Zero=</u> <u>Calibration Check</u>	Average Difference: Gas Conc. X 100% = 100% = 99.1 <u>113627</u> <u>2869</u> <u>113813</u> <u>2883</u>	*Perform recalibration *Perform recalibration % Trial 3: Counte	/500 x 100%] = <u>113979</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co <u>Cou</u> Triał 2: Co Post Monitoring Zero Air Reading:	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> nunts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check	Average Difference: Gas Conc. X 100% = 100% = 99.1 <u>113627</u> <u>2869</u> <u>113813</u> <u>2883</u> Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Counte	/500 x 100% hts Observed for the Span- ers Observed for the Zero-] = <u>113979</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Post Monitoring Zero Air Reading: BACKGROUND	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> nunts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check ppm CONCENTRATIONS CHECKS	Average Difference: Gas Conc. X 100% = 100%- = 99.1 113627 113627 13813 2883 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	/500 x 100% hts Observed for the Span- ers Observed for the Zero-] = <u>113974</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Cour Post Monitoring Zero Air Reading: BACKGROUND of Upwind Location	ision= Average Difference/Cal punts Observed for the Span= <u>inters Observed for the Zero=</u> punts Observed for the Span= <u>inters Observed for the Zero=</u> Calibration Check Concentrations checks Description:	Average Difference: Gas Conc. X 100% = 100% = 99.1 113627 2869 113813 2883 Cal Gas Reading: Entrance	*Perform recalibration *Perform recalibration % Trial 3: Counte 500	ppm] = <u>113974</u> = <u>2897</u>
Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Cour Post Monitoring Zero Air Reading: BACKGROUND (Upwind Location Downwind Locati	ision= Average Difference/Cal punts Observed for the Span= <u>nters Observed for the Zero=</u> nunts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check <u></u> ppm CONCENTRATIONS CHECKS Description: ion Description:	Average Difference: Gas Conc. X 100% = 100% = 99.1 <u>113627</u> <u>2869</u> <u>113813</u> <u>2883</u> Cal Gas Reading: <u>ENtrane</u> <u>Curid</u>	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	ppm Reading: 1.2 Reading: 1.2 Reading: 1.2] = <u>113974</u> = <u>2897</u>

Date:					
Date:			ONS MONIT		
Date:	B 26 24	CALIBRATION ANI	DPERHINEN		
	325-21		Site Name:	Sonor	101
Inspector(s):	Bryan	0	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:мрн	Wind Direction: <u>SW</u>	-	Barometric Pressure: <u>50</u>	Hg
Air Temperature	51°F	General Weather Conditions:	Clean		
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calil and calculate th precision must l	orate the instrument. Make one average algebraic difference of the second second second second second second se Second second	a total of three measurement ce between the instrument r of the calibration gas value.	nts by alternating reading and the c	zero air and the calibration calibration gas as a percer	on gas. Record the readings atage. The calibration
Instrument Seria	al Number:	5		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (second
1		502	2		4
2		Laga	1		5
3	- (*	498			1 6
		= 100%-	16	/500 x 100%	
		= 99.7	%	,	
Span Sensitivity					
Trial 1:		1 2 5 4 0	Trial 3:		
Co	ounts Observed for the Span=	102568	Cour	ts Observed for the Span-	103051
Cou	nters Observed for the Zero=	3211	Counte	ers Observed for the Zero-	-3241
Cc	ounts Observed for the Span=	102743			
Cou	nters Observed for the Zero=	3230			
Post Monitoring	Calibration Check				
lero Air	ppm	Cal Gas Reading:	500	ppm	
caunig.	CONCENTRATIONS CHECK	s			
BACKGROUND		Seal com	P	1.2	
BACKGROUND	Description:	LACIANC	C	Reading:	ppm
BACKGROUND	Description:	Carid F	52	Reading: 1.5	_ppm

meteorological conditions were within the requested alternatives of the LIVIK requirements on the above

		SURFACE EMISSIO	NS MONITORIN	IG	
		CALIBRATION AND	PERTINENT	ТА	
Date:	3-25-	21	Site Name:	onome	2
Inspector(s):	Cody		Instrument:TVA	2020	
WEATHER OB	SERVATIONS			-	
Wind Speed	d:мрн	Wind Direction:	Baro Pre	metric <u>30</u>	- "Hg
A Temperature	ir ≘:6 °F	General Weather Conditions:	Cleur		
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Che	eck			
Procedure: Cali and calculate ti precision must Instrument Seri	brate the instrument. Mi he average algebraic diffi be less than or equal to 1 al Number:	ake a total of three measurements erence between the instrument re 0% of the calibration gas value.	s by alternating zero ai ading and the calibrati Cal G	r and the calibration ion gas as a percent	n gas. Record the rea age. The calibration 500ppm
-					
Irial 1	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCa	Gas Reading	Response Time (se
2		BOU	1		K
3	L	yaa	1		5
Calibration Prec	ision= Average Difference	* e/Cal Gas Conc. X 100%	Perform recalibration if average	e difference is greater than t	10
Calibration Prec	ision= Average Difference	• e/Cal Gas Conc. X 100% = 100%	Perform recalibration if average	difference is greater than 1	10
Calibration Prec	ision= Average Difference	e/Cal Gas Conc. X 100% = 100% = ٦٩٩ ٦ %	Perform recalibration if average	difference is greater than 1	10
Calibration Prec	ision= Average Difference	e/Cal Gas Conc. X 100% = 100% = $\sqrt{C_{1}} \sqrt{3}$	Perform recalibration if average	difference is greater than 1	10
Calibration Prec Span Sensitivity Frial 1: Co	cision= Average Difference : : : Dunts Observed for the Sp	e/Cal Gas Conc. X 100% = 100%- = $9Q, 7$ %	Perform recalibration if average > 6 rial 3: Counts Obset	e difference is greater than 100%	10895
Calibration Prec Span Sensitivity Frial 1: Cou	ision= Average Difference : ounts Observed for the Sp unters Observed for the Z	e/Cal Gas Conc. X 100% = 100%- = 204.7% Doan= 100 77.8 I ero= 2.3 4	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse	e difference is greater than 100% erved for the Span= erved for the Zero=	10895
Calibration Prec Span Sensitivity Frial 1: Cou Frial 2: Cou	ision= Average Difference : ounts Observed for the Sp unters Observed for the Z punts Observed for the Sp	e/Cal Gas Conc. X 100% $= 100%$ $= 904.7 %$ $Down = 100% 77.8 T$ $ero = 8.3 %$ $Dan = 108.8 7.4 %$ $Dan = 108.8 7.4 %$	Perform recalibration if average /500 x 6 <u>rial 3:</u> Counts Obse <u>Counters Obse</u>	e difference is greater than 100% erved for the Span= erved for the Zero=	10895 3286
Calibration Prec Span Sensitivity Frial 1: Cou Frial 2: Cou	ision= Average Difference : ounts Observed for the Sp unters Observed for the Zo ounts Observed for the Sp unters Observed for the Sp	$= \frac{100\%}{2} = \frac$	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse	e difference is greater than 100% erved for the Span= erved for the Zero=	10895
Calibration Prec Span Sensitivity Trial 1: Cou Cou Trial 2: Cou Post Monitoring	ision= Average Difference : ounts Observed for the Sp <u>unters Observed for the Z</u> ounts Observed for the Sp <u>inters Observed for the Z</u> Calibration Check	$= \frac{100\%}{2} = \frac{100\%}{2} = 90\%$ $= 90\%$ $= 90\%$ T $= 10\%$ T T $= 0\%$ T	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse	e difference is greater than 100% erved for the Span= erved for the Zero=	10895 3286
Calibration Prec Span Sensitivity Frial 1: Cou Cou Frial 2: Cou Post Monitoring Sero Air Leading:	cision= Average Difference counts Observed for the Sp unters Observed for the Zo counts Observed for the Sp unters Observed for the Zo calibration Check	e/Cal Gas Conc. X 100% = 100% - = 90% , 7 % Dan= 10% , 7 7 % ero= 877% , 7 Dan= 10% , 7 7 % ero= 877% , 7 Cal Gas Reading: 10%	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse	e difference is greater than 100% erved for the Span= erved for the Zero=	10895 3286
Calibration Pred Span Sensitivity Frial 1: Cou Cou Cou Post Monitoring Post Monitoring Post Monitoring Post Monitoring PackGROUND	cision= Average Difference cision= Average Difference counts Observed for the Sp unters Observed for the Sp unters Observed for the Sp unters Observed for the Ze Calibration Check ppm CONCENTRATIONS CH	e/Cal Gas Conc. X 100% = 100% $= 90%$ $= 90%$ $= 90%$ T $= 10%$ T $= 0%$ T T $= 0%$ T T $= 0%$ T T $= 0%$ T	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse	e difference is greater than 100% erved for the Span= erved for the Zero=	10895 3286
Calibration Prec Span Sensitivity Trial 1: Cou Cou Cou Cou Cou Post Monitoring Cero Air Leading: Cather Cou Dost Monitoring	ision= Average Difference inters Observed for the Sp unters Observed for the Zo ounts Observed for the Zo ounts Observed for the Zo calibration Check Calibration Check ppm CONCENTRATIONS CHI n Description:	e/Cal Gas Conc. X 100% = 100% - = 90% % Dan= 100% 728 I ero= 23% 728 I Dan= 100% 728 I ero= 32% 9 Cal Gas Reading: 10% Cal Gas	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse Ppm Reading	e difference is greater than : 100% erved for the Span= erved for the Zero= 3 : $\sqrt{-2}$	10895 3286
Calibration Prec Span Sensitivity Frial 1: Cou Cou Cou Cou Cou Cou Cou Cou Cou Cou	ision= Average Difference ision= Average Difference ounts Observed for the Sp unters Observed for the Ze ounts Observed for the Ze calibration Check Calibration Check ppm CONCENTRATIONS CHI n Description: ion Description:	e/Cal Gas Conc. X 100% = 100% - = 90% % Dan= 100% 728 T ero= 23% Dan= 08874 pan= 08874 ero= 52.59 Cal Gas Reading: ECKS ENT CONCE MILLING	Perform recalibration if average /500 x 6 rial 3: Counts Obse Counters Obse Ppm Reading Reading	erved for the Span= erved for the Zero= $\frac{100\%}{100\%}$	10895 3286 opm

		SURFACE EMISSI	ONS MONI	FORING	
		CALIBRATION AN	D PERTINEN	NT DATA	
Date:	3-25-2	\	Site Name:	Sonor	nq
Inspector(s):	pon		Instrument:	TVA 2020	
WEATHER OF	SERVATIONS				
Wind Speed	d: мрн	Wind Direction:	-	Barometric Pressure: 50	<u>)</u> "Hg
A Temperature	ir e:°F	General Weathe Conditions	dea	<u> </u>	
CALIBRATION	INFORMATION				
Pre-monitoring	g Calibration Precision Check				
Procedure: Cali and calculate t precision must	ibrate the instrument. Make a he average algebraic differenc þe less than or equal to 10% oj ial Number:	total of three measuremer e between the instrument f the calibration gas value.	nts by alternating reading and the	g zero air and the calibrat calibration gas as a perce	tion gas. Record the reading entage. The calibration
The set			1		
1	Zero Air Reading	Cal Gas Reading		ConcCal Gas Reading	Response Time (second
2	1,2	501	f (5
3		198	1 1	,	1 7
Calibration Pred	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100%	*Perform recalibration	6 n if average difference is greater th	Jan 10
Calibration Prec	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%-	*Perform recalibration	n if average difference is greater th	yan 10
Calibration Pred	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 994.7	*Perform recalibration	/500 x 100%	Jan 10
Calibration Pred	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 9 C. T	*Perform recalibration	n if average difference is greater th /500 x 100%	an 10
Calibration Prec Span Sensitivity <u>Trial 1:</u> C	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753	*Perform recalibration *Perform recalibration % Trial 3: Cour	n if average difference is greater th /500 x 100%	$r = \frac{35083}{2}$
Calibration Pred Span Sensitivity Trial 1: Con Trial 2:	cision= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753 35657	*Perform recalibration *Perform recalibration % Trial 3: Count	<pre></pre>	$h=\frac{135083}{3862}$
Calibration Pred Span Sensitivity <u>Trial 1:</u> Cou <u>Trial 2:</u> Co	cision= Average Difference/Cal ounts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753 55557 3490.7 3490.7	*Perform recalibration *Perform recalibration % Trial 3: Count	/500 x 100% /500 x 100%	$h = \frac{135083}{5}$
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou	cision= Average Difference/Cal counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753 34753 35557 3490-7 3678	*Perform recalibration *Perform recalibration % Trial 3: Count	/500 x 100% /500 x 100%	$h=\frac{135083}{3}$
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring	cision= Average Difference/Cal ounts Observed for the Span= <u>unters Observed for the Zero=</u> ounts Observed for the Span= <u>unters Observed for the Zero=</u> <u>calibration Check</u>	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134153 34153 5557 34907 3678	*Perform recalibration *Perform recalibration % Trial 3: Count		$h=\frac{135083}{3}$
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	cision= Average Difference/Cal ounts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Span= Calibration Check	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753 5557 134753 5557 134753 557 134753 557 134753 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	ppm	$n = \frac{135083}{3800}$
Calibration Pred Span Sensitivity Trial 1: CO COU Trial 2: CO Post Monitoring Zero Air Reading: BACKGROUND	cision= Average Difference/Cal cision= Average Difference/Cal ounts Observed for the Span= unters Observed for the Zero= ounts Observed for the Zero= ounts Observed for the Zero= calibration Check CONCENTRATIONS CHECKS	Average Difference: Gas Conc. X 100% = 100%- = 99.7 134753 5557 134753 5557 13490-7 5657 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	ppm	$h= \frac{135083}{3}$
Calibration Pred Span Sensitivity Trial 1: Co Cou Trial 2: Co Cou Post Monitoring Zero Air Reading: BACKGROUND Upwind Locatior	cision= Average Difference/Cal cision= Average Difference/Cal a ounts Observed for the Span= <u>unters Observed for the Zero=</u> ounts Observed for the Span= <u>unters Observed for the Zero=</u> , calibration Check <u>Description</u> :	Average Difference: Gas Conc. X 100% = 100% = 99.7 134153 55557 134957 55557 13490.7 56578 Cal Gas Reading: Entrance	Trial 3: Count Count	ppm Reading:	$h=\frac{135083}{2820}$
Calibration Pred Span Sensitivity Trial 1: Co Cou Trial 2: Co Post Monitoring Zero Air Reading: BACKGROUND Upwind Location Downwind Locat	cision= Average Difference/Cal a ounts Observed for the Span= <u>unters Observed for the Zero=</u> ounts Observed for the Span= <u>unters Observed for the Zero=</u> , a Calibration Check <u>D</u> ppm CONCENTRATIONS CHECKS In Description: tion Description:	Average Difference: Gas Conc. X 100% = 100%- = 90.7 134153 55557 134753 5557 34753 557 34707 5657 Cal Gas Reading: Fntrance Cal Gas	<pre>*Perform recalibration *Perform recalibration % Trial 3: Count Count </pre>	ppm Reading:	ppm

CALIBRATION AND PE Date: Site 1 Inspector(s): Wind Wind Speed: MPH Air General Weather Conditions: CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by or and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: Trial Zero Air Reading Cal Gas Reading 1 Quints Observed for the Span= Counters Observed for the Span= Counters Observed for the Zero= Counters Observed for the Zero= Counters Observed for the Zero= Counters Observed for the Zero= <td cols<="" th=""><th>RTINENT DATA ame: $\sum_{VA 2020}$ ment: TVA 2020 Barometric "Hg Pressure: 30 "Hg 2("Hg ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration</th></td>	<th>RTINENT DATA ame: $\sum_{VA 2020}$ ment: TVA 2020 Barometric "Hg Pressure: 30 "Hg 2("Hg ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration</th>	RTINENT DATA ame: $\sum_{VA 2020}$ ment: TVA 2020 Barometric "Hg Pressure: 30 "Hg 2("Hg ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration			
CALIBRATION AND PE Date: $3 \cdot 2 \cdot 5 \cdot 2$ Inspector(s): DV and Wadde Inspector(s): DV and Wadde Wind Speed: 4 Air General Weather Temperature: $5 \cdot 2 \cdot 5 \cdot 2$ CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: $5 \cdot 4 \cdot 5 \cdot $	ame: <u>TVA 2020</u> Barometric Pressure: <u>30</u> "Hg <u>200</u> ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration				
Date: Stell Inspector(s): DVAAWAR Inspector(s): DVAAWAR Wind Speed: MPH Air General Weather Temperature: Stell CALIBRATION INFORMATION General Weather Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by or and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: Stell Trial Zerq Air Reading Cal Gas Reading Average Difference: 2 Cal Gas Reading 3 Stell Average Difference/Cal Gas Conc. X 100% = 100% = Span Sensitivity: Trial 1: Counts Observed for the Span= Counters Observed for the Span= Stell Stell Counters Observed for the Span= Stell Stell Counters Observed for the Span= Stell Stell Post Monitoring Calibration Check Cal Gas Post Monitoring Calibration Check Cal Gas Post Monitoring Calibration Check Cal Gas <th>ame: <u>TVA 2020</u> Barometric Pressure: <u>30</u> "Hg <u>2(</u> ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration</th>	ame: <u>TVA 2020</u> Barometric Pressure: <u>30</u> "Hg <u>2(</u> ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration				
Inspector(s): Drand Wade Instru WEATHER OBSERVATIONS Wind Speed: MPH Direction: Air General Weather Conditions: Temperature: *F Conditions: CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by C and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number:	ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration				
WEATHER OBSERVATIONS Wind Speed: MPH Air SU Air SU Temperature: F CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by cand calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number:	Barometric Pressure: <u>30</u> "Hg <u>2</u> (ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration				
Wind Speed: 4 MPH Wind 5 Wind 5 Wind 5 Air 5 General Weather 5 Conditions: 4 Temperature: 5 4 F General Weather 5 Conditions: 4 Pre-monitoring Calibration Precision Check Pre-monitoring Calibration Precision Check Pre-monitoring Calibration or equal to 10% of the calibration gas value. Instrument Serial Number: 5 4 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Barometric Pressure: <u>30</u> "Hg <u>2</u> (ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibration				
Air General Weather Temperature: State CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by a and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: Superior Trial Zerq Air Reading Cal Gas Reading 1 Superior Average Difference: 2 Cal Gas Conc. X 100% **erfor Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 2 Counts Observed for the Span= 10%- 2 Counts Observed for the Zero= Yerge St Monitoring Calibration Check Post Monitoring Calibration Check Cal Gas Reading: Port Post Monitoring Calibration Check Cal Gas Reading: Span	E(ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibratio				
CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by a cand calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number:	ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibratio				
Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by and calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: $\underline{5} + \underline{5} + 5$	ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibratio				
Procedure: Calibrate the instrument. Make a total of three measurements by a cand calculate the average algebraic difference between the instrument reading precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: Trial Zero Air Reading Cal Gas Reading 1 Subscription 2 Gas Reading 3 Subscription Average Difference: "Perform Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 9 Span Sensitivity: Trial 1: Counts Observed for the Span= Subscription Counters Observed for the Span= Subscription Subscription Post Monitoring Calibration Check Cal Gas Subscription	ternating zero air and the calibration gas. Record the r and the calibration gas as a percentage. The calibratic				
Instrument Serial Number: $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $					
Trial Zero Air Reading Cal Gas Reading 1 1 5 2 4 4 3 7 5 Average Difference: *Perfor *Perfor *Perfor Calibration Precision= Average Difference/Cal Gas Conc. X 100% = = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- = 100%- Counts Observed for the Span= 12 Counters Observed for the Zero= 10 Counters Observed for the Zero= 10 Post Monitoring Calibration Check Cal Gas Reading: Ppm Reading:	Cal Gas Concentration: 500ppm				
1 1 1 1 1 1 1 1 1 1 1 1 *Perfor Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100%	Cal Gas ConcCal Gas Reading Response Time (
$\frac{2}{3}$ $\frac{2}{2}$ $\frac{2}{3}$	<u> </u>				
Average Difference: Perfor Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100%					
Average Difference: *Perform Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100% - = 99.7% Span Sensitivity: Trial 1: Counts Observed for the Span= 122351 Trial 3 Counters Observed for the Zero= 19.7% Trial 2: Counts Observed for the Span= 12584 Counters Observed for the Span= 12584 Counters Observed for the Zero= 19.5% Post Monitoring Calibration Check Zero Air Reading: 0 ppm Reading: 50					
Span Sensitivity: Trial 1: Counts Observed for the Span= 122351 Counters Observed for the Zero= $19/9$ Trial 2: Counts Observed for the Span= 12584 Counters Observed for the Span= 12584 Counters Observed for the Zero= 1959 Post Monitoring Calibration Check Zero Air Cal Gas Reading: ppm Reading: 5000	/500 × 100%				
Span Sensitivity: Trial 1: Counts Observed for the Span= 122351 Counters Observed for the Zero= 1978 Trial 2: Counts Observed for the Span= 12584 Counters Observed for the Zero= 1986 Counters Observed for the Zero= 1986 Post Monitoring Calibration Check Zero Air Reading: 0 ppm Reading: 50	/300 x 100%				
Span Sensitivity: Trial 1: Counts Observed for the Span= Counters Observed for the Zero= Trial 2: Counters Observed for the Span= Counters Observed for the Zero= Counters Observed for the Zero= Post Monitoring Calibration Check Cal Gas Reading: Cal Gas Cal Gas					
Counts Observed for the Span= <u>122351</u> <u>Counters Observed for the Zero=</u> <u>1979</u> <u>Trial 2:</u> Counts Observed for the Span= <u>12354</u> <u>Counters Observed for the Zero=</u> <u>1955</u> Post Monitoring Calibration Check Zero Air Reading: <u>ppm</u> <u>Cal Gas</u> Reading: <u>Cal Gas</u> <u>Cal Gas</u> <u>Reading:</u> <u>Cal Gas</u>					
Counters Observed for the Zero= Trial 2: Counts Observed for the Span= <u>122584</u> Counters Observed for the Zero= <u>4958</u> Post Monitoring Calibration Check Zero Air Reading: <u>0</u> ppm Reading: <u>50</u>	Counts Observed for the Span= 228				
Trial 2: Counts Observed for the Span= 12384 Counters Observed for the Zero= 4988 Post Monitoring Calibration Check Zero Air Cal Gas Reading: 0 ppm	Counters Observed for the Zero= 196				
Counters Observed for the Zero= 4989 Post Monitoring Calibration Check Zero Air Cal Gas Reading: 0 ppm Reading: 50					
Post Monitoring Calibration Check Zero Air Cal Gas Reading: Oppm Reading: Cal					
Zero Air Cal Gas Reading: O ppm Reading:					
	SO ppm				
BACKGROUND CONCENTRATIONS CHECKS					
Jpwind Location Description: Entrance					
Downwind Location Description:	Reading: (.3 ppm				
Notes: Wind speed averages were observed to remain below the alter exceeded 20 miles per hour. No rainfall had occurred within th	Reading: (.3 ppm Reading: (.5 ppm				
0				CODINIC .	\$ (2)0
-------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------	-------------------------------------	--------------------------------------------------------------	-----------------------------------------------------
				IORING	
	0.0	CALIBRATION ANI) PERTINER		
Date:	3-25-21		Site Name:	Sonon	10
nspector(s)	Rucint		Instrument	TV/A 2020	
ispector (s).			instrument.	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	d:МРН	Wind Direction: SW		Barometric Pressure: 30	- "Нg
Ai Temperature	ir e: <u>51</u> °F	General Weather Conditions:	clea	(
CALIBRATION	INFORMATION				
're-monitoring	Calibration Precision Check				
rocedure: Cali nd calculate th recision must i	brate the instrument. Make a he average algebraic difference be less than or eaual to 10% of	total of three measuremen e between the instrument r f the calibration gas value	ts by alternating eading and the	g zero air and the calibratio calibration gas as a percen	n gas. Record the readings tage. The calibration
nstrument Seri	al Number: 1211			Cal Gas Concentration:	500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds
1	L	503	2		3
2		501	1		5
3	.2	ilag	C		9
		= 100%-	1.6	_/500 x 100%	
		=99.7	%		
pan Sensitivity:					
rial 1:		1.5-911	Trial 3:		11/072
Co	ounts Observed for the Span=	11 20 801	Cou	nts Observed for the Span=	MADIS
		I A			ILI LCI
Cou	inters Observed for the Zero=	4106	Count	ers Observed for the Zero=	41.24
Cou ial 2: Co	inters Observed for the Zero=	13825	Count	ers Observed for the Zero=	41 34
Cou ial 2: Cou	inters Observed for the Zero= punts Observed for the Span= inters Observed for the Zero=	11 3 825 LII 34	Count	ers Observed for the Zero=	41 24
Cou i al 2: Cou Cou	inters Observed for the Zero= punts Observed for the Span=_ inters Observed for the Zero= Calibration Check	11 3 8 25	Count	ers Observed for the Zero=	41 34
Cou tial 2: Cou Ost Monitoring ro Air	inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero= Calibration Check	4106 11 3 825 - (1 3 4	Count	ers Observed for the Zero=	41 34
Cou ial 2: Cou ost Monitoring ro Air ading:	inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero= Calibration Check	4106 11 3 825 (1 3 4 Cal Gas Reading:	SOO	ers Observed for the Zero= ppm	41 34
Cou cial 2: Cou cou cost Monitoring ero Air eading: ACKGROUND	inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero= Calibration Check	Cal Gas Reading:	<u>500</u>	ers Observed for the Zero=	41 34
Cou rial 2: Cou Sost Monitoring Pro Air Pading: ACKGROUND	Inters Observed for the Zero= punts Observed for the Span= Inters Observed for the Zero= Calibration Check CONCENTRATIONS CHECKS Description:	Cal Gas Reading:	<u>500</u>	ppm Reading:	ppm
Cou rial 2: Cou Cou Dost Monitoring Pro Air Bading: ACKGROUND Dwind Location	inters Observed for the Zero= ounts Observed for the Span= inters Observed for the Zero= Calibration Check Calibration Check CONCENTRATIONS CHECKS	Cal Gas Reading: Entrance	500 C	ppm Reading: $(-)$ Reading: $(-)$	ppm ppm
Cou ial 2: Cou Cou Solution Solution Cou Cou Cou Cou Cou Cou Cou Cou	Inters Observed for the Zero= punts Observed for the Span= Inters Observed for the Zero= Calibration Check CONCENTRATIONS CHECKS Description: ion Description: Wind speed averages were ob	Cal Gas Reading: Entrance Served to remain below the	SOO C C C C	ppm Reading: Reading: wested 10 miles per hour a	ppm ppm nd no instantaneous speeds

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the state of the state of the state	- Chill of a start	21

REAL

		SURFACE EMISSI	ONS MONITO	RING	U.
		CALIBRATION AN	D PERTINENT	DATA	
Dates	3.26-21		Cito Nomo	SOLOM	0.0
Date.	0.000		Site Name:	001/01 (
Inspector(s):	VOVICI		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			-4	
Wind Speed	:МРН	$\overset{Wind}{\overset{Direction:}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{Wind}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}}{\overset{W}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}{\overset{W}}}{\overset{W}}}}}}}}}}$		Barometric Pressure: 30	"Hg
Aiı Temperature	54 "F	General Weathe Conditions	neur		5
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calit and calculate th	prate the instrument. Make ne average algebraic differen	a total of three measuremen ice between the instrument i	its by alternating ze reading and the cal	ero air and the calibratior libration gas as a percent	n gas. Record the reading age. The calibration
precision must b	e less than or equal to 10%	of the calibration gas value.			
Instrument Seria	al Number:	15 220		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Con	cCal Gas Reading	Response Time (second
1	5	502	2	-	4
2		601			R
3		501		7	M
3 Calibration Preci	ision= Average Difference/Ca	Average Difference:	*Perform recalibration if a	average difference is greater than :	10
3 Calibration Preci	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100%	*Perform recalibration if a	average difference is greater than : 500 × 100%	10
3 Calibration Preci	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100%- = 99.7	*Perform recalibration if a	average difference is greater than : 500 x 100%	10
3 Calibration Preci	ision= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100%- = TQ. T	*Perform recalibration if a	average difference is greater than : 500 x 100%	10
3 Calibration Preci Span Sensitivity: Frial 1:	sion= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100% = 99.7	*Perform recalibration if a	average difference is greater than : 500 x 100%	10
3 Calibration Preci Span Sensitivity: Trial 1: Co	sion= Average Difference/Ca	Average Difference: al Gas Conc. X 100% = 100%- = $99.7=$ 116352	*Perform recalibration if a *Perform recalibration if a /c % Trial 3: Counts	average difference is greater than : 500 x 100% Observed for the Span=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Cou	sion= Average Difference/Ca ounts Observed for the Spana nters Observed for the Zeroa	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 116357 = 49.34	*Perform recalibration if a *Perform recalibration if a /c % Trial 3: Counts Counters	average difference is greater than : 500 x 100% Observed for the Span=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Cou <u>Cou</u> <u>Frial 2:</u>	sion= Average Difference/Ca ounts Observed for the Span- nters Observed for the Zero-	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 116357 = 4934 = 4934 = 176524	*Perform recalibration if a *Perform recalibration if a /c % Trial 3: Counts Counters	average difference is greater than : 500 x 100% Observed for the Span= s Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Cou Trial 2: Cou	bunts Observed for the Span- nters Observed for the Zero- punts Observed for the Zero-	Average Difference: al Gas Conc. X 100% = 100% = 99.7 = 116357 = 4934 = 176524 = 4966	*Perform recallbration if a *Perform recallbration if a % <u>Trial 3:</u> Counts <u>Counters</u>	average difference is greater than : 500 x 100% Observed for the Span= 5 Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring	sion= Average Difference/Ca bunts Observed for the Span= <u>nters Observed for the Zero</u> = punts Observed for the Span= <u>nters Observed for the Zero</u> = <u>Calibration Check</u>	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 4934 = 176524 = 176524 = 4966	*Perform recalibration if a *Perform recalibration if a /s % Trial 3: Counts Counters	average difference is greater than : 500 x 100% Observed for the Span= 5 Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Cou Post Monitoring Iero Air	ision= Average Difference/Ca bunts Observed for the Span= <u>nters Observed for the Zero</u> = punts Observed for the Span= <u>nters Observed for the Zero</u> = <u>Calibration Check</u>	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 4934 = 176524 = 176524 = 176524 = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%	*Perform recalibration if a *Perform recalibration if a % Trial 3: Counters	average difference is greater than : 500 x 100% Observed for the Span= s Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Co Cou Trial 2: Co Cou Post Monitoring Zero Air Reading:	ision= Average Difference/Ca bunts Observed for the Span= <u>nters Observed for the Zero</u> = punts Observed for the Span= <u>nters Observed for the Zero</u> = Calibration Check	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 49.34 = 116524 = 116524 = 106524 = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%	Frial 3: Counters	average difference is greater than : 500 x 100% Observed for the Span= 5 Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Co Cou Frial 2: Co Cou Post Monitoring Sero Air Reading: SACKGROUND	ision= Average Difference/Ca bunts Observed for the Span= <u>nters Observed for the Zero=</u> punts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 4934 = 116524 = 116524 = 116524 = 100%- = 99.7 = 116357 = 116524 = 116524	Frial 3: Counters	average difference is greater than : 500 x 100% Observed for the Span= 5 Observed for the Zero=	176709
3 Calibration Preci Span Sensitivity: Trial 1: Cou Frial 2: Cou Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring Post Monitoring	ision= Average Difference/Ca ounts Observed for the Span= nters Observed for the Zero= ounts Observed for the Zero= nters Observed for the Zero= Calibration Check Calibration Check Description:	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 4934 = 116357 = 4934 = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%- = 99.7 = 100%- = 100%	Perform recalibration if a *Perform recalibration if a % Trial 3: Counters 500 pp E Re	average difference is greater than : 500 x 100% Observed for the Span= 5 Observed for the Zero=	176709 1985
3 Calibration Preci Span Sensitivity: Trial 1: Co Cou Frial 2: Co Cou Post Monitoring Post Mon	Ision= Average Difference/Ca bunts Observed for the Span= <u>inters Observed for the Zero=</u> bunts Observed for the Zero= calibration Check Concentrations Check Description: ion Description:	Average Difference: Average Difference: al Gas Conc. X 100% = 100%- = 99.7 = 99.7 = 116357 = 116357	Trial 3: Counters 500 pp Counters Counters Counters Counters Re Re	average difference is greater than : 500 x 100% Observed for the Span= Cobserved for the Zero= Cobserved for the Zero= com cading: $\sqrt{3}$; cading: $\sqrt{3}$;	176709 1985 1985

1 C C		SURFACE EMISS	IONS MONI	TORING	×
11		CALIBRATION AN			
	2-71 7-	~ ~ !		<u>c</u>	
Date:	56-20	221	Site Name:	DONOM	<u>C</u>
Inspector(s):	pon C7		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	d: MPH	Wind Direction: _/\		Barometric Pressure: 30	"Hg
A Temperature	ir e: <u>3</u> °F	General Weath Conditior	er 15: (\eav	-	
CALIBRATION	INFORMATION				
Pre-monitoring	calibration Precision Check				
Procedure: Cali and calculate to precision must	ibrate the instrument. Make he average algebraic differe be less than or equal to 10%	e a total of three measurem nce between the instrumen 5 of the calibration gas value	ents by alternating t reading and the e.	g zero air and the calibration calibration gas as a percent	n gas. Record the readir age. The calibration
Instrument Seri	ial Number: 54	101		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seco
		502	-	2	3
3	1 · C	50		1	9
Calibration Prec	cision= Average Difference/C	Cal Gas Conc. X 100%	*Perform recalibratio	on if average difference is greater than	10
Calibration Prec	cision= Average Difference/C	Cal Gas Conc. X 100%	*Perform recalibratio	on if average difference is greater than /500 x 100%	10
Calibration Prec	cision= Average Difference/C	al Gas Conc. X 100% = 100% = 9.9.7	*Perform recalibratio	on if average difference is greater than	10
Calibration Pred	cision= Average Difference/C	al Gas Conc. X 100% = 100% = 9.9.7	*Perform recalibratio	on if average difference is greater than _/500 x 100%	10
Calibration Prec Span Sensitivity Trial 1:	cision= Average Difference/C	Eal Gas Conc. X 100% = 100% = 99.7	*Perform recalibratio	on if average difference is greater than /500 x 100%	10 17×r26
Calibration Prec Span Sensitivity <u>Trial 1:</u> C	cision= Average Difference/C ounts Observed for the Spar	The rage difference: Cal Gas Conc. X 100% = 100% = 99.7 = 177192 (49.24.2	*Perform recalibratio	on if average difference is greater than /500 x 100%	178036
Calibration Prec Span Sensitivity <u>Trial 1:</u> Cou <u>Cou</u> <u>Trial 2:</u>	cision= Average Difference/C ounts Observed for the Spar unters Observed for the Zerc	The rage difference: Cal Gas Conc. X 100% = 100% = 99.7 = 177192 = 4936 = 4936 = 100%	*Perform recalibratio	on if average difference is greater than /500 x 100% Ints Observed for the Span= ters Observed for the Zero=	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cu	cision= Average Difference/C ounts Observed for the Spar unters Observed for the Zerc ounts Observed for the Spar	average Difference: Cal Gas Conc. X 100% $= 100%$ $= 99.7$ $= 177192$ $= 4936$ $= 1761464$ $= 1761464$	*Perform recalibratio	on if average difference is greater than /500 x 100%	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Cou	cision= Average Difference/C ounts Observed for the Spar unters Observed for the Zerc ounts Observed for the Spar	average Difference: Cal Gas Conc. X 100% $= 100%$ $= 99.7$ $= 177192$ $= 4936$ $= 1761464$ $= 4932$	*Perform recalibratio	on if average difference is greater than _/500 x 100%	178036 4949
Calibration Pred Span Sensitivity Trial 1: Co Trial 2: Co Post Monitoring	cision= Average Difference/C ounts Observed for the Spar unters Observed for the Zerc ounts Observed for the Spar unters Observed for the Zerc g Calibration Check	$\frac{112}{12} = \frac{112}{12} = 1$	*Perform recalibratio	on if average difference is greater than _/500 x 100%	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	cision= Average Difference/C 	Average Difference: Cal Gas Conc. X 100% = 100% = 99.7 a = 177192 a = 177192 a = 1761464 a = 1761464 a = 1761464 Cal Gas Reading:	*Perform recalibratio	ppm	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Trial 2: Cou Cou Cou Cou Cou Cou Cou Cou Cou Cou	cision= Average Difference/C 	Average Difference: Cal Gas Conc. X 100% = 99.7 = 99.7 = 177192 = 176192 = 176192 = 176192 = 176192 Cal Gas Reading: KS	*Perform recalibratio	ppm	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Cou Post Monitoring Zero Air Reading: BACKGROUND Upwind Location	cision= Average Difference/C ounts Observed for the Spar unters Observed for the Zerco ounts Observed for the Spar unters Observed for the Zerco s Calibration Check ppm CONCENTRATIONS CHEC n Description:	The age difference: Cal Gas Conc. X 100% = 99.7 = 177192 = 177192 = 177192 = 1761464 = 1761464 Cal Gas Reading: KS <u>Tentfor</u>	*Perform recalibratio	ppm Reading: <u>3</u>	178036 4949
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND Upwind Location Downwind Locat	cision= Average Difference/C .: ounts Observed for the Spar unters Observed for the Zerco ounts Observed for the Zerco ounts Observed for the Zerco ounts Observed for the Zerco ounters Observed for the Zerco ounter	Average Difference: Cal Gas Conc. X 100% = 99.7 = 99.7 = 177192 = 177192 = 1761464 = 1761464 = 1761464 = 1761464 = 1761464 = 1761464 = 176132 Cal Gas Reading: KS	*Perform recalibratio	ppm Reading: 1.3 Reading: 1.5	178036 <u>4949</u> ррт ррт

	9-26-21	CALIDRATION AN			
Date:	3-20 21		Site Name:	Sonor	19
Inspector(s):	Brojan O		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	d:МРН	Wind Direction:)	Barometric Pressure: 30	"Hg
A Temperature	ir <u>5 (</u> ۴	General Weather Conditions	Clear	-	
CALIBRATION	INFORMATION				
Pre-monitoring	g Calibration Precision Check				
Procedure: Cali	ibrate the instrument. Make a	a total of three measuremer	its by alternating	1 zero air and the calibratic	n aas. Record the read
and calculate t	he average algebraic different	ce between the instrument i	reading and the o	calibration gas as a percen	tage. The calibration
precision must	be less than or equal to 10% c $\sqrt{2}$	of the calibration gas value.			
Instrument Seri	ial Number:)		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (see
1		SOL		2	3
2	11	1100		7	-5-
-	6 S.				
Calibration Pred	cision= Average Difference/Ca	l Gas Conc. X 100%	*Perform recalibration	ו if average difference is greater than	10
Calibration Pred	cision= Average Difference/Ca	l Gas Conc. X 100% = 100%-	*Perform recalibration) if average difference is greater than _/500 x 100%	10
Calibration Prec	cision= Average Difference/Ca	l Gas Conc. X 100% = 100%- = 9(9(-7	*Perform recalibration) if average difference is greater than _/500 x 100%	10
Calibration Prec	cision= Average Difference/Ca 	l Gas Conc. X 100% = 100%- = の(9(・し	*Perform recalibration) if average difference is greater than _/500 x 100%	10
Calibration Prec Span Sensitivity Trial 1: C	cision= Average Difference/Ca 	I Gas Conc. X 100% = 100% = 9(9.7) $= 9(9.7)$	*Perform recalibration) if average difference is greater than _/500 x 100% 	13694
Calibration Prec Span Sensitivity Trial 1: Con	cision= Average Difference/Ca <u></u>	I Gas Conc. X 100% = 100% = 0.9(-7) $= 0.9(-7)$ $= 0.3523$	*Perform recalibration) If average difference is greater than /500 x 100% nts Observed for the Span= ors Observed for the Span=	13694 313694
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2:	cision= Average Difference/Ca 	I Gas Conc. X 100% = 100% = 0(9(.7)) $= 0(9(.7))$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$ $= 0(523)$	*Perform recalibration % Trial 3: Court) if average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero=	13694 31394
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: C	cision= Average Difference/Ca Counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span=	Gas Conc. X 100% = 100% = 0.9(9.7) $= 0.9(9.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$ $= 0.9(1.7)$	*Perform recalibration % Trial 3: Court) if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero=	13694 313694
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Cou	cision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span=	Gas Conc. X 100% = 100%- = 9(9.7) -136523 -136523 	*Perform recalibration % Trial 3: Court Count) if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero=	13694 3179
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring	cision= Average Difference/Ca r: Counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= g Calibration Check	Gas Conc. X 100% = 100%- = 9(9.7) = 9(9.7) = 136523 BAZG BAZG BAZG BAZG BAZG BAZG	*Perform recalibration % Trial 3: Court Count) if average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero=	13694 3139
Calibration Prec Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air	cision= Average Difference/Ca r: Counts Observed for the Span= unters Observed for the Zero= counts Observed for the Span= unters Observed for the Zero= g Calibration Check	Gas Conc. X 100% = 100%- = 9(9(-7) -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -	*Perform recalibration % Trial 3: Court Count	1 if average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero=	137694 3179
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	cision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= g Calibration Check	I Gas Conc. X 100% = 100%- = 9(9.7) 	*Perform recalibration % Trial 3: Court Count	<pre>> if average difference is greater than _ /500 x 100% nts Observed for the Span= ers Observed for the Zero= _ppm</pre>	137694 3179
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND	cision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= g Calibration Check ppm CONCENTRATIONS CHECKS	I Gas Conc. X 100% = 100%- = 9(9.7) 	*Perform recalibration % Trial 3: Court Count) If average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero= ppm	10 13694 3179
Calibration Pred Span Sensitivity Trial 1: Cou Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND	cision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= g Calibration Check CONCENTRATIONS CHECKS n Description:	Gas Conc. X 100% = 100%- = 9(9(-7) -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136523 -136525 -136525 -136525 -136525 -	*Perform recalibration % Trial 3: Count Count	<pre>> if average difference is greater than _/500 x 100% nts Observed for the Span= ers Observed for the Zero= ppm Reading: 33</pre>	10 <u>13694</u> <u>3179</u>
Calibration Pred Span Sensitivity Trial 1: Cou Trial 2: Cou Trial 2: Cou Sost Monitoring Sero Air Reading: SACKGROUND Jpwind Location	cision= Average Difference/Ca counts Observed for the Span= unters Observed for the Zero= ounts Observed for the Span= unters Observed for the Zero= g Calibration Check CONCENTRATIONS CHECKS n Description: tion Description:	Gas Conc. X 100% = 100%- = 9(9.7) = 9(9.7) = 0(9.7) = 0(9.7)	*Perform recalibration % Trial 3: Count Count 500) If average difference is greater than /500 x 100% nts Observed for the Span= ers Observed for the Zero= ppm Reading: Reading:	10 <u>13694</u> <u>3179</u> ppm ppm

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6		SURFACE EMISS	IONS MONIT	FORING	
		CALIBRATION AN	ID PERTINEN	IT DATA	
Date:	3-26-20	21	Site Name:	Sonom	er
Inspector(s):	Bryan	ochoa	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed	:(МРН	Wind Direction: <u>M</u>		Barometric Pressure: <u>3D</u>	Нg
Air Temperature	- 3ch	General Weath Condition	er s: <u>clecr</u>	-	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calib and calculate th precision must b Instrument Seria	brate the instrument. Make on the average algebraic difference the less than or equal to 10% of al Number:	a total of three measureme ce between the instrument of the calibration gas value	ents by alternating reading and the 2.	g zero air and the calibrati calibration gas as a percer Cal Gas Concentration:	on gas. Record the readings ntage. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Roading	I Cal Car C	Conc. Col Cos Reading	
1	2010 All Reading	501		oncCal Gas Reading	Response Time (seconds)
2	-1	498	Z		3
3	.7	yaa	1		4
		= 100% = Q Q 1	*	/500 x 100%	
		()- (
Span Sensitivity:			Trial 2.		
Co	ounts Observed for the Span=	137936	Cour	nts Observed for the Span	141936
Cou	nters Observed for the Zero=	3140	Count	ers Observed for the Zero-	= 3114
<u>frial 2:</u> Co	ounts Observed for the Span=	140096	-		
Cour	nters Observed for the Zero=	3124]		
ost Monitoring	Calibration Check				
ero Air	5	Cal Gas	-00		
leading:	ppm	Reading:	500	ppm	
	CONCENTRATIONS CHECK	S			
Jpwind Location	Description:	Entran	rce	Reading: 1-3	ppm
ownwind Locati	on Description:	Grid F	52	Reading:	ppm
lotes:	Wind speed averages were o exceeded 20 miles per hour. meteorological conditions we	bserved to remain below t No rainfall had occurred v ere within the requested al	he alternative req vithin the previous lternatives of the l	uested 10 miles per hour a s 24 hours of the monitori LMR requirements on the	and no instantaneous speeds ng event. Therefore, site above mentioned date.

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		SURFACE EMISSIO	ONS MONI	TORING	
	20101	CALIBRATION ANI	D PERTINE		
Date:	3-26-21		Site Name:	JONOM	. Q
Inspector(s):	Liam m	<u> </u>	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:МРН	Wind Direction: $\mathcal{M}\mathcal{W}$	-	Barometric Pressure: 30	"Hg
Air Temperature	54 °F	General Weather Conditions:	clean	<u> </u>	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calib and calculate th precision must b	orate the instrument. Make a le average algebraic difference be less than or equal to 10% c	n total of three measuremen ce between the instrument r of the calibration gas value.	ts by alternatin reading and the	ng zero air and the calibrati calibration gas as a percer	on gas. Record the reading ntage. The calibration
Instrument Seria	al Number: 122	3		Cal Gas Concentration:	500ppm
Trial 1	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (second
2		Rials		2	U U
3	(0		Ō	C
		= 100%-	1.3	_/500 x 100%	
		= 40(21	%		
Span Sensitivity:					
<u>Trial 1:</u> Co	ounts Observed for the Span=	135623	<u>Trial 3:</u> Cou	unts Observed for the Span	136972
Cou	nters Observed for the Zero=	2854	Coun	ters Observed for the Zero	= (894)
<u>Trial 2:</u> Co	ounts Observed for the Span=	135851			
Cou	nters Observed for the Zero≃	2860			
Post Monitoring	Calibration Check				
Zero Air	ppm	Cal Gas Reading:	300	_ppm	
Reading		S			
Reading: BACKGROUND	CONCENTRATIONS CHECK:				
Reading: BACKGROUND Upwind Location	CONCENTRATIONS CHECK	Entran	il	Reading:	_ppm
Reading: BACKGROUND Upwind Location Downwind Locat	CONCENTRATIONS CHECK: Description: ion Description:	Entrain Chrid 15	il L	Reading: $\frac{1.5}{1.4}$	_ppm

		SURFACE FMISSI			
		CALIBRATION AN	D PERTINE	NT DATA	
Date	3-76-70	\sum		Sinning	
Date:	3 20 20		Site Name:		29
Inspector(s):	Lam		Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS			3.	
Wind Speed:	мрн	Wind Direction:		Barometric Pressure: <u>30</u>	"Hg
Air Temperature:	39 °F	General Weathe Conditions	clean	<u>(</u>	
CALIBRATION I	NFORMATION				
Pre-monitoring C	Calibration Precision Check				
Procedure: Calibi and calculate the precision must be	rate the instrument. Make a e average algebraic differen e less than or equal to 10% o	a total of three measuremen ce between the instrument of the calibration gas value.	nts by alternatin reading and the	g zero air and the calibratic calibration gas as a percen	on gas. Record the readings tage. The calibration
instrument sena				Cal Gas Concentration:	500ppm
Frial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
1		502	2		4
2	.5	498	2		3
3	1	501	1		5
		= 100%-	1.6	/500 x 100%	
		= 99.7	%		
inan Sensitivity.					28016
rial 1:			Trial 3:	1	
Соц	unts Observed for the Span=	136232	Cou	nts Observed for the Span=	2866
Coun	ters Observed for the Zero=	2867	Count	ters Observed for the Zero=	2866
Cou	ants Observed for the Span=	135896			
Coun	ters Observed for the Zero=	2862			
ost Monitoring C	Calibration Check				
ero Air		Cal Gas			
eading: –	O ppm	Reading	500	ppm	
ACKGROUND	ONCENTRATIONS CHECK	S			
pwind Location I	Description:	Entran	Q	Reading: 1-3	ppm
ownwind Locatio	on Description:	AVID 152	_	Reading: 1.5	ppm
lotes: V e	Vind speed averages were o xceeded 20 miles per hour.	bserved to remain below th No rainfall had occurred w	e alternative red ithin the previou	quested 10 miles per hour a s 24 hours of the monitorir	ind no instantaneous speeds ng event. Therefore, site

					1.1
		SURFACE EMISSI	ONS MONITORING		
		CALIBRATION AN	D PERTINENT DAT	4	
Date:	4-21-20	151	Site Name: 30	noma	ì
Inspector(s):	pon C-	1	Instrument:TVA 20	20	
WEATHER OBS	SERVATIONS				
Wind Speed:	мрн	Wind Direction:	Barom	etric ure: 29.9	5Ч _{"Нв}
Air Temperature:		General Weathe Conditions	clear		
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedure: Calib and calculate the precision must b	rate the instrument. Make a eaverage algebraic differen e less than or equal to 10% a	a total of three measuremen ce between the instrument of the calibration gas value.	nts by alternating zero air c reading and the calibratior	nd the calibratio gas as a percent	n gas. Record the tage. The calibrat
Instrument Seria	I Number:		Cal Gas	Concentration:	500pp
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal G	as Reading]	Response Time
2	6	1 202	1 2		4
3	. 1	601			2
alibration Precis	sion= Average Difference/Ca	Average Difference:	*Perform recalibration if average di	iference is greater than	10
Calibration Precis	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%-	*Perform recalibration if average di	fference is greater than	10
Calibration Precis	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%- = 9	*Perform recalibration if average di /500 x 10 %	iference is greater than	10
Calibration Precis Span Sensitivity:	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%- = 99.5	*Perform recalibration if average di *Porform recalibration if average di /500 x 10 %	iference is greater than	10
Calibration Precis Span Sensitivity: Frial 1: Co	sion= Average Difference/Ca unts Observed for the Span=	Average Difference: Il Gas Conc. X 100% = 100%- = 99.8 = 169.78	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % <u>Trial 3:</u> Counts Observ	iference is greater than 10% ed for the Span=	1702
Calibration Precis Span Sensitivity: Frial 1: Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero=	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.9% = 37.37	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 1702 375
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.97% = 37.37 = 1.1569 = 1.1569	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% red for the Span= red for the Zero=	1 10 1 1 1 1 1 0 2 7 5
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Span=	Average Difference: I Gas Conc. X 100% = 100% = 99.% = 169.97% = 37.37 = 171.569 = 3710	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% red for the Span= red for the Zero=] 10 1702 375
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.428 = 169.428 = 3731 = 171564 = 3710	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 1 1 2 7 5
Calibration Precis Span Sensitivity: Frial 1: Cour Trial 2: Cour Cour Cost Monitoring C Gero Air Leading:	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: a) Gas Conc. X 100% = 100% = 99.% = 99.% = 169.97% = 3737 = 169.97% = 3737 = 169.97% = 3737 = 100% = 99.% = 3737 = 100% = 99.% = 3737 = 100% = 3737 = 3	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 10 2 75
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check	Average Difference: a) Gas Conc. X 100% = 100% = 99.% = 169.978 = 169.978 = 3731 = 171569 = 3710 Cal Gas Reading: S	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ 5000 ppm	iference is greater than 10% ed for the Span= red for the Zero=	1 10 10 275
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check CONCENTRATIONS CHECK Description:	Average Difference: I Gas Conc. X 100% = 100%- = 99.8 = 169.428 = 169.428 = 3737 = 171564 = 3737 = 171564 = 3710 Cal Gas Reading: S FLOWE	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ Counters Observ Reading:	iference is greater than 10% red for the Span= red for the Zero=] 10 <u>1702</u> <u>375</u>
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check Concentrations Check Description: on Description:	Average Difference: I Gas Conc. X 100% = 100% = 99.% = 169.978 = 169.978 = 3731 = 171.569 = 371.00 Cal Gas Reading: = 571.00	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ Counters Observ Reading: Reading:	iference is greater than 10% red for the Span= red for the Zero= $\frac{2}{\sqrt{3}}$] 10 <u>10</u> <u>375</u> ррт ррт

		SURFACE EMISSI	ONS MONIT	ORING	
1.00		CALIBRATION AN	D PERTINEN	IT DATA	
	4-21-20)	1 -		ADDAM	\cap
Date:		-1	Site Name:	Jonor	
Inspector(s):	Don G		Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS			*	
	. [Mind		Personal de la companya	
Wind Speed:	МРН	Direction: 5	_	Pressure: 295	С "нg
Air Temperature:	67.	General Weathe Conditions	clear	(
CALIBRATION I	INFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedure: Calib	rate the instrument. Make a	total of three measureme	nts hy alternating	zero air and the calibratic	on ans Record the reading
and calculate the	e averaae alaebraic differend	ce between the instrument	reading and the	calibration aas as a percen	tage. The calibration
precision must b	e less than or equal to 10% o	of the calibration gas value.	-		
nstrument Seria	Il Number: Nとし	.0		Cal Gas Concentration:	500ppm
	Zoo Ain Doo Jing	Col Con Reading			
1	Zero Air Reading			oncCal Gas Reading	Response Time (second
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2	• 0	50-	5		10
3		1 701			
alibration Precis	sion= Average Difference/Cal	Gas Conc. X 100%	*Perform recalibration	h if average difference is greater than	 10
Calibration Precis	sion= Average Difference/Cal	Gas Conc. X 100% = 100%-	*Perform recalibration	h if average difference is greater than	 n 10
Calibration Precis	sion= Average Difference/Cal	I Gas Conc. X 100% = 100%- = 9,9,8	*Perform recalibration	h if average difference is greater than	 n 10
Calibration Precis	sion= Average Difference/Ca	I Gas Conc. X 100% = 100%- = 9,9,8	*Perform recalibration	n if average difference is greater than	 n 10
Calibration Precis pan Sensitivity: <u>'rial 1:</u> Co	sion= Average Difference/Cal	I Gas Conc. X 100% = 100% = 99.%	*Perform recalibration (% Trial 3: Court	1 If average difference is greater than /500 x 100%	-169374
Calibration Precis pan Sensitivity: rial 1: Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero=	$\frac{1}{3}$	*Perform recalibration (1 If average difference is greater than /500 x 100% hts Observed for the Spane	-169374 -3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2:	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero=	I Gas Conc. X 100% $= 100%$ $= 99.%$ 168937 3751 $15620C$	*Perform recalibration () If average difference is greater than /500 x 100% hts Observed for the Spane ers Observed for the Zeroe	-169374 -3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	I Gas Conc. X 100% $= 100%$ $= 99.%$ 168937 3751 169206 2799	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	= 169374 = 3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero=	I Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u>	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	- <u>169374</u> - <u>3-802</u>
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour Sost Monitoring C	sion= Average Difference/Cal unts Observed for the Span= <u>nters Observed for the Zero=</u> unts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check	I Gas Conc. X 100% $= 100%$ $= 99.%$ $I G8 937$ 3751 $I G8 20C$ 3789	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	- <u>169374</u> - <u>3802</u>
Calibration Precis Span Sensitivity: (rial 1: Cour 'rial 2: Cour ost Monitoring (ero Air	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	First Formula for the formul	*Perform recalibration (/500 x 100% /500 x 100%	- <u>169374</u> - <u>3802</u>
Calibration Precis	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	I Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u> Cal Gas Reading:	*Perform recalibration (% Trial 3: Count Count	ppm	- <u>169374</u> - <u>3802</u>
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Calibration Precis	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check ppm CONCENTRATIONS CHECKS Description: on Description:	File Underline ence. $File Cal Gas Reading:$ $File Ve Cal The file of the f$	*Perform recalibration	ppm Reading:	ppm

Weather Data



First Quarter 2021 LMR Instantaneous Weather Data for March 24, 2021 Sonoma Central Landfill, Petaluma, California





First Quarter 2021 LMR Instantaneous Weather Data for March 26, 2021 Sonoma Central Landfill, Petaluma, California





SCS FIELD SERVICES

August 5, 2021 File No. 07221077.00

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

Subject: Sonoma Central Landfill - Petaluma, California

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

Dear Mr. Cheney:

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

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

Sincerely,

Whitney Stackhouse Project Manager SCS Field Services

High Muser

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 2021

Presented to:



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

SCS FIELD SERVICES

File No. 07221078.00 Task 01 | August 1, 2021

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

Sonoma Central Landfill

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

INTRODUCTION

This letter provides results of the April 19, 20, 21, 30, and May 21, 2021, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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

SUMMARY AND CONCLUSIONS

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

On, April 19, 20, 21, 30, and May 21, 2021, SCS performed second quarter 2021 SEM as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that three (3) locations exceeded the 500 ppmv maximum concentration during the initial monitoring event (Table 1 in Attachment 3). The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that all areas had returned to below regulatory compliance limits following system adjustments and remediation (well field adjustments and installation of new bentonite plugs) by SCS personnel. Based on these monitoring results no additional follow up testing was required.

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

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

During the monitoring event, there were no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results, no further action 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, one (1) location was observed to exceed the 200 ppmv, reporting threshold. When these readings are observed, the locations are reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report. Please see the figure in Attachment 3 for location details.

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

SURFACE EMISSIONS MONITORING

On April 19, 20, 21, 30, and May 21, 2021, the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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

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

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

SURFACE EMISSIONS MONITORING PROCEDURES

Surface emissions monitoring was conducted in accordance with the LMR and NSPS requirements. Monitoring was performed with the FID inlet held within 3-inches of the landfill surface while a technician walked a grid in parallel paths not more than 25 -feet apart over the surface of the landfill. Cracks, holes and other cover penetrations in the surface were also tested. Surface emissions readings were monitored continuously and recorded every 5 seconds. Any areas in exceedance of the 200 or 500 ppmv standards (reporting and compliance levels, respectively) would be GPS tagged and stake-marked for on-site personnel to perform remediation or repairs.

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

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

TESTING RESULTS

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

On April 19, 20, and 21, 2021, SCS performed second quarter 2021 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that three (3) locations exceeded the 500 ppmv maximum concentration. The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on April 30 and May 21, 2021, respectively, indicated that all areas had returned to compliance following system adjustments and remediation (wellfield adjustment and borehole repairs using bentonite and soil) performed by SCS personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, calculated integrated grid monitoring indicated no areas exceedances of the 25-ppmv requirement during this monitoring event. Based on these monitoring results no follow up testing was required. Results of the initial 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 2021.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On April 19, 2021, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and PGF Facility.

Monitoring was performed with the detector inlet held one-half of an inch from pressurized pipe and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 58.7 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS and PGF were in compliance at the time of our testing.

PROJECT SCHEDULE

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

STANDARD PROVISIONS

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

Landfill Grid



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LEGEND

 	APPROXIMATE LINER BOUNDARY
 500	EXISTING 10' CONTOUR
	EXISTING GAS PIPE, ABOVE GRADE
	EXISTING HORIZONIAL GAS COLLECTOR
 — AAG — AAG — AAG —	EXISTING AIR FORCE MAIN, ABOVE GRADE
 	EXISTING AIR FORCE MAIN, BELOW GRADE
 	EXISTING AIR LEACHATE LINE
⊕ EW−170	EXISTING GAS/LEACHATE EXTRACTION WELL
⊕ EW-165	EXISTING VERTICAL GAS EXTRACTION WELL
(1) 88.5	EXISTING VERTICAL GAS EXTRACTION WELL WITH PUMP ADDED
8	EXISTING REMOTE WELLHEAD
->>-	EXISTING CONTROL VALVE
-11	EXISTING BLIND FLANGE
-11-	EXISTING FLANGE CONNECTION
-D	EXISTING REDUCER FITTING
	EXISTING END CAP
SUMP	EXISTING CONDENSATE PUMP STATION
120	SURFACE EMISSIONS MONITORING GRID
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.



SONOMA COUNTY CENTRAL LANDFILL PETALUMA, CALIFORNIA



SURFACE EMISSIONS MONITORING **GRID MAP**

Surface Pathway



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

Instantaneous and Component Emissions Monitoring Results

Second Quarter 2021

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

Instantaneous Data Report for April 19, 20, 21, 30, and May 21, 2021

Location	Initial Monitoring (ppmv) April 19 or 21, 2021	10-Day Follow Up Monitoring (ppmv) April 30, 2021	20-Day Follow Up Monitoring (ppmv) May 21, 2021
2003-1	444	NA	NA
112	2,800	5	6.5
92A	1,500	5	229
107A	1,800	8	63.5

Highest Component Reading

Highest Pressurized Pipe Reading

Location	Date	Concentration (ppmv)
Flare	4/19/2021	3
PGF Facility	4/19/2021	58.7

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



Second Quarter 2021 Emissions Monitoring Locations Greater Than 200 ppmv and 500 ppmv Sonoma Central Landfill, Petaluma, California

Integrated Monitoring Results

Point Name	Record Date	FID Concentration (ppm)	Comments
SC001	4/19/2021	1.07	
SC002	4/19/2021	2.62	
SC003	4/19/2021	2.42	
SC004	4/19/2021	3.08	
SC005	4/19/2021	3.42	
SC006	4/19/2021	2.88	
SC007	4/19/2021	2.72	
SC008	4/19/2021	5.52	
SC009	4/19/2021	6.64	
SC010	4/19/2021	11.61	
SC011	4/19/2021	10.40	
SC012			Construction Activites
SC013			Construction Activites
SC014	4/19/2021	1.21	
SC015	4/19/2021	3.21	
SC016	4/19/2021	2.54	
SC017	4/19/2021	2.96	
SC018	4/19/2021	4.85	
SC019	4/19/2021	5.60	
SC020	4/19/2021	3.56	
SC021			Construction Activites
SC022			Construction Activites
SC023			Construction Activites
SC024	4/19/2021	1.50	
SC025	4/19/2021	2.14	
SC026	4/19/2021	2.53	
SC027	4/19/2021	2.71	
SC028	4/19/2021	2.64	
SC029	4/19/2021	2.10	
SC030	4/19/2021	2.39	
SC031			Construction Activites
SC032			Construction Activites
SC033			Construction Activites
SC034	4/19/2021	1.86	
SC035	4/19/2021	1.29	
SC036			Construction Activites
SC037			Construction Activites
SC038	4/19/2021	3.33	
SC039	4/19/2021	5.16	
SC040	4/19/2021	3.17	
SC041			Construction Activites
SC042			Construction Activites
SC043	4/19/2021	5.03	



Point Name	Record Date	FID Concentration (ppm)	Comments
SC044			Native
SC045			Native
SC046			Native
SC047	4/19/2021	6.09	
SC048	4/19/2021	6.27	
SC049	4/19/2021	2.87	
SC050	4/19/2021	3.76	
SC051	4/19/2021	3.41	
SC052	4/19/2021	3.05	
SC053	4/19/2021	3.15	
SC054	4/20/2021	2.75	
SC055	4/21/2021	2.03	
SC056			Native
SC057			Native
SC058			Native
SC059			Native
SC060			Native
SC061			Native
SC062	4/19/2021	2.94	
SC063	4/19/2021	4.62	
SC064	4/19/2021	3.06	
SC065	4/20/2021	2.04	
SC066	4/21/2021	1.80	
SC067			Native
SC068	4/19/2021	1.60	
SC069			Native
SC070			Native
SC071			Native
SC072			Native
SC073			Native
SC074	4/21/2021	2.86	
SC075	4/20/2021	2.14	
SC076	4/20/2021	4.88	
SC077	4/20/2021	1.10	
SC078	4/20/2021	2.62	
SC079	4/19/2021	2.71	
SC080	4/19/2021	2.01	
SC081			Native
SC082			Construction Activites
SC083	4/18/2021	4.03	
SC084	4/19/2021	5.39	
SC085			Native
SC086			Native

SCS DataServices - Secure Environmental Data

Point Name	Record Date	FID Concentration (ppm)	Comments
SC087	4/21/2021	4.45	
SC088	4/21/2021	3.24	
SC089	4/21/2021	2.77	
SC090	4/21/2021	5.06	
SC091	4/20/2021	4.93	
SC092	4/20/2021	10.17	
SC093	4/20/2021	1.08	
SC094	4/20/2021	4.21	
SC095	4/19/2021	2.69	
SC096			Native
SC097			Native
SC098			Construction Activites
SC099			Construction Activites
SC100	4/18/2021	7.13	
SC101	4/19/2021	5.75	
SC102			Native
SC103	4/20/2021	3.39	
SC104	4/21/2021	4.05	
SC105	4/21/2021	4.86	
SC106	4/21/2021	7.46	
SC107	4/20/2021	8.24	
SC108	4/20/2021	12.43	
SC109	4/20/2021	1.26	
SC110	4/20/2021	4.04	
SC111	4/19/2021	2.28	
SC112			Native
SC113			Native
SC114			Construction Activites
SC115			Construction Activites
SC116	4/18/2021	4.34	
SC117	4/19/2021	6.54	
SC118	4/20/2021	2.22	
SC119	4/20/2021	4.61	
SC120	4/21/2021	6.81	
SC121	4/21/2021	6.95	
SC122	4/20/2021	7.34	
SC123	4/20/2021	8.79	
SC124	4/20/2021	3.46	
SC125	4/20/2021	5.09	
SC126	4/19/2021	2.24	
SC127			Native
SC128			Native



Point Name	Record Date	FID Concentration (ppm)	Comments
SC129			Construction Activites
SC130			Construction Activites
SC131	4/18/2021	5.46	
SC132	4/21/2021	2.98	
SC133	4/21/2021	2.31	
SC134			No on Grid Map
SC135	4/21/2021	2.29	
SC136	4/20/2021	1.39	
SC137	4/20/2021	3.82	
SC138	4/19/2021	7.22	
SC139	4/20/2021	6.60	
SC140	4/19/2021	1.93	
SC141			Native
SC142			Native
SC143			Construction Activites
SC144			Construction Activites
SC145	4/18/2021	3.53	
SC146	4/19/2021	15.47	
SC147	4/21/2021	1.68	
SC148	4/21/2021	3.67	
SC149	4/19/2021	1.63	
SC150	4/20/2021	3.64	
SC151	4/19/2021	1.29	
SC152	4/20/2021	2.69	
SC153	4/19/2021	1.68	
SC154			Native
SC155			Native
SC156			Construction Activites
SC157			Construction Activites
SC158	4/18/2021	4.09	
SC159	4/20/2021	0.98	
SC160			Native
SC161			Construction Activites
SC162			Construction Activites
SC163			Native

Calibration Logs

					Pre
		SURFACE EMIS	SIONS MONI	TORING	
		CALIBRATION A	ND PERTINE	NT DATA	
Date:	4-19-20	150	Site Name:	Sunor	en
nspector(s):	Hunter	ott	Instrument:	TVA 2020	
WEATHER OBSE	RVATIONS			141	
Wind Speed:	5МРН	Wind Direction:		Barometric Pressure: <u>30</u>	"Hg
Air Temperature:	54 °F	General Weat Conditic	ther fogge	· · · · ·	
	IFORMATION				
an an aite since C					
rocedure: Calibro	ate the instrument. Make	a total of three measuren	nents hy alternatin	a zero air and the calibration	a ans Record the reading
nd calculate the	average algebraic differen	ce between the instrume	nt reading and the	calibration gas as a percent	age. The calibration
recision must be	less than or equal to 10% o	of the calibration gas valu	J.e. ~		
nstrument Serial	Number: 547	20		Cal Gas Concentration:	500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (second
1	.0	502		2	3
2	.0	uaa		1	3
		= 100	%- <u> </u>	_/500 x 100%	
		÷	%		
nan Sensitivity:					
rial 1:			Trial 3:		
Cour	nts Observed for the Span=	132528	Cou	nts Observed for the Span=	133603
Count	ers Observed for the Zero=	3435	Count	ers Observed for the Zero=	3493
Cour	nts Observed for the Span=	132 980			
Count	ers Observed for the Zero=	3447			
ost Monitoring Ca	libration Check				
ero Air eading:	D.2 ppm	Cal Gas Reading:	500	ppm	
ACKGROUND CO	DNCENTRATIONS CHECK	S			
owind Location D	escription:	Flare		Reading: 1.2	ppm
ownwind Location	n Description:	civideu	l	Reading: 1,3	ppm
otes: W ex m	ind speed averages were o ceeded 20 miles per hour. eteorological conditions we	bserved to remain below No rainfall had occurred ere within the requested	v the alternative real within the previou alternatives of the	quested 10 miles per hour a is 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speed g event. Therefore, site bove mentioned date.
Sandard Sandard	Bang - Bangara	Brown Brown and Brown and	- I I Barry and	Mat toi a R.	811

SURFACE EMISS	IONS MONI	TORING	
CALIBRATION AN	ID PERTINE	NT DATA	
	Site Name:	Sonon	2
viction	Instrument:	TVA 2020	
J		.21	
Direction:	-	Barometric Pressure: <u>30</u>	"Hg
General Weathe Condition	s: fog	_	
)		
a total of three measureme	ents hv alternatin	a zero air and the calibration	n ans Record the reading
ce between the instrument	reading and the	calibration gas as a percent	age. The calibration
of the calibration gas value		<u> </u>	-
3		Cal Gas Concentration:	500ppm
Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (secon
502			9
4999	1		2
ll Gas Conc. X 100%			
= 100%	1.3	_/500 x 100%	
= 99.7	%		
109/72	Trial 3:		120 OFF
121612	Cou	ints Observed for the Span=	129955
2736	Coun	ters Observed for the Zero=	2783
129782	_		
2750			
Cal Gas	<		
Reading:	500	_ppm	
s		. 0	
Plane	9	Reading:	ppm
Grid 64	-	Reading: 1.5	ppm
bserved to remain below t No rainfall had occurred v ere within the requested al	the alternative re within the previou lternatives of the	quested 10 miles per hour a us 24 hours of the monitorin LMR requirements on the a	nd no instantaneous spee g event. Therefore, site bove mentioned date.
	CALIBRATION AN Wind Direction: W General Weath Condition a total of three measurements of the calibration gas value Cal Gas Reading Cal Gas Conc. X 100% = 100% = 29672 Cal Gas Reading: S Cal Gas Reading: S Cal Gas Reading: S	CALIBRATION AND PERTINENT Site Name: Site Name: Site Name: Site Name: Site Name: Number Sector Second Weather Conditions: Second Weather Conditions: Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Se	CALIBRATION AND PERTINENT DATA Site Name: Summer Site Name: Summer Site Name: TVA 2020 Wind Instrument: TVA 2020 Wind Direction: Wind Direction: Seneral Weather Pressure: Conditions: Social and the calibration gas as a percent of the calibration gas value. S Cal Gas Concentration: Cal Gas Reading [Cal Gas Concentration: Cal Gas Reading [Cal Gas Concentration: Cal Gas Reading [Cal Gas Concentration: Verage Difference: Senter calibration if average difference is greater than If Gas Conc. X 100% Senter calibration if average difference is greater than If Gas Conc. X 100% Senter calibration if average difference is greater than If Gas Conc. X 100% Senter calibration if average difference is greater than If Gas Conc. X 100% Senter calibration Senter calibration Senter calibration Cal Gas Senter calibration Cal Gas Reading: Senter calibration Cal Gas Reading: Senter calibration Cal Gas Senter calibration

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SCS DataSorvicos	- Samues	Environmon	And Distant		
A A A MINAGINICS	ECECONE	Environmen			
					Pre
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		SURFACE EMISS	ONS MONI	TORING	
		CALIBRATION AN	D PERTINE	NT DATA	
Data:	4-19-7	015	Site Nome	\$	-
Dale.			Site Name:	JONOM	e
Inspector(s);	Beyan	0	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			<i></i>	
Wind Speed	мрн	Wind Direction:	20	Barometric Pressure: <u>30</u>	- "Hg
Air Temperature	r : <u>54</u> F	General Weathe Conditions	food	_	
CALIBRATION	INFORMATION)		
² re-monitoring	Calibration Precision Check				
Procedure: Calib	brate the instrument. Make	a total of three measureme	nts by alternatin	a zero air and the calibratio	n aas. Record the readinas
and calculate th	ne average algebraic differen	ce between the instrument	reading and the	calibration gas as a percent	tage. The calibration
precision must b	be less than or equal to 10%	of the calibration gas value.	•		
nstrument Seria	al Number:	15		Cal Gas Concentration:	500ppm
Frial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
1	.0	501		1	3
2	- 1	500	-	0	5
3	- 0	498		2	4
		= 100%		_/500 x 100%	
		= 990	%		
pan Sensitivity:					
rial 1: Co	ounts Observed for the Span	128780	Trial 3: Cou	nts Observed for the Span=	128651
Cou	nters Observed for the Zero-	3059	Cours	tors Observed for the Zero-	3167
rial 2: Co	ounts Observed for the Span-	128951	Coun		0.000
Cou	nters Observed for the Zero-	3082			
ost Monitoring	Calibration Check		-		
ero Air eading:	ppm	Cal Gas Reading:	500	ppm	
ACKGROUND	CONCENTRATIONS CHECK	S			
pwind Location	Description:	Flare	(E) -	Reading: LS	ppm
ownwind Locat	ion Description:	Chrod Colt	6. • 1	Reading:	ppm
otes:	Wind speed averages were of exceeded 20 miles per hour.	bbserved to remain below t No rainfall had occurred w	he alternative re- vithin the previou	quested 10 miles per hour a us 24 hours of the monitorir	nd no instantaneous speed ag event. Therefore, site

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					Pre
		SURFACE EMISSI	ONS MONI	roring	
		CALIBRATION AN	D PERTINE	IT DATA	
Date:	4-19-21	<u> </u>	Site Name:	Sonomo	<u> </u>
Inspector(s):	Don G	1	instrument:	TVA 2020	
WEATHER OBS	ERVATIONS				
Wind Speed:	мрн	Wind Direction:	,	Barometric Pressure: 30	"Нg
Air Temperature:	54 °F	General Weathe Conditions	tug	_	
CALIBRATION I	NFORMATION				
Pre-monitoring C	alibration Precision Check				
Decenduras Calib	anta tha instrument . 6 dala				
and calculate the precision must be	e average algebraic differen e less than or equal to 10% o	ce between the instrument of the calibration gas value.	reading and the	calibration gas as a percent	age. The calibration
instrument sena			7	cal Gas concentration:	Sooppm
Trial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds)
2	1	601		1	7
3	1	Uga		1	2
alibration Precis	ion= Average Difference/Ca	l Gas Conc. X 100% = 100%-	1.3	_/500 x 100%	
		= 99	۱%		
pan Sensitivity:					
Cou	ints Observed for the Span=	166108	Trial 3: Cou	nts Observed for the Span=	166509
Coun rial 2:	ters Observed for the Zero=	5090	Count	ers Observed for the Zero=	39.99
Cou	ints Observed for the Span=	166372			
Coun	ters Observed for the Zero=	3917	I		
ost Monitoring C	alibration Check				
ero Air eading:	Oppm	Cal Gas Reading:	500	_ppm	
ACKGROUND C	ONCENTRATIONS CHECK	s			
pwind Location I	Description:	Plane	a,	Reading: <u>13</u>	pm
ownwind Locatio	on Description:	Criel 64	3	Reading: $\underline{\sum}$	ppm
otes: V e n	Vind speed averages were o xceeded 20 miles per hour. neteorological conditions w	bserved to remain below tl No rainfall had occurred w ere within the requested al	ne alternative red within the previou ternatives of the	quested 10 miles per hour an s 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speeds g event. Therefore, site bove mentioned date.
DeteSary	ices - Secure	Environmontel	Dealer	Challer C Rd	6°

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		SURFACE EMISS	ONS MONI	FORING	
		CALIBRATION AN		IT DATA	
Date:	4-19-2		Site Name:	Sonom	9
Inspector(s):	Ryan	14	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			~	
	0	Wind ,		Barometric	
Wind Speed	E MPH	Direction: W	-	Pressure: 30	
Ai Temperature	54 °F	General Weathe Conditions	koy	_	
CALIBRATION	INFORMATION)		
Pre-monitoring	Calibration Precision Check				
Procedure: Calil	hrate the instrument Make	a total of three measureme	nts hu alternatio	a zoro air and the celibrati	on and Borord the readians
and calculate th	ne average algebraic differen	ce between the instrument	readina and the	g zero air and the calibrati calibration aas as a percer	on gas. Recora the readings Itaae. The calibration
precision must l	be less than or equal to 10% o	of the calibration gas value.	,		
nstrument Seria	al Number:			Cal Gas Concentration:	500ppm
Frial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
1	.\	501	1	1	4
2	.2	501		1	5
3	.\ .	501		1	5
		= 100% = 99.4	~	_/500 x 100%	
nan Constitution					
rial 1:			Trial 3:		
Cc	ounts Observed for the Span=	114756	Cou	nts Observed for the Span	115051
Cou	nters Observed for the Zero=	3963	Count	ers Observed for the Zero	3999
rial 2: Co	ounts Observed for the Span=	114903			
Cou	nters Observed for the Zero=	3985			
ost Monitoring	Calibration Check				
ero Air		Cal Gar			
eading:	D ppm	Reading:	500	ppm	
ACKGROUND	CONCENTRATIONS CHECK	5 \\			
pwind Location	Description:	Plane		Reading: 1.2	ppm
ownwind Locati	ion Description:	Cirid 64		Reading: $\underline{\backslash . \Upsilon}$	_ppm
otes:	Wind speed averages were o exceeded 20 miles per hour.	bserved to remain below t No rainfall had occurred w	he alternative rea vithin the previou	quested 10 miles per hour is 24 hours of the monitori	and no instantaneous speed ing event. Therefore, site

				(20re
		SURFACE EMISSIO		ORING	
		CALIBRATION ANI	D PERTINEN	IT DATA	
Date:	01-19-20	221	Site Name:	Sonom	9
Inspector(s):	cody		Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed	МРН	Wind Direction: <u>W</u>		Barometric Pressure: 30	— "Hg
Air Temperature:	54	General Weather Conditions:	foge	M	
	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calib and calculate th precision must b	prate the instrument. Make a e average algebraic difference e less than or equal to 10% o	total of three measuremen e between the instrument r f the calibration gas value.	ts by alternating eading and the	g zero air and the calibratic calibration gas as a percen	on gas. Record the readings tage. The calibration
nstrument Seria	al Number: 59	19		Cal Gas Concentration:	500ppm
「rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds)
1		501		1	3
2	• 1	501			<u> </u>
alloration Preci	sion≠ Average Difference/Cai	Gas Conc. X 100% = 100%- = C(C). J	<u>'</u>	_/500 × 100%	
nan Sensitivity:					
<u>rial 1:</u> Co	unts Observed for the Span=	172812	<u>Trial 3:</u> Cou	nts Observed for the Span-	178580
Cou	nters Observed for the Zero=	5419	Count	ers Observed for the Zero-	5462
rial 2: Co	unts Observed for the Span=	112976			
Cour	nters Observed for the Zero=	5429			
ost Monitoring	Calibration Check				
ero Air	ର	Cal Gas	~		
eading:	0 ppm	Reading	300	ppm	
ACKGROUND	CONCENTRATIONS CHECKS				
pwind Location	Description:	Flare		Reading: <u>\</u> , \	ppm
ownwind Locati	on Description:	(11/064		Reading: 15	ppm
otes:	Wind speed averages were of exceeded 20 miles per hour. meteorological conditions we	oserved to remain below th No rainfall had occurred wi ere within the requested alt	e alternative rec thin the previou ernatives of the	quested 10 miles per hour a s 24 hours of the monitori LMR requirements on the	and no instantaneous speeds ng event. Therefore, site above mentioned date.

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					RIC
		SURFACE EMISSI	ONS MONIT	ORING	
		CALIBRATION AN	D PERTINEN	IT DATA	
Date:	4-19-20-	21	Site Name:	Sonoma	
Inspector(s):	Pablo	r	Instrument:	TVA 2020	
WEATHER OBSE	RVATIONS			-+-	
Wind Speed:	<u>5</u> мрн	Wind Direction:	-	Barometric Pressure: <u>30</u>	"Hg
Air Temperature:	54 °F	General Weathe Conditions	fogge	-	
CALIBRATION IN	FORMATION		11		
Pre-monitoring Ca	libration Precision Check				
Procedure: Calibro and calculate the precision must be Instrument Serial	ate the instrument. Make a average algebraic differenc less than or equal to 10% o Number:	total of three measurements be between the instrument of f the calibration gas value.	nts by alternating reading and the o	a zero air and the calibration calibration gas as a percent Cal Gas Concentration:	n gas. Record the readin age. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Reading	I Cal Gas C	onc -Cal Gas Reading	Response Time (secon
1	D O	500	Tear day e	0	L L
2	8	500		0	3
3	1	501		1	3
			-		
		- 100%-	. 3	/E00 v 100%	
		- 100%-		/500 X 100%	
		= 92.4	%		
Span Sensitivity:					
Trial 1: Cour	nts Observed for the Span=	144756	Trial 3: Cour	nts Observed for the Span=	145203
Count	ers Observed for the Zero=	3902	Count	ers Observed for the Zero=	3972
Trial 2: Cour	nts Observed for the Span=	14, 19 90			
Count	ers Observed for the Zero=	39 58			
Post Monitoring Ca	libration Check				
Zero Air		Cal Gas			
Reading:	ppm	Reading:	500	ppm	
BACKGROUND CO	DNCENTRATIONS CHECKS	i			
Upwind Location D	escription:	Franc	a	Reading: 1,2	ppm
Downwind Locatior	n Description;	664		Reading: 1.4	ppm
Notes: W ex mo	ind speed averages were of ceeded 20 miles per hour. eteorological conditions we	oserved to remain below th No rainfall had occurred w are within the requested alt	ne alternative req ithin the previous ternatives of the l	uested 10 miles per hour a s 24 hours of the monitorin LMR requirements on the a	nd no instantaneous spea g event. Therefore, site bove mentioned date.
DataServ	icas - Sacura	Invironmontal	Date	L'Inter Contra	¥1

				Λ	Post
		SURFACE EMISSI	ONS MONI	TORING	
	10 1.0 7		D PERTINE	NT DATA ⊲	
Date:	4-19-6	-0(1	Site Name:	Jonor	non
Inspector(s):	Codyc		Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			54	
Wind Speed	:мрн	Wind Direction:	-	Barometric Pressure:	"Нд
Air Temperature	<u>63</u> •F	General Weathe Conditions	SUNC	W)	
CALIBRATION	INFORMATION			-)	
Pre-monitoring	Calibration Precision Check				
Procedure: Calib	prate the instrument. Make	a total of three measuremer	ats hy alternatio	a zero air and the celibrat	ion oper Description of the
and calculate th	e average algebraic differen	ce between the instrument i	reading and the	calibration gas as a perce	non gas. Record the readings intage. The calibration
precision must b	e less than or equal to 10% o	of the calibration gas value.			
nstrument Seria	I Number: <u>541</u>	9		Cal Gas Concentration	: 500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
2		Sol		2	4
3			-	(5
			*Perform recalibratio	n if average difference is greater the	an 10
alibration Precis	sion= Average Difference/Ca	Cor Cone X 100%			
		1083 CONC. X 100%			
		= 100%-	1.5	/500 x 100%	
		-901-1	%		
		$\mathcal{L}_{\mathbf{r}}$			
ial 1:			T-1-1 2.		
Соц	unts Observed for the Span=	171356	Cour	nts Observed for the Span	171809
Coun	ters Observed for the Zero=	5376	Count	ers Observed for the Zero	- 5417
<u>ial 2:</u> Cou	unts Observed for the Span=	1-11682			
Coun	ters Observed for the Zero=	5392			
st Monitoring C	alibration Check				
ro Air		Cal Gas			
ading: –	Oppm	Reading:	500	ppm	
CKGROUND C	ONCENTRATIONS CHECKS				
wind Location [Description:	Flare		Reading:	ppm
wnwind Locatio	n Description:	Crue gpc	1	Reading: 14	ppm
tes: W	/ind speed averages were ob xceeded 20 miles per hour.	oserved to remain below the No rainfall had occurred wit	e alternative req thin the previous	uested 10 miles per hour 24 hours of the monitori	and no instantaneous speeds ng event. Therefore, site
the states		a sharin are requested alte	and wes of the t	and requirements on the	above mentioned date.

1		SURFACE EMISSIO	ONS MONITORING	
		CALIBRATION AND	PERTINENT DATA	
	Q-10-7		2	
Date:	1-19-0	入	Site Name: 30000	MA
Inspector(s):	Hunter		Instrument: TVA 2020	
WEATHER OB	SERVATIONS		4	
Wind Speed	мрн	Wind Direction:	Barometric Pressure:	Ю "нg
Air Temperature	63 .	General Weather Conditions:	Sunny	
	INFORMATION			
Pre-monitoring	Calibration Precision Check			
Procedure: Calib and calculate th precision must b	rate the instrument. Make a e average algebraic difference le less than or equal to 10% c	a total of three measuremen ce between the instrument r of the calibration gas value.	ts by alternating zero air and the cali eading and the calibration gas as a p	bration gas. Record the readings percentage. The calibration
nstrument Seria	I Number:		Cal Gas Concentra	tion: 500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal Gas Reading	Response, Time (seconds
1	-1	500	Ô	
2	- 0	602	t	L
3	. ~ -	500	Õ	5
-		= 100%-	/500 x 100%	
		=q9.8	%	
nan Sensitivity:				
rial 1:			Trial 3:	100 +1+
Co	unts Observed for the Span=	132110	Counts Observed for the	span= 15 C 3 M
Cour	nters Observed for the Zero=	2426	Counters Observed for the	7ero= 34 89
rial 2:	unts Observed for the Span-	132 386	counters observed for the	
Cour	nters Observed for the Zero=	3450		
ost Monitoring	Calibration Check			
oro Air	ppm	Reading:	500 ppm	
ero Air eading:				
ero Air eading: ACKGROUND	CONCENTRATIONS CHECK	S		0
ero Air eading: ACKGROUND pwind Location	CONCENTRATIONS CHECK	Flowe	Reading:	ppm
ero Air eading: ACKGROUND pwind Location ownwind Locati	CONCENTRATIONS CHECK Description: on Description:	Flowe Crvid 6	Reading:	_1_ppm 3_ppm

				Nost
	SURFACE EMISSI	ONS MONI	TORING	
	CALIBRATION AN	D PERTINE	NT DATA	
Date: 4-10-21		Site Name:	Sunar	29
Inspector(s): Valdo		Instrument:	TVA 2020	
WEATHER OBSERVATIONS			*	
Wind Speed: MPH	Wind Direction:	-	Barometric 30 Pressure: 30	"Hg
Air Temperature: <u>63</u> °F	General Weather Conditions	SUNI	rey	
CALIBRATION INFORMATION				
Pre-monitoring Calibration Precision Check				
Procedure: Calibrate the instrument. Make a and calculate the average algebraic difference precision must be less than or equal to 10% o Instrument Serial Number:	total of three measuremen te between the instrument i f the calibration gas value.	its by alternatin reading and the	g zero air and the calibration calibration gas as a percent Cal Gas Concentration:	a gas. Record the readings age. The calibration 500ppm
Trial Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seconds)
1 0	400		0	4
2 2	50		0	
Calibration Precision= Average Difference/Cal	Gas Conc. X 100%	١	/500 x 100%	
	= 99, 8	%		
ipan Sensitivity:	C -			
rial 1: Counts Observed for the Span≕ Counters Observed for the Zer	193892	<u>Trial 3:</u> Cou	unts Observed for the Span=	144583
rial 2: Counts Observed for the Span=	144125			
Counters Observed for the Zero=	00.00			
ost Monitoring Calibration Check				
ero Air eading:ppm	Cal Gas Reading:	500	_ppm	
ACKGROUND CONCENTRATIONS CHECKS	5			
Ipwind Location Description:	Flave		Reading:	ppm
ownwind Location Description:	Carid 6	M	Reading: <u>_</u>	ppm
lotes: Wind speed averages were of exceeded 20 miles per hour. meteorological conditions we	bserved to remain below th No rainfall had occurred w ere within the requested alt	e alternative re ithin the previo ernatives of the	quested 10 miles per hour an us 24 hours of the monitorin LMR requirements on the a	nd no instantaneous speeds g event. Therefore, site bove mentioned date.

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				TOPING	(0)0
		CALIRRATION AN			
		CALIDRATION AN		NI DATA	
Date:	4-14-20	21	Site Name:	Sonom	ien
nspector(s):	Bryan	0	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS			<u>je</u>	
Wind Speed:	Z MPH	Wind Direction:		Barometric Pressure: 30	"Hg
Air	A 7	General Weathe	er		
Temperature:	<u>65</u> °F	Condition	s: Sonn	E)	
CALIBRATION	INFORMATION				
re-monitoring (Calibration Precision Check				
vrocedure: Calib	prate the instrument. Make	a total of three measureme	nts by alternatin	g zero air and the calibratio	on gas. Record the readings
and calculate the precision must b	e average algebraic differen e less than or eaual to 10% (ce between the instrument of the calibration aas value	reading and the	calibration gas as a percen	tage. The calibration
nstrument Seria	Number:	2		Cal Gas Concentration:	500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (second
1		501		1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
2	0	501		1	5
2	2	601			1 3
libration Preci	sion= Average Difference/Ca	il Gas Conc. X 100% = 100%	\	_/500 × 100%	
		=99.4)%		
pan Sensitivity:					
rial 1:		- 00 - 1	Trial 3:		
Co	unts Observed for the Span-	121976	Cou	ints Observed for the Span	128237
Cour	nters Observed for the Zero-	3056	Coun	ters Observed for the Zero-	3102
Co	unts Observed for the Span=	128095			
Cour	nters Observed for the Zero=	3074			
ost Monitoring (Calibration Check				
ero Air		Cal Gas	500		
eading:	ppm	Reading:	500	_ppm	
ACKGROUND	CONCENTRATIONS CHECK	S		_	
pwind Location	Description:	Flare	-	Reading: 1.2	_ppm
ownwind Locati	on Description:	Cridb	4	Reading: 15	ppm
otes:	Wind speed averages were o exceeded 20 miles per hour.	observed to remain below t No rainfall had occurred v	he alternative re vithin the previo	quested 10 miles per hour us 24 hours of the monitori	and no instantaneous speed ng event. Therefore, site

The second secon		SURFACE EMISSI	ONS MONI	TORING	
		CALIBRATION AN	D PERTINE	NT DATA	
Date:	4-19-20	15	Site Name:	SUNOM	2
Inspector(s):	Liam 1	\sim	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			×	
Wind Speed	:мрн	Wind Direction:	_	Barometric Pressure: 30	-"Hg
Ai Temperature	63 F	General Weathe Conditions	Sun	<u></u> <u></u> <u></u>	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Procedure: Calik and calculate th orecision must b	prate the instrument. Make a le average algebraic difference pe less than or equal to 10% o	total of three measurements the between the instrument of the calibration gas value.	nts by alternatin reading and the	g zero air and the calibratio calibration gas as a percent	n gas. Record the readings tage. The calibration
Instrument Seria	al Number:	LLS		Cal Gas Concentration:	500ppm
Frial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seconds
1	:0	502		2	4
2	.1	501		(5
3		500		0	N
		= 100%- 99 X	1	_/500 x 100%	
		= ((,)	%		
span Sensitivity:		<u> </u>	Trial 2.		10-10-10-10-10-10-10-10-10-10-10-10-10-1
Cc	ounts Observed for the Span=	128846	Cou	nts Observed for the Span=	1291103
Соц	nters Observed for the Zero=	2154	Coun	ters Observed for the Zero=	7 801
Trial 2: Co	unts Observed for the Span=	128984	Court		2001
Cou	nters Observed for the Zero=	2176			
ost Monitoring	Calibration Check				
ero Air		Cal Gas	_		
eading:	ppm	Reading:	500	_ppm	
ACKGROUND	CONCENTRATIONS CHECK	5			
Ipwind Location	Description:	Flowe		Reading: 1.2	ppm
ownwind Locat	ion Description:	Chrige	54	Reading: 1.9	ppm
otes:	Wind speed averages were o exceeded 20 miles per hour.	bserved to remain below th No rainfall had occurred w	ne alternative re within the previou	quested 10 miles per hour a us 24 hours of the monitorin	nd no instantaneous speed ng event. Therefore, site

			ONS MONIT	FORING	
		CALIBRATION ANI	D PERTINE	IT DATA	
Date:	4-19-20	150	Site Name:	Sunom	9
Inspector(s):	Royan H	7	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed	:МРН	Wind Direction:	2	Barometric Pressure: <u>50</u>	
Air Temperature	63 °F	General Weather Conditions:	Sum	<u>~</u>	
CALIBRATION	INFORMATION				
^o re-monitoring	Calibration Precision Check				
Procedure: Calib and calculate th precision must b	orate the instrument. Make of e average algebraic difference be less than or equal to 10% of al Number:	a total of three measuremen ce between the instrument (of the calibration gas value.	nts by alternating reading and the	g zero air and the calibratic calibration gas as a percen Cal Gas Concentration	on gas. Record the readings tage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
1	·	502		4	4
2	.0	501		(5
3		500		0	5
		= 100%- = 99.7	%	_/500 x 100%	
Snan Sensitivity					
Frial 1:			Trial 3:		
Co	ounts Observed for the Span=	113894	Cou	nts Observed for the Span	MUZIS
Cou	nters Observed for the Zero=	3957	Coun	ters Observed for the Zero-	5998
T <u>rial 2:</u> Co	ounts Observed for the Span=	114076			
Cou	nters Observed for the Zero=	39 84			
ost Monitoring	Calibration Check				
ero Air	A	Cal Gas	Cir		
Reading:	ppm	Reading	500	ppm	
	CONCENTRATIONS CHECK	s			
ACKGROUND					
BACKGROUND	Description:	Flave		Reading:	ppm
PACKGROUND	Description: ion Description:	<u>Lave</u> Chridbe	4	Reading: 1.9	_bbw

					Post
		SURFACE EMISSI	ONS MONIT	ORING	
		CALIBRATION ANI	D PERTINEN	IT DATA	
Date:	4-19-20	121	Site Name:	Sonom	<u>q</u>
Inspector(s):	Don C	7	Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS				
Wind Speed:	МРН	Wind Direction:	-	Barometric Pressure: <u>SD</u>	"Hg
Air Temperature:	63.F	General Weather Conditions	Sur	24	
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedure: Calib and calculate th precision must b	prate the instrument. Make e average algebraic differer ne less than or equal to 10%	a total of three measuremen nee between the instrument of the calibration gas value.	nts by alternating reading and the	g zero air and the calibratio calibration gas as a percen	n gas. Record the readings tage. The calibration
Instrument Seria	I Number: 122	_0		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds)
1	- \	500	(0	3
2	.0	501		1	5
3		501		-	2
		= 100%- = 9.9.7	%	_/500 x 100%	
Snan Sensitivity:					
Trial 1: Cc	ounts Observed for the Span	= <u>165847</u> = 3927	Trial 3: Cou	ints Observed for the Span-	166106
Trial 2: Cc	ounts Observed for the Span	-165982 -39 51			
Post Monitoring	Calibration Check				
7					
Reading:	ppm	Reading:	500	ppm	
BACKGROUND	CONCENTRATIONS CHEC	KS			
Upwind Location	Description:	Flare		Reading:	ppm
Downwind Locat	ion Description;	Critide	4	Reading: <u>1.9</u>	ppm
Notes:	Wind speed averages were exceeded 20 miles per hour meteorological conditions v	observed to remain below t No rainfall had occurred v vere within the requested al	he alternative re vithin the previo ternatives of the	quested 10 miles per hour us 24 hours of the monitori LMR requirements on the	and no instantaneous speeds ng event. Therefore, site above mentioned date.

					post
	1. 7 . 71				1
Date:	4-00-01		Site Name:	Sonoma	
Inspector(s):	tunter of	f-f-	Instrument:	TVA 2020	
WEATHER OBSER	VATIONS				
Wind Speed:	вмрн	Wind Direction: <u>8</u> 8		Barometric Pressure: 50	"Hg
Air Temperature:	65 °F	General Weath Condition	ns: SUNN	Ş	
CALIBRATION INFO	ORMATION		/		
Pre-monitoring Calib	oration Precision Check				
Procedure: Calibrate	the instrument Make	a total of three measurem	anta hu altara ati-		O
and calculate the av	erage algebraic differer	nce between the instrumer	nt reading and the	g zero air and the calibration calibration gas as a percente	gas. Record the redail ige. The calibration
precision must be le	ss than or equal to 10%	of the calibration gas valu	е		
nstrument Serial Nu	ımber:			Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seco
1	0	502	8		3
2	1	56(1		2
3		501	l		2
		= 1009	1,5	/500 v 100%	
		= 1009	%- 1,5	_/500 x 100%	
		= 1009 = 995	~ 7 %	_/500 x 100%	
pan Sensitivity:			%- <u>[,</u> 5 7 %	_/500 x 100%	
pan Sensitivity: rial 1:			%- <u>/ , </u> ∽ 7 % <u>Trial 3:</u>	/500 x 100%	1805-61
pan Sensitivity: r <mark>ial 1:</mark> Counts	S Observed for the Span	= 1009 = 99,5 = <u>135CA</u> [7 %	_/500 x 100% Ints Observed for the Span=	136841
ipan Sensitivity: Tial 1: Counts Counter:	s Observed for the Spans s Observed for the Zeros	= 1009 = 9917 = <u>135CAI</u> = <u>3</u> 38	%- <u>//</u> % 7 % <u>Trial 3:</u> Cou	_/500 x 100% Ints Observed for the Span=_ ters Observed for the Zero=	136841 3638
pan Sensitivity: rial 1: Counts <u>Counter</u> rial 2: Counts	S Observed for the Spans S Observed for the Zeros	= 1009 = 9917 = <u>135CA1</u> = <u>3738</u> = 134541	7 %	_/500 x 100% Ints Observed for the Span=_ ters Observed for the Zero=	136841 3638
pan Sensitivity: rial 1: Counts <u>Counter</u> rial 2: Counts	s Observed for the Span s Observed for the Zeros Observed for the Spans	= 1009 = 995 = 135CA1 = 3738 = 134541 35/12	7 %	_/500 x 100% ints Observed for the Span=_ ters Observed for the Zero=	136841 3638
pan Sensitivity: rial 1: Counts <u>Counter</u> rial 2: Counts Counters	s Observed for the Spans s Observed for the Zeros Observed for the Spans s Observed for the Zeros	= 100 = 99; = 135(A1 = 3738 = 134541 = 3748	% 7 % Cou 	_/500 x 100% Ints Observed for the Span= ters Observed for the Zero=	136841 3638
ipan Sensitivity: rial 1: Counts Counter: rial 2: Counts Counter: ost Monitoring Calib	S Observed for the Spans S Observed for the Zeros S Observed for the Spans S Observed for the Zeros S Observed for the Zeros	= 100 = 997 = 135641 = 3738 = 134541 = 3548	% 7 % Cou 	_/500 x 100% Ints Observed for the Span=_ ters Observed for the Zero=	136841 3638
pan Sensitivity: rial 1: Counts Counter: rial 2: Counts Counter: counter: counter: Counter: Counter: Counter: Counter: Counter: Counter: Counts	S Observed for the Spans S Observed for the Zeros S Observed for the Spans S Observed for the Zeros S Observed for the Zeros	= 1009 = 995 = 135CAL = 3738 = 13454L = 3548 Cal Gas	%- <u>(,)</u> 7 % <u>Trial 3:</u> Cou Coun	_/500 x 100% Ints Observed for the Span=_ ters Observed for the Zero=	136841 3638
pan Sensitivity: rial 1: Counts Counter rial 2: Counts Counters cost Monitoring Calib ero Air eading:	s Observed for the Spans s Observed for the Zeros observed for the Spans s Observed for the Zeros oration Check	= 1009 = 997 = 135641 = 3738 = 134541 = 3548 Cal Gas Reading:	%- <u>(,</u> 7 % <u>Тrial 3:</u> Сол Соип	_/500 x 100% Ints Observed for the Span= ters Observed for the Zero=	<u>136841</u> 3638
ipan Sensitivity: rial 1: Counter: rial 2: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter:	s Observed for the Spans s Observed for the Zeros s Observed for the Spans s Observed for the Zeros oration Check	= 1009 $= 997$ $= 135641$ $= 3538$ $= 134541$ $= 3548$ Cal Gas Reading:	%- <u>(,)</u> 7 % <u>Trial 3:</u> Cou Coun	_/500 x 100%	136841 3638
ipan Sensitivity: rial 1: Counter Counter rial 2: Counter Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Co	s Observed for the Spans s Observed for the Zeros observed for the Spans s Observed for the Spans s Observed for the Zeros pration Check	= 1009 $= 997$ $= 135641$ $= 3738$ $= 134541$ $= 3548$ Cal Gas Reading: (S) Plane-	%- <u>(,</u>) 7 % <u>Trial 3:</u> Cou Coun		<u>136841</u> 3638
ipan Sensitivity: rial 1: Counter Counter rial 2: Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters Counters C	s Observed for the Spans s Observed for the Zeros observed for the Spans s Observed for the Spans s Observed for the Zeros oration Check	= 1009 = 9917 = 135641 = 3738 = 134541 = 3548 Cal Gas Reading: (S <u>Plane</u> Brund 1.7	7 % Trial 3: Cou Coun	/500 x 100%	<u>136841</u> 3638
ipan Sensitivity: Trial 1: Counter: Counter: Trial 2: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: Counter: ACKGROUND CON pwind Location Desi ownwind Location D	s Observed for the Spans s Observed for the Zeros s Observed for the Spans s Observed for the Zeros oration Check	= 1009 = 991 = 135CAI = 3738 = 134541 = 3748 Cal Gas Reading: (S Plane Bried 62	%- <u>(,)</u> 7 % Cou 	/500 x 100%	<u>13637 (</u> 3638 apm

SURFACE EMISSIONS MONITORING	
CALIBRATION AND PERTINENT DATA	
Date: <u>4-20-2021</u> Site Name: <u>Sonoma</u>	
Inspector(s): HUNLEY O Instrument: TVA 2020	
WEATHER OBSERVATIONS	
Wind Speed: MPH Direction: Pressure: "Hg	
Air General Weather Temperature: <u>43</u> °F Conditions: <u>SUNNY</u>	
CALIBRATION INFORMATION	
Pre-monitoring Calibration Precision Check	
Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration ass. Record the	roadinar
and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. The calibration are the level the transmission of the calibration of the transmission of transmission of the transmission of the transmission of the transmission of transmission of the transmission of transmission of transmission of the transmission of transmission of the transmission of transmission of transmission of the tr	ion
precision must be less than or equal to 10% of the calibration gas value.	
nstrument Serial Number: Cal Gas Concentration: 500pp	m
Trial Zero Air Reading Cal Gas Reading Cal Gas ConcCal Gas Reading Response Time	(seconds
1 499 1	
= 100%- (c/p /500 x 100%	
= 22,7 %	
pan Sensitivity:	
rial 1: Trial 3:	20
Counts Observed for the Span= 34780 Counts Observed for the Span= 13161	50
Counters Observed for the Zero= 3149 Counters Observed for the Zero= 365	(
Counts Observed for the Span= 132992	
Counters Observed for the Zero= 3722	
ost Monitoring Calibration Check	
ero Air Cal Gas	
eading:ppm Reading:ppm	
pwind Location Description: Have Reading: 1,5 ppm	
ownwind Location Description: <u>Gived 67</u> Reading: <u>L</u> ppm	
otes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneo exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefor meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned of the conditioned of the c	us speed e, site date.
DataServices - Secure Environmental Data	

SCS DataServices — Secure Environmental Data

		SURFACE EMISS	IONS MONI	TORING NT DATA	Jost
Date:	4-20-21		Site Name:	Sonoma	
Inspector(s):	Don Gibse	5h	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS				
Wind Speed	:МРН	Wind Direction: <u>5</u> そ		Barometric Pressure:	"Нд
Air Temperature	68*F	General Weath Condition	er s: <u>SUNNY</u>	<u>_</u>	
CALIBRATION	INFORMATION)		
Pre-monitoring	Calibration Precision Check	¢			
Procedure: Calib and calculate th precision must b Instrument Seria	brate the instrument. Make be average algebraic differe be less than or equal to 10% al Number:	e a total of three measureme ence between the instrument 6 of the calibration gas value	ents by alternatin t reading and the 2. >	g zero air and the calibration calibration gas as a percenta Cal Gas Concentration:	gas. Record the readings ge. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	Response Time (seconds)
1	Ő	501	/		E E
2	ļ	501	1		Z
		= 100% = 99.91	;- <u>((6</u>) %	_/500 x 100%	
frial 1:			Trial 3.		1.2.12
Co	ounts Observed for the Spa	n= <u>168432</u>	Cou	ints Observed for the Span=	169147
Cou	nters Observed for the Zero	3984	Coun	ters Observed for the Zero=	393(
Co	ounts Observed for the Spa	n=168312			
Cou	nters Observed for the Zero	-3972			
ost Monitoring	Calibration Check				
ero Air		Cal Gas			
Reading:	ppm	Reading:	500	_ppm	
	CONCENTRATIONS CHEC	CKS			
Jpwind Location	Description:	Plare	- -	Reading: <u>1</u> ,5,p	pm
Downwind Locati	ion Description:	Griel 62	-	Reading: 1,4 p	pm
lotes:	Wind speed averages were exceeded 20 miles per hou meteorological conditions	e observed to remain below t ar. No rainfall had occurred v were within the requested a	the alternative re within the previo Iternatives of the	quested 10 miles per hour and us 24 hours of the monitoring 2 LMR requirements on the ab	d no instantaneous speed event. Therefore, site ove mentioned date.

		SURFACE EMISSIO	NS MONITO	ORING	
		CALIBRATION AND	PERTINEN	DATA	
	4-20-20	501			
Date:		JA_	Site Name:	monoe	01
Inspector(s):	Don G		instrument:	TVA 2020	
WEATHER OBS	ERVATIONS				
Wind Speed:	Мрн	Wind Direction:		Barometric Pressure: <u>30</u>	"Hg
Air Temperature:	<u>(13</u> °F	General Weather Conditions:	dear		
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedura: Calib	rate the instrument Make	a total of three measurement	s hu altomatina -	and the address	
and calculate the	e average algebraic differen	ce between the instrument re	s by alternating 2 ading and the ca	tero air and the calibration Ilibration aas as a percent	agas. Record the read. age. The calibration
precision must b	e less than or equal to 10% o	of the calibration gas value.	5	5,	
Instrument Seria	Number: 127	<u>'0</u>		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Co	ncCal Gas Reading	Response Time (seco
1		504	2		B
2	-0	501	1		2
		i der i			1
		= 100%	99.7	′500 x 100%	
		= 99,7 %	6		
Snan Sensitivity:					
Trial 1:		110000	rial 3:		COLUMN THE T
Co	unts Observed for the Span=	160332	Count	s Observed for the Span=	519051
					1.0.11
Cour	ters Observed for the Zero=	4000	Counter	s Observed for the Zero=	3874
Cour Frial 2: Cou	nters Observed for the Zero= unts Observed for the Span=	4000	Counter	s Observed for the Zero=	3874
Cour Trial 2: Cour Cour	iters Observed for the Zero= unts Observed for the Span= iters Observed for the Zero=	4000 169636 3914	Counter	rs Observed for the Zero=	3874
Cour Trial 2: Cour Cour	nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	4000 169636 3914	Counter	rs Observed for the Zero=	3874
Cour Trial 2: Cour Cour Post Monitoring C Zero Air	aters Observed for the Zero= unts Observed for the Span= aters Observed for the Zero= Calibration Check	4000 169636 3914	Counter	rs Observed for the Zero=	3874
Cour Trial 2: Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Co	iters Observed for the Zero= unts Observed for the Span= iters Observed for the Zero= Calibration Check	4000 169636 3914 Cal Gas Reading:	Counter 500_p	rs Observed for the Zero=	3874
Cour Trial 2: Cour Cour Post Monitoring C Zero Air Reading: - BACKGROUND C	iters Observed for the Zero= unts Observed for the Span= iters Observed for the Zero= Calibration Check	4000 169636 3914 Cal Gas Reading:	<u>Counter</u>	rs Observed for the Zero=	3874
Cour Frial 2: Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Co	aters Observed for the Zero= unts Observed for the Span= aters Observed for the Zero= Calibration Check	24000 169636 3914 Cal Gas Reading: S	<u>Counter</u> 500 p	rs Observed for the Zero=	<u>5814</u>
Cour Trial 2: Cour Cour Post Monitoring (Post	aters Observed for the Zero= unts Observed for the Span= aters Observed for the Zero= Calibration Check Description: Description:	2914 Cal Gas Reading: S S S Chrid Col	<u>Counter</u> 500_p R R	ppm eading: $\underline{\sqrt{S}}$	ррт ppm
Cour Trial 2: Cour Cour Post Monitoring (Post	atters Observed for the Zero= unts Observed for the Span= atters Observed for the Zero= Calibration Check Calibration Check Concentrations Check Description: Description: On Description: Wind speed averages were of exceeded 20 miles per hour. meteorological conditions w	Cal Gas Reading: S S S S S S S S S S S S S S S S S S S	<u>Counter</u> <u>500</u> p R e alternative requise natives of the LI	rs Observed for the Zero=	ppm ppm nd no instantaneous sp g event. Therefore, site bove mentioned date.
Cour rial 2: Cour Cour ost Monitoring C aro Air eading: ACKGROUND C pwind Location pwind Location pwnwind Location otes: Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour	tters Observed for the Zero= unts Observed for the Span= tters Observed for the Zero= Calibration Check Calibration Check Description: Description: On Description: Wind speed averages were of exceeded 20 miles per hour. meteorological conditions w	Cal Gas Reading: S S S S S Cand Co Cand Co Can	<u>Counter</u> <u>500</u> p R alternative requ hin the previous rnatives of the LT	rs Observed for the Zero=	ppm ppm nd no instantaneous sp g event. Therefore, sit bove mentioned date.

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		SURFACE EMISS	IONS MONI	TORING	
		CALIBRATION AN	ND PERTINE	NT DATA	
Date:	4-20-2	.021	Site Name:	Sonom	2
Inspector(s):	Bryan	0/	Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS				
Wind Speed:	ЦМРН	Wind Direction: \underline{SE}	- -	Barometric Pressure: 30	"Hg
Air Temperature:	43 °F	General Weath Conditior	er 1s:_SUMV	7	
CALIBRATION I	NFORMATION			(
^o re-monitoring (Calibration Precision Check				
nd calculate the precision must b	e average algebraic differe e less than or equal to 10%	nce between the instrumen of the calibration gas value	ents by alternatin t reading and the 2	g zero air and the calibration calibration gas as a percent Cal Gas Concentration:	n gas. Record the reading. age. The calibration 500ppm
rial	Zero Air Reading	Cal Gas Reading	I Cal Gas (ConcCal Gas Reading	Response Time (second
1	- \	500	fear ous		3
2	.2	502		2	Ч
3	. 1	107		1	2
alibration Precis	sion= Average Difference/C	tal Gas Conc. X 100% = 100% = C_1 , S_2	6 %	_/500 x 100%	
pan Sensitivity:					
rial 1: Cour rial 2: Cour	unts Observed for the Spar iters Observed for the Zerc unts Observed for the Spar	= 132560 = 2977 = 138960	Trial 3: Cou Coun	nts Observed for the Span= ters Observed for the Zero=	134840 3021
Coun	ters Observed for the Zero	= 2993			
ost Monitoring (Calibration Check				
ero Air eading:	ppm	Cal Gas Reading:	500	_ppm	
ACKGROUND	ONCENTRATIONS CHEC	KS			
owind Location I	Description:	Plan	_	Reading: 1.3	opm
ownwind Locatio	on Description;	Grid 62	_	Reading: 1.5	opm
otes: V e n	Vind speed averages were xceeded 20 miles per hour neteorological conditions v	observed to remain below to No rainfall had occurred vere within the requested a	the alternative rea within the previou Iternatives of the	quested 10 miles per hour ar is 24 hours of the monitoring LMR requirements on the al	nd no instantaneous speed g event. Therefore, site bove mentioned date.

Name: SCMOMA rument: TVA 2020 Barometric Pressure: SCO "Hg SUMMY alternating zero air and the calibration gas. Record the reading and the calibration gas as a percentage. The calibration Cal Gas Concentration: Sooppm Ical Gas ConcCal Gas Reading Response Time (second) Image: Transmitting the image difference is greater than 10
TVA 2020 Barometric Pressure: Sec "Hg "Hg "Hg "Hg "Hg "Ummy alternating zero air and the calibration gas. Record the readiring and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (second for the second for the
Barometric Pressure: Sec "Hg "Hg "Hg alternating zero air and the calibration gas. Record the readir and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (second [Cal Gas ConcCal Gas Reading] Resp
Barometric Pressure: Sec "Hg "Hg "Hg "Hg alternating zero air and the calibration gas. Record the readir and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (second [Cal Gas ConcCal Gas Reading]
alternating zero air and the calibration gas. Record the readir ag and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (second) [Cal Gas ConcCal Gas Reading] Response Time (second) Response Time (second) Reading Reading Response Time (second) Response Respon
alternating zero air and the calibration gas. Record the readir og and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm Cal Gas ConcCal Gas Reading Response Time (secon Cal Gas ConcCal Gas Reading Response Time (secon Cal Gas ConcCal Gas Reading Response Time (secon
alternating zero air and the calibration gas. Record the readir ig and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (secon [Cal Gas ConcCal Gas Reading] Response Time (secon
alternating zero air and the calibration gas. Record the readir ag and the calibration gas as a percentage. The calibration Cal Gas Concentration: 500ppm [Cal Gas ConcCal Gas Reading] Response Time (secondary Response Time (secondary) Response Time (
Cal Gas ConcCal Gas Reading Response Time (second) / 2 / 3 / 5 / 6 'm recallibration if average difference is greater than 10
Trn recalibration if average difference is greater than 10
Trn recalibration if average difference is greater than 10
7 rm recalibration if average difference is greater than 10
rm recalibration if average difference is greater than 10
<u>« </u> /500 x 100%
3: Counts Observed for the Span= 13696 .
Counters Observed for the Zero= 3 148
500 ppm
Reading: 113 ppm
Reading: 1 Z ppm

					1.1
		SURFACE EMISSI	ONS MONITORING		
		CALIBRATION AN	D PERTINENT DAT	4	
Date:	4-21-20	151	Site Name: 30	noma	ì
Inspector(s):	pon C-	1	Instrument:TVA 20	20	
WEATHER OBS	SERVATIONS				
Wind Speed:	мрн	Wind Direction:	Barom Press	etric ure: <u>29, 9</u>	<u>5</u> Ч _{"Нв}
Air Temperature:		General Weathe Conditions	clear		
CALIBRATION I	NFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedure: Calib and calculate the precision must b	rate the instrument. Make a eaverage algebraic differen e less than or equal to 10% a	a total of three measuremen ce between the instrument of the calibration gas value.	nts by alternating zero air c reading and the calibratior	nd the calibratio gas as a percent	n gas. Record the tage. The calibrat
Instrument Seria	I Number:		Cal Gas	Concentration:	500pp
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal G	as Reading]	Response Time
2	6	1 202	1 2		4
3	. 1	601			2
alibration Precis	sion= Average Difference/Ca	Average Difference:	*Perform recalibration if average di	iference is greater than	10
Calibration Precis	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%-	*Perform recalibration if average di	fference is greater than	10
Calibration Precis	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%- = 9	*Perform recalibration if average di /500 x 10 %	iference is greater than	10
Calibration Precis Span Sensitivity:	sion= Average Difference/Ca	Average Difference: Il Gas Conc. X 100% = 100%- = 99.5	*Perform recalibration if average di *Porform recalibration if average di /500 x 10 %	iference is greater than	10
Calibration Precis Span Sensitivity: Frial 1: Co	sion= Average Difference/Ca unts Observed for the Span=	Average Difference: Il Gas Conc. X 100% = 100%- = 99.8 = 169.78	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % <u>Trial 3:</u> Counts Observ	iference is greater than 10% ed for the Span=	1702
Calibration Precis Span Sensitivity: Frial 1: Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero=	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.9% = 37.37	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 1702 375
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.97% = 37.37 = 1.1569 = 1.1569	*Perform recalibration if average di *Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% red for the Span= red for the Zero=	1 10 1 1 1 1 1 0 2 7 5
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Span=	Average Difference: I Gas Conc. X 100% = 100% = 99.% = 169.97% = 37.37 = 171.569 = 3710	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% red for the Span= red for the Zero=] 10 1702 375
Calibration Precis Span Sensitivity: Frial 1: Cour Frial 2: Cour Cour	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Il Gas Conc. X 100% = 100% = 99.% = 169.428 = 169.428 = 3731 = 171564 = 3710	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 1 1 2 7 5
Calibration Precis Span Sensitivity: Frial 1: Cour Trial 2: Cour Cour Cost Monitoring C Gero Air Leading:	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = 99.% = 169.97% = 169.97% = 3737 = 169.97% = 3737 = 169.97% = 3737 = 100% = 99.% = 3737 = 100% = 99.% = 3737 = 100% = 3737 = 3737	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ	iference is greater than 10% ed for the Span= red for the Zero=	1 10 1 2 7 5 7 5
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check	Average Difference: a) Gas Conc. X 100% = 100% = 99.% = 169.978 = 169.978 = 3731 = 171569 = 3710 Cal Gas Reading: S	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ 5000 ppm	iference is greater than 10% ed for the Span= red for the Zero=	1 10 10 275
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check CONCENTRATIONS CHECK Description:	Average Difference: I Gas Conc. X 100% = 100%- = 99.8 = 169.428 = 169.428 = 3737 = 171564 = 3737 = 171564 = 3710 Cal Gas Reading: S FLOWE	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ Counters Observ Reading:	iference is greater than 10% red for the Span= red for the Zero=	ррт
Calibration Precis	sion= Average Difference/Ca unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check Concentrations Check Description: on Description:	Average Difference: I Gas Conc. X 100% = 100% = 99.% = 169.478 = 169.478 = 3731 = 169.478 = 3737 = 171.564 Cal Gas Reading: = 5740.472	*Perform recalibration if average di /500 x 10 % Trial 3: Counts Observ Counters Observ Counters Observ Reading: Reading:	iference is greater than 10% red for the Span= red for the Zero= $\frac{2}{\sqrt{3}}$] 10 <u>10</u> <u>375</u> ррт ррт

		SURFACE EMISS	IONS MONI	TORING	
		CALIDRATION AN			
Date:	4-21-20	151	Site Name:	Sonome	2
Inspector(s):	- scyan	H	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed:		Wind Direction:		Barometric Pressure: 29.8	⊥ "Hg
Air Temperature:	U3 .F	General Weath Condition		4	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
Descention Callin					
procedure: Callo and calculate th	rate the instrument. Make e average glaebraic differen	a total of three measurements of the instrument	nts by alternatin reading and the	g zero air and the calibratio	n gas. Record the r
precision must h	e less than or eaual to 10%	of the calibration and value	reaung ana the	cumprution gas as a percent	uye. The calibratio
,	۱۸۵ مار میں				
Instrument Seria	I Number:			Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	ICal Gar (Conc -Cal Gas Reading	Response Time /
1		GCOD	Icardas		t kesponse nime (
2	0,	602	12	2	5
3		102		1	Ŭ
		, , = ,			
		Average Difference:		1	1
Calibration Preci	sion= Average Difference/C	Average Difference: al Gas Conc. X 100%	*Perform recalibratic	on if average difference is greater than	10
Calibration Preci	sion= Average Difference/C	Average Difference: al Gas Conc. X 100% = 100%	*Perform recalibratio	on if average difference is greater than _/500 x 100%]
Calibration Preci	sion= Average Difference/C	Average Difference: Cal Gas Conc. X 100% = 100% = $\sqrt{9}$	*Perform recalibratio	on if average difference is greater than _/500 x 100%	10
Calibration Preci	sion= Average Difference/C	Average Difference: al Gas Conc. X 100% = 100% = $\sqrt{q_r}$	*Perform recallbratio	on if average difference is greater than _/500 x 100%]
Calibration Precis	sion= Average Difference/C	Average Difference: Cal Gas Conc. X 100% = 100% = 2 4 5	*Perform recalibratio	on if average difference is greater than _/500 x 100%]
Calibration Precis Span Sensitivity: Frial 1: Co	sion= Average Difference/C unts Observed for the Span	Average Difference: al Gas Conc. X 100% $= 100\%$ $= \sqrt{9}\%$ $= \sqrt{9}\%$	*Perform recallibration *Perform recallibration % Trial 3: Cou	on if average difference is greater than _/500 x 100%	10
Calibration Precis Span Sensitivity: Frial 1: Co Cour	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero	Average Difference: Cal Gas Conc. X 100% = 100% $= 100%$ $= 100%$ $= 100%$ $= 100%$ $= 100%$ $= 30%$	*Perform recalibration *Perform recalibration % <u>Trial 3:</u> Count	on if average difference is greater than /500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2:	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero	Average Difference: al Gas Conc. X 100% = 100% = $9,5$ = $10,5$ = $10,$	*Perform recallibration *Perform recallibration % Trial 3: Count Count	on if average difference is greater than _/500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Frial 1: Co Cour Frial 2: Co	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Span	Average Difference: al Gas Conc. X 100% = 100% = $79.\%$ = $19.\%$ = $19.\%$ = $19.\%$ = $19.\%$ = $19.\%$ = $19.\%$ = 100% = 100%	*Perform recalibration *Perform recalibration % Trial 3: Count Count	on if average difference is greater than _/500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Frial 1: Co Cour Frial 2: Co Cour	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Span nters Observed for the Zero	Average Difference: al Gas Conc. X 100% = 100% = $9,5$ = $10,5$ = $10,$	*Perform recalibration *Perform recalibration % Trial 3: Count Count	on if average difference is greater than _/500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Frial 1: Co Cour Frial 2: Co Cour	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Span nters Observed for the Zero Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = $9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 $	*Perform recalibration *Perform recalibration % Trial 3: Count Count	on if average difference is greater than _/500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Trial 1: Co Cour Trial 2: Co Cour Post Monitoring O	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Span nters Observed for the Zero Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = $9,8$ = $10,8$ = $10,$	*Perform recallibration % Trial 3: Count Count	on if average difference is greater than /500 x 100% unts Observed for the Span= ters Observed for the Zero=	10 10 10 10 10 10 10 10 10
Calibration Precis	sion= Average Difference/C unts Observed for the Span <u>inters Observed for the Zero</u> unts Observed for the Span <u>inters Observed for the Zero</u> Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = $9,5$ = $10,5$ = $10,$	*Perform recallibration		10 10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Frial 1: Co Cour Frial 2: Co Cour Post Monitoring O Post Monitoring O Post Monitoring O Post Monitoring O Post Monitoring O	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Span nters Observed for the Zero Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = $9,5$ = $10,5$ = $10,$	*Perform recallibration %		10 10 10 10 10 10 10 10 10 10 10 10
Calibration Precis Span Sensitivity: Frial 1: Co Cour Cour Cost Monitoring (Cost Mo	sion= Average Difference/C unts Observed for the Span nters Observed for the Zero unts Observed for the Zero Calibration Check	Average Difference: al Gas Conc. X 100% = 100% = $9,8$ = $9,8$ = $1,9,6$ = $1,56,72$ = $1,56,72$ = $1,56,72$ = $1,56,72$ Cal Gas Reading: KS 	*Perform recalibration % Trial 3: Count Count	2 ppm Reading: <u>3</u>	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Calibration Precis	sion= Average Difference/C unts Observed for the Span <u>inters Observed for the Zero</u> unts Observed for the Span <u>inters Observed for the Zero</u> Calibration Check Calibration Check Description: on Description:	Average Difference: al Gas Conc. X 100% = 100% = 99.8 = 19.6 = 19.6 = 15.6 Cal Gas Reading: KS <u>Flave</u> <u>Cal T</u>	*Perform recallbration	an if average difference is greater than $_/500 \times 100\%$ unts Observed for the Span= ters Observed for the Zero= $\frac{120}{2}$ ppm Reading: 13 Reading: 15] 10 <u>(138</u> <u>S902</u> ррт ррт
Calibration Precis	sion= Average Difference/C unts Observed for the Span <u>inters Observed for the Zero</u> unts Observed for the Span <u>inters Observed for the Zero</u> Calibration Check Calibration Check Description: on Description: Wind speed averages were	Average Difference: al Gas Conc. X 100% = 100% = 99.8 = 19.6 = 15612 = 15612 = 15612 Cal Gas Reading: KS <u>Flave</u> <u>Cal T</u> Cal Gas	*Perform recalibration	an if average difference is greater than $/500 \times 100\%$ unts Observed for the Span= ters Observed for the Zero= ppm Reading: 13 Reading: 15 Reading: 15 Reading: 15	ppm ppm nd no instantaneou

		SURFACE EMISSI	ONS MONI	TORING	
		CALIBRATION AN	D PERTINE	NT DATA	
Date:	4-21-21		Site Name:	Sandon	<u>a</u>
Inspector(s):	Bryan C)	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			11 P.	
Wind Speed	I:МРН	Wind Direction: 5	_	Barometric 29,8 Pressure:	С(_{"Нg}
Ai Temperature	r ····································	General Weathe Conditions	r (lea	<u>×</u>	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
^p rocedure: Calil and calculate th precision must l	brate the instrument. Make a ne average algebraic differenc be less than or equal to 10% oj	total of three measureme e between the instrument f the calibration gas value.	nts by alternatin reading and the	g zero air and the calibratic calibration gas as a percen	n gas. Record the readings tage. The calibration
nstrument Seri	al Number:	5		Cal Gas Concentration:	500ppm
Frial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (seconds
1		501		1	4
2	.0	501		(5
3	1 2	501		(3
		= 100%. = J.C.S	%	/500 x 100%	
pan Sensitivity:					
rial 1:		10 49LD	Trial 3:		11121197
Co	ounts Observed for the Span=	14 1100	Cou	nts Observed for the Span=	193901
		2000			20117
Cou	inters Observed for the Zero=	Unio	Coun	ters Observed for the Zero=	3011
rial 2: Co	ounts Observed for the Span=	142 572			
Cou	nters Observed for the Zero=	2968			
ost Monitoring	Calibration Check				
ero Air		Cal Gas			
eading:	D ppm	Reading:	_500	ppm	
ACKGROUND	CONCENTRATIONS CHECKS				
pwind Location	Description:	Flave C	1	Reading: 1.2	ppm
ownwind Locat	ion Description:	4177		Reading:	ppm
otes:	Wind speed averages were of	oserved to remain below the reliance of the served to remain below the server of the s	he alternative re	quested 10 miles per hour a	and no instantaneous speed

		SURFACE EMISSI	ONS MONIT	ORING	
1.00		CALIBRATION AN	D PERTINEN	IT DATA	
	4-21-20)	1 -		ADDAM	\cap
Date:		-1	Site Name:	Jonor	
Inspector(s):	Don G		Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS			*	
	. [Mind		Personal de la companya	
Wind Speed:	МРН	Direction: 5	_	Pressure: 295	С "нg
Air Temperature:	67.	General Weathe Conditions	clear	(
CALIBRATION I	INFORMATION				
Pre-monitoring (Calibration Precision Check				
Procedure: Calib	rate the instrument. Make a	total of three measureme	nts hy alternating	zero air and the calibratic	on ans Record the reading
and calculate the	e averaae alaebraic differend	ce between the instrument	reading and the	calibration aas as a percen	tage. The calibration
precision must b	e less than or equal to 10% o	of the calibration gas value.	-		
nstrument Seria	Il Number: Nとし	.0		Cal Gas Concentration:	500ppm
	Zoon Ain Doording	Col Con Reading			
1	Zero Air Reading			oncCal Gas Reading	Response Time (second
1	1	500			
2	• 0	50-	5		10
3		1 701			
alibration Precis	sion= Average Difference/Cal	Gas Conc. X 100%	*Perform recalibration	h if average difference is greater than	 10
Calibration Precis	sion= Average Difference/Cal	Gas Conc. X 100% = 100%-	*Perform recalibration	h if average difference is greater than	 n 10
Calibration Precis	sion= Average Difference/Cal	I Gas Conc. X 100% = 100%- = 9,9,8	*Perform recalibration	h if average difference is greater than	 n 10
Calibration Precis	sion= Average Difference/Ca	I Gas Conc. X 100% = 100%- = 9,9,8	*Perform recalibration	n if average difference is greater than	 n 10
Calibration Precis pan Sensitivity: <u>'rial 1:</u> Co	sion= Average Difference/Cal	I Gas Conc. X 100% = 100% = 99.%	*Perform recalibration (% Trial 3: Cour	1 If average difference is greater than /500 x 100%	-169374
Calibration Precis pan Sensitivity: rial 1: Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero=	$\frac{1}{3}$	*Perform recalibration (1 If average difference is greater than /500 x 100% hts Observed for the Spane	-169374 -3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2:	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero=	I Gas Conc. X 100% $= 100%$ $= 99.%$ 168937 3751 $15620C$	*Perform recalibration () If average difference is greater than /500 x 100% hts Observed for the Spane ers Observed for the Zeroe	-169374 -3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	I Gas Conc. X 100% $= 100%$ $= 99.%$ 168937 3751 169206 2799	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	= 169374 = 3-802
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero=	I Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u>	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	- <u>169374</u> - <u>3-802</u>
Calibration Precis Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour Sost Monitoring C	sion= Average Difference/Cal unts Observed for the Span= <u>nters Observed for the Zero=</u> unts Observed for the Span= <u>nters Observed for the Zero=</u> Calibration Check	I Gas Conc. X 100% $= 100%$ $= 99.%$ $I G8 937$ 3751 $I G8 20C$ 3789	*Perform recalibration () If average difference is greater than _/500 x 100% hts Observed for the Span= ers Observed for the Zero=	- <u>169374</u> - <u>3802</u>
Calibration Precis Span Sensitivity: (rial 1: Cour 'rial 2: Cour ost Monitoring (ero Air	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	First Formula for the formula formula for the formula for th	*Perform recalibration (/500 x 100% /500 x 100%	- <u>169374</u> - <u>3802</u>
Calibration Precis	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	I Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u> Cal Gas Reading:	*Perform recalibration (% Trial 3: Count Count	ppm	- <u>169374</u> - <u>3802</u>
Calibration Precision Span Sensitivity: Trial 1: Cour Cour Trial 2: Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour Cour	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	I Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u> Cal Gas Reading: S	*Perform recalibration	ppm	- <u>169374</u> - <u>3802</u>
Calibration Precis	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check	Gas Conc. X 100% = 100%- = 99.8 <u>168937</u> <u>3751</u> <u>169206</u> <u>3789</u> Cal Gas Reading: S	*Perform recalibration	ppm Reading:	2 = <u>169374</u> = <u>3802</u>
Calibration Precis	sion= Average Difference/Cal unts Observed for the Span= nters Observed for the Zero= unts Observed for the Zero= calibration Check ppm CONCENTRATIONS CHECKS Description: on Description:	File Underline ence. $File Cal Gas Reading:$ $File Ve Cal The file of the f$	*Perform recalibration	ppm Reading:	ppm

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA Date: $4 - 21 - 21$ Site Name: 30 Inspector(s): $Byan H$ Instrument: $TVA 202$ WEATHER OBSERVATIONS Baromet Pressu Wind Speed: MPH Direction: Site Name: 202 WIND Speed: MPH Direction: Site Name: 202 Air 57 General Weather Pressu Temperature: 67 *F General Weather Conditions: Clear CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration generation generatio	nor ic 22.8 I the calibration as as a percent oncentration: Reading	Υ "Hg gas. Record the readings age. The calibration 500ppm
CALIBRATION AND PERMINENT DATA Date: $4 - 21 - 21$ Site Name: Site Inspector(s): $R = 2 - 21$ Instrument: TVA 202 WEATHER OBSERVATIONS Instrument: TVA 202 Wind Speed: MPH Direction: Site Name: Site Air $67 + F$ General Weather Conditions: Clear CALIBRATION INFORMATION Pre-monitoring Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration of precision must be less than or equal to 10% of the calibration gas value. Cal Gas ConcCal Gas ConcCal Gas 1 Instrument Serial Number: 22 Cal Gas Reading [Cal Gas ConcCal Gas 1 1 Can Air Reading Cal Gas ConcCal Gas 2 Cal Gas ConcCal Gas 2 1 $0 - 500$ $0 - 500$ $0 - 500$ 2 $0 - 500$ $0 - 500$ $0 - 500$ 3 $0 - 500$ $0 - 500$ $0 - 500$ 2 $0 - 500$ $0 - 500$ $0 - 500$ 2 $0 - 500$ $0 - 500$ $0 - 500$ 2 $0 - 500$ $0 - 500$	non ic 22.8 I the calibration as as a percent oncentration: Reading	Y "Hg gas. Record the readings age. The calibration 500ppm
Date: Site Name: TVA 202 WEATHER OBSERVATIONS Wind Speed: MPH Direction: Site Name: TVA 202 Air General Weather CoultBrate Difference Sion Check Pre-emonitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration gardule. Instrument Serial Number: Cal Gas Reading I Cal Gas CopcCal Ga: 1 Average Difference/Cal Gas Conc. X 100% = 100% (Son x 100) = 100% (Son x 100) = 100% (Son x 100) = 100% (Counters Observed for the Span= Son (Son x 100) = 100% (Counters Observed for the Zero= Son (Counters Observed for the Zero=	nor ic 29.8 I the calibration tas as a percenter oncentration: Reading	Y "Hg gas. Record the readings age. The calibration 500ppm
Inspector(s): <u>Fyan H</u> Wind Speed: <u>MPH</u> Air <u>Galance</u> <u>F</u> Temperature: <u>Galance</u> <u>F</u> CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration g procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration g precision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: <u>Cal Gas Cal Gas Reading</u> <u>[Cal Gas CopcCal Gas]</u> <u>1</u> <u>2</u> <u>3</u> <u>4</u> Cal Gas CopcCal Gas] Average Difference: <u>(Gas)</u> Preform recalibration if average difference/Cal Gas Conc. X 100% = 100%- <u>6</u> /500 x 100 = <u>6</u> <u>8</u> pan Sensitivity: Trial <u>1</u> Counts Observed for the Span= <u>3</u> <u>5</u> Counters Observed for the Zero= <u>5</u> <u>8</u> <u>6</u> Counters Observed for the Zero= <u>5</u> <u>8</u> Counters Observed for the Zero= <u>5</u> <u>8</u> Counters Observed for the Zero= <u>5</u> <u>6</u> Counters Observed for the Zero= <u>5</u> <u>8</u> Counters Observed for the Zero= <u>5</u> <u>6</u> Counters Observed for the Zero= <u>5</u> <u>6</u> Counters Observed for the Zero= <u>5</u> <u>6</u> Counters Observed for the Zero <u>5</u> Counters Observed for the Zero <u>5</u> <u>6</u> Counters Observed for the Zero <u>5</u> Counters Observed for the Zero <u>5</u>	ic <u>29-8</u> e: <u>29-8</u> I the calibration as as a percente oncentration: Reading	9 gas. Record the readings age. The calibration 500ppm
WEATHER OBSERVATIONS Wind Speed: MPH Direction: Barometer Air TF General Weather Gonditions: General Weather Temperature: *F General Weather Gonditions: General Weather CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration gorecision must be less than or equal to 10% of the calibration gas value.	ic <u>2</u> 9.8 I the calibration as as a percent oncentration: Reading	99 "Hg ogas. Record the readings age. The calibration 500ppm
Wind Speed:	ic <u>29.8</u> I the calibration as as a percente oncentration: Reading	Y "Hg gas. Record the readings age. The calibration 500ppm
Air \bigcirc	I the calibration as as a percente oncentration: Reading	gas. Record the readings age. The calibration 500ppm
CALIBRATION INFORMATION Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and and calculate the average algebraic difference between the instrument reading and the calibration gas value. Image: Calibrate the instrument of the calibration gas value. Image: Calibrate the instrument of the calibration gas value. Image: Calibrate the instrument of the calibration gas value. Image: Calibrate the instrument of the calibration gas value. Image: Calibrate the calibration of the calibration gas value. Image: Calibrate the calibration of the calibration gas value. Image: Calibrate the calibration of the calibration gas value. Image: Calibrate the calibration of the calibration gas value. Image: Calibration the calibration of the calibr	I the calibration as as a percent oncentration: Reading	gas. Record the readings age. The calibration 500ppm
Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero oir an and calculate the average algebraic difference between the instrument reading and the calibration of orecision must be less than or equal to 10% of the calibration gas value. Instrument Serial Number: Cal Gas Cal Gas Reading Cal Gas ConcCal Gas Trial Zero Air Reading Cal Gas Reading Cal Gas ConcCal Gas Trial Zero Air Reading Cal Gas Reading Cal Gas ConcCal Gas Trial Zero Air Reading Cal Gas Reading Cal Gas ConcCal Gas Average Difference: Perform recalibration if average diffe Calibration Precision= Average Difference/Cal Gas ConcX 100% $= 100\% - \frac{6}{500} / 500 \times 100$ $= 4\% 8 \%$ Counts Observed for the Span= Counters Observed for the Zero= Set Set Set Counters Observed for the Zero= Counters Observe	I the calibratior as as a percent oncentration: Reading	gas. Record the readings age. The calibration 500ppm
Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air an and calculate the average algebraic difference between the instrument reading and the calibration gorecision must be less than or equal to 10% of the calibration gas value.	f the calibration as as a percent oncentration: Reading	gas. Record the readings age. The calibration 500ppm
Trial Zero Air Reading Cal Gas Reading Cal Gas CopcCal Ga 1 .0 501 1 2 .1 501 1 3 .1 500 501 1 3 .1 500 501 1 3 .1 500 501 1 3 .1 500 501 501 Average Difference: *Perform recallbration if average diffe Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100% / 500×100 = 100%- /500 × 100 = 9678 % pan Sensitivity: rial 1: Counts Observed for the Span= Counters Observe Counters Observed for the Zero= Counters Observe rial 2:	Reading	
$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{5}$ $\frac{5}{5}$ $\frac{1}{5}$ $\frac{1}$	neaumg	Posponco Timo Isocondo
$\frac{2}{3}$ Average Difference: $\frac{1}{500}$ Average Difference: $\frac{1}{500}$ *Perform recallbration if average difference/Cal Gas Conc. X 100% $= 100\% - \frac{6}{500} / 500 \times 100$ $= 968 \%$ span Sensitivity: $\frac{1}{11}$ Counts Observed for the Span= $\frac{1}{3372}$ Counters Observed for the Zero= $\frac{3886}{5886}$ Counters Observed for the Zero= $\frac{1}{3372}$ Counters Observed for the Zero= $\frac{1}{37}$ Counters Observed for the Zero= $$		Response nine (seconds
3 Average Difference: Average Difference: $^{\circ}$ Perform recallbration if average difference/Cal Gas Conc. X 100% = 100%- =		5
Average Difference: Average Difference: *Perform recallbration if average difference/Cal Gas Conc. X 100% = 100% - 6 /500 x 100 = 9% /500 x 100 = 9% % pan Sensitivity: rial 1: Counts Observed for the Spane 13372 Trial 3: Counters Observed for the Zeroe 3886 Counters Observe rial 2:		2
rial 1: Counts Observed for the Span= 13372 Counters Observed for the Zero= 3886 Counters Observed for the Zero= 100 Counters Observed for the Zero= 100 C	6	
Trial 1: Counts Observed for the Span= 13372 Trial 3: Counters Observed for the Zero= 3886 Counters Observed Trial 2: Counters Observed for the Zero= 3886		
Counts Observed for the Span= 13372 Counts Observe Counters Observed for the Zero= 3886 Counters Observe		12100
Counters Observed for the Zero= 5886 Counters Observe	for the Span=	113681
rial 2:	for the Zero=	3995
Counts Observed for the Span= 15400		
Counters Observed for the Zero= 3410		
ost Monitoring Calibration Check		
ero Air Cal Gas eading:ppm Reading:ppm		
ACKGROUND CONCENTRATIONS CHECKS		
pwind Location Description:	11	ppm
ownwind Location Description:		ppm
otes: Wind speed averages were observed to remain below the alternative requested 10 r exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of meteorological conditions were within the requested alternatives of the LMR require	14	nd no instantaneous speed

1			JNS MONITORING	
		CALIBRATION AND	D PERTINENT DATA	
Date:	4-21-2		Site Name: 2000	na
nspector(s):	Bryanc	>	Instrument: TVA 2020	
WEATHER OB	SERVATIONS			
Wind Speed	нмрн	Wind S! Direction:	Barometric Pressure: 3	Оинд
Ai Temperature	r*F	General Weather Conditions:	clear	
CALIBRATION	INFORMATION			
Pre-monitoring	Calibration Precision Check			
Procedure: Calil and calculate th precision must l	brate the instrument. Make one average algebraic difference difference be less than or equal to 10% of the less than of the less than of the less than or equal to 10% of the less than o	a total of three measurement ce between the instrument ro of the calibration gas value.	ts by alternating zero air and the calil eading and the calibration gas as a p	bration gas. Record the readings ercentage. The calibration
nstrument Seria	al Number:	5	Cal Gas Concentra	tion: 500ppm
rial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal Gas Reading	Response Time (seconds
1	10	500		
2		501		5
2 3 alibration Preci	ision= Average Difference/Ca	Average Difference:	2 *Perform recalibration if average difference is great	er than 10
2 3	ision= Average Difference/Ca	Average Difference: Gas Conc. X 100% = 100%- = $\chi \chi$. 8	*Perform recallibration if average difference is great /500 x 100%	er than 10
2 3 Calibration Precision Precisio Precisio Precision Precision Precision Precision Pr	ision= Average Difference/Ca	Average Difference: Gas Conc. X 100% = 100%- $=$ $\chi \chi \cdot \chi$	*Perform recalibration if average difference is great /500 x 100% %	er than 10
2 3 alibration Preci pan Sensitivity: rial 1: Co	ision= Average Difference/Ca	Average Difference: Gas Conc. X 100% = 100% = 2%.%	*Perform recallbration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S	er than 10
2 3 Calibration Preci pan Sensitivity: rial 1: Cou	ision= Average Difference/Ca punts Observed for the Span= nters Observed for the Zero=	Average Difference: [Gas Conc. X 100% = 100% = 100% = 1419.76 29.69	*Perform recalibration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the S	er than 10 Span= Zero= 3017
2 3 Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou	ision= Average Difference/Ca punts Observed for the Span= nters Observed for the Zero=	Average Difference: [Gas Conc. X 100% = 100% = 7%.% 1419.76 29.69	*Perform recalibration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the 3	er than 10
2 3 Calibration Preci pan Sensitivity: rial 1: Cou rial 2: Cou	ision= Average Difference/Ca punts Observed for the Span= inters Observed for the Zero= punts Observed for the Span= nters Observed for the Span=	$\frac{501}{502}$ Average Difference: $\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0$	*Perform recallbration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the 3	er than 10 Span= Zero= 3017
2 3 Calibration Preci calibration Preci rial 1: Cou rial 2: Cou cou cou	ision= Average Difference/Ca punts Observed for the Span= nters Observed for the Zero= punts Observed for the Zero= nters Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Gas Conc. X 100% = 100% = 100% = 100% = 29.8 1419.76 29.69 29.94	*Perform recalibration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the S	$\frac{3}{2ero=} \frac{3017}{2}$
2 3 Calibration Prec.	ision= Average Difference/Ca punts Observed for the Span= inters Observed for the Zero= punts Observed for the Span= inters Observed for the Span= Calibration Check	Average Difference: Gas Conc. X 100% = 100% = 100% = 100% = 100% = 100% = 100% = 100% = 29% % Cal Gas Reading:	*Perform recallbration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the S	span= Zero= 3011
2 3 Calibration Prec pan Sensitivity: rial 1: Cou rial 2: Cou cou cou cou cou cou cou cou c	ision= Average Difference/Ca punts Observed for the Span= inters Observed for the Zero= punts Observed for the Zero= calibration Check	Average Difference: $ \begin{array}{c} \text{S} \\ \text{Average Difference:} \\ Average $	*Perform recalibration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the S	$Span= \underline{3017}$
2 3 Calibration Prec pan Sensitivity: rial 1: Cou rial 2: Cou cou post Monitoring Pro Air eading: ACKGROUND pwind Location	ision= Average Difference/Ca punts Observed for the Span= <u>inters Observed for the Zero=</u> punts Observed for the Zero= calibration Check <u>ppm</u> CONCENTRATIONS CHECK Description:	Average Difference: I Gas Conc. X 100% = 100% = 100% = 100% = 100% = 100% = 100% = 29% % I Gas Reading: S FLAVR	*Perform recalibration if average difference is great /500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the S Counters Observed for the S Reading:	span = 3017

		CALIBRATION AN		NT DATA	
	11.7.0			(
Date:	4-30-2		Site Name:) O NOME	L
Inspector(s):	-Lian McG	Νμη	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			Ĥ	
Wind Speed	d:МРН	Wind Direction:	_	Barometric <u>30</u>	
Ai Temperature	ir <u>63</u> °F	General Weathe Conditions	clear	(
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
and calculate th precision must i Instrument Seri	he average algebraic different be less than or equal to 10% of al Number:	ce between the instrument of the calibration gas value. - 2-3	reading and the	calibration gas as a percent Cal Gas Concentration;	tage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (secon
1	0	501			3
2	0	500		0	3
	e	502		7	
Calibration Prec	ision≈ Average Difference/Ca	Average Difference:	*Perform recalibratio	on if average difference is greater than]
Calibration Prec	ision= Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100%-	*Perform recalibratio	on if average difference is greater than _/500 x 100%]
Calibration Prec	ision≈ Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100%- = 99.8	*Perform recalibratio	on if average difference is greater than _/500 x 100%]
Calibration Prec	ision= Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100%- = 99.8	*Perform recalibratio]
Calibration Prec Span Sensitivity: Trial 1:	ision≃ Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100%- = 99.8	*Perform recalibratic *Perform recalibratic % Trial 3:	on if average difference is greater than]
Calibration Prec Span Sensitivity: Trial 1: Co	ision= Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 = 2.16	*Perform recalibration (% Trial 3: Cou	n If average difference is greater than /500 x 100%	12562=
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2:	ision= Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 2219	*Perform recalibration *Perform recalibration * Trial 3: Cou Count	n if average difference is greater than /500 x 100% nts Observed for the Span= ters Observed for the Zero=	12562=
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Co	ision= Average Difference/Ca bunts Observed for the Span= unters Observed for the Zero=	Average Difference: I Gas Conc. X 100% = 100% = 99.8 <u>125631</u> <u>2219</u> 125620	*Perform recalibration *Perform recalibration % Trial 3: Count	n If average difference is greater than /500 x 100% nts Observed for the Span= ters Observed for the Zero=	125622
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou	ision= Average Difference/Ca punts Observed for the Span= inters Observed for the Zero= punts Observed for the Span= nters Observed for the Span=	Average Difference: I Gas Conc. X 100% = 100%- = 99.8 <u>125631</u> <u>2219</u> <u>125620</u> <u>7236</u>	*Perform recalibration *Perform recalibration % Trial 3: Count Count	n if average difference is greater than /500 x 100% nts Observed for the Span= ters Observed for the Zero=	12562= 2220
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring	ision= Average Difference/Ca sunts Observed for the Span= unters Observed for the Zero= bunts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 2219 1-5620 7236	*Perform recalibration *Perform recalibration * Trial 3: Cou Count	n if average difference is greater than _/500 x 100% nts Observed for the Span= ters Observed for the Zero=	12562 2220
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air	ision= Average Difference/Ca punts Observed for the Span= unters Observed for the Zero= punts Observed for the Span= nters Observed for the Span= Calibration Check	Average Difference: I Gas Conc. X 100% = 100%- = 99.8 <u>125631</u> <u>2219</u> <u>125620</u> <u>7236</u> Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Count Count	n if average difference is greater than /500 x 100%	12562= 2220
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading:	ision= Average Difference/Ca punts Observed for the Span= unters Observed for the Zero= punts Observed for the Span= nters Observed for the Zero= Calibration Check	Average Difference: Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 2219 125620 7236 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Count	ppm	12562= 2220
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND	ision= Average Difference/Ca ision= Average Difference/Ca ounts Observed for the Span= inters Observed for the Zero= ounts Observed for the Zero= Calibration Check Calibration Check	Average Difference: Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 2219 125620 7236 Cal Gas Reading: S	*Perform recalibration *Perform recalibration % Trial 3: Count Count 500	ppm	125622
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND Upwind Location	ision= Average Difference/Ca ision= Average Difference/Ca punts Observed for the Span= inters Observed for the Zero= punts Observed for the Zero= Calibration Check Calibration Check Description:	Average Difference: Average Difference: I Gas Conc. X 100% = 100% = 99.8 125631 7219 125620 7236 Cal Gas Reading: S Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Courd Count	ppm Reading: <u>1.2</u>	1 10 12562= 2220
Calibration Prec Span Sensitivity: Trial 1: Cou Trial 2: Cou Post Monitoring Zero Air Reading: BACKGROUND Upwind Location Downwind Locat	ision= Average Difference/Ca ision= Average Difference/Ca punts Observed for the Span= ounts Observed for the Zero= punts Observed for the Span= inters Observed for the Zero= Calibration Check Concentrations checks Description: ion Description:	Average Difference: Average Difference: I Gas Conc. X 100% = 100%- = 99.8 125631 2219 125620 7236 Cal Gas Reading: S Entrance Grid 35	*Perform recalibration *Perform recalibration % Trial 3: Count Count 500	ppm Reading: 1.2 Reading: 1.5	ррт ppm

Commentation Charles - Build

		CALIBRATION ANI	D PERTINENT		Post
	4-30-2	1		Sonal	1.4
Date:	The second	(. All	Site Name:	1010.1	ia
Inspector(s):	Liam Mc	GINN	Instrument:	TVA 2020	
WEATHER OBS	SERVATIONS			.**	
	4	Wind (,)		Barometric 2 -	
Wind Speed:	мрн	Direction:	e	Pressure: <u>70</u>	"Hg
Air Temperature:	<u>63</u> .	General Weather Conditions:	clear		
CALIBRATION I	INFORMATION				
Pre-monitoring (Calibration Precision Check				
and calculate th precision must b Instrument Seria	e average algebraic differen e less than or equal to 10% Il Number:	nce between the instrument r of the calibration gas value. $\sim \sim 3$	eading and the ca	libration gas as a percer Cal Gas Concentration:	ntage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Cor	ncCal Gas Reading	Response Time (secon
1	1	500		0	3
				0	3
2 3	0	501		Ĩ	Y
2 3 Calibration Precis	0 0 sion= Average Difference/C	Average Difference:	*Perform recalibration if	• 3 average difference is greater tha	Υ] п 10
2 3 Calibration Precis	O O sion= Average Difference/C	Average Difference:	*Perform recalibration if	• 3 average difference is greater tha	Y
2 3 Calibration Precis	0 0	500 501 Average Difference: al Gas Conc. X 100% = 100%- - 99.9	*Perform recalibration if	 3 average difference is greater tha 500 x 100% 	Y
2 3 Calibration Precis	0 0	Average Difference: al Gas Conc. X 100% = 100%- = 99.9	*Perform recalibration if	average difference is greater tha	Υ п 10
2 3 Calibration Precis Span Sensitivity: Trial 1:	0 0 sion= Average Difference/C	$\frac{900}{501}$ Average Difference: al Gas Conc. X 100% $= 100\%$ $= 99.9^{-1}$	*Perform recalibration if 	- 3 average difference is greater tha 500 x 100%	Y
2 3 Calibration Precis Span Sensitivity: <u>Trial 1:</u> Con	o O sion= Average Difference/Ca	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% $= 100\%$ $= 99.9^{-1}$ $= 176505$	*Perform recalibration if 	• 3 average difference is greater tha 500 x 100%	= 126510
2 3 Calibration Precis Span Sensitivity: Frial 1: Cour	o o sion= Average Difference/C unts Observed for the Span nters Observed for the Zero	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% = 100%- = 99.9^{-1} $= 176505$ $= 1986$	*Perform recalibration if 3/! % Trial 3: Counts	• 3 average difference is greater tha 500 x 100% s Observed for the Spans s Observed for the Zeros	= <u>126510</u> = 2001
2 3 Calibration Precis Span Sensitivity: <u>Frial 1:</u> Cour <u>[rial 2:</u> Cour	o o sion= Average Difference/Ca unts Observed for the Span nters Observed for the Zero unts Observed for the Span	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% = 100%- = 99.9^{-1} $= 176505$ $= 1986$ $= 126528$	*Perform recalibration if 	• 3 average difference is greater tha 500 x 100% s Observed for the Spans s Observed for the Zeros	= <u>126510</u> = 2001
2 3 Calibration Precis Span Sensitivity: Trial 1: Cour Frial 2: Cour	o o sion= Average Difference/Ci unts Observed for the Span nters Observed for the Zero unts Observed for the Span nters Observed for the Span	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% $= 100\%$ $= 99.9^{-1}$ $= 176505$ $= 1986$ $= 126528$ $= 1993$	*Perform recalibration if 	• 3 average difference is greater tha 500 x 100% s Observed for the Spans s Observed for the Zeros	= <u>126570</u> = 2001
2 3 Calibration Precis Span Sensitivity: Trial 1: Cour Frial 2: Cour Cour	o o sion= Average Difference/Ca unts Observed for the Span nters Observed for the Zero- unts Observed for the Span nters Observed for the Zero-	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% $= 100\%$ $= 99.9^{-1}$ $= 176505$ $= 1986$ $= 126528$ $= 1993$	*Perform recalibration if 3/! % <u>Trial 3:</u> Counts <u>Counters</u>	• 3 average difference is greater tha 500 x 100% s Observed for the Spans s Observed for the Zeros	= <u>126510</u> = 2001
2 3 Calibration Precis Span Sensitivity: Trial 1: Cour Frial 2: Cour Post Monitoring C	o o sion= Average Difference/Ci unts Observed for the Span nters Observed for the Zero unts Observed for the Zero nters Observed for the Zero Calibration Check	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% $= 100\%$ $= 99.9^{-1}$ $= 176505$ $= 1986$ $= 126528$ $= 1993$	*Perform recalibration if 	• 3 average difference is greater tha 500 x 100% s Observed for the Spans s Observed for the Zeros	= <u> 26510</u> = 2001
2 3 Calibration Precis Span Sensitivity: Frial 1: Cour Cour Cour Post Monitoring C Sero Air Reading:	o O Sion= Average Difference/Ci unts Observed for the Span Inters Observed for the Zero Unts Observed for the Zero Inters Observed for the Zero Calibration Check D ppm	$\frac{500}{501}$ Average Difference: al Gas Conc. X 100% = 100%- = 99.9^{-1} = 176505 = 1986 = 126528 = 1986 = 1986 = 1986 Cal Gas Reading:	*Perform recalibration if 	average difference is greater tha 500 x 100% 500 sobserved for the Spans 500 sobserved for the Zeros	= <u>176570</u> = 2001
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SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

	(CALIBRATION AND	PERTINEN	T DATA	
Date:	5-21-21		Site Name:	Sonoma Ce	ntral
Inspector(s	Hunter Ott		Instrument:	TVA 2020	
WEATHER	OBSERVATIONS			141	
Wind Sp	9MPH	Wind WNW Direction:		Barometric Pressure: 30.02	"Hg
Tempera	Air ture: 52 °F	General Weather Conditions:	Sunny		
CALIBRATI	ON INFORMATION				
Pre-monito	ring Calibration Precision Check				
Procedure: and calcula precision m Instrument	Calibrate the instrument. Make a to te the average algebraic difference ust be less than or equal to 10% of t Serial Number: 2364	otal of three measuremen between the instrument r he calibration gas value.	ts by alternating eading and the c	zero air and the calibration calibration gas as a percenta Cal Gas Concentration:	gas. Record the readings ge. The calibration 500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds)
1	.2	500		0	
2	.1	502		2	
		= 100%- = 99.68	%	/500 × 100%	
Span Sensiti	vity:				
<u>[rial 1:</u>	Counts Observed for the Span=	169884	Trial 3: Cour	nts Observed for the Span=_	167244
	Counters Observed for the Zero=	4221	Count	ers Observed for the Zero=	4067
<u>rial 2:</u>	Counts Observed for the Span=	168896			
	Counters Observed for the Zero=	4153			
ost Monito	ring Calibration Check				
ero Air leading:	0ppm	Cal Gas Reading:	500	ppm	
ACKGROU	IND CONCENTRATIONS CHECKS				
Jpwind Loca	ation Description:			Reading: <u>1.2</u> p	ppm
ownwind L	ocation Description:			Reading: <u>1.4</u> p	pm
lotes:	Wind speed averages were obs exceeded 20 miles per hour. N meteorological conditions were	erved to remain below th o rainfall had occurred w e within the requested alt	e alternative req ithin the previou ernatives of the	uested 10 miles per hour an s 24 hours of the monitoring LMR requirements on the ab	d no instantaneous speeds event. Therefore, site pove mentioned date.

Attachment 6

Weather Data









Second Quarter 2021 LMR Instantaneous Weather Data for April 30, 2021 Sonoma Central Landfill, Petaluma, California



Second Quarter 2021 LMR Instantaneous Weather Data for May 21, 2021 Sonoma Central Landfill, Petaluma, California Appendix E – Excerpts from the Source Test Reports Issued during the Reporting Period (A-4 Flare, S-9, S-10, S-11)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 Beale Street, Suite 600 San Francisco, California 94105 (415) 771-6000

Contractor Source Test Supplemental Form

Site name: Sonoma County Central Landfill NST number: 6295 Testing company: Blue Sky Environmental, Inc.

Test purpose:

Routine compliance testing

Compliance test required after previous source test failure

Start-up test

Other, ex: trial testing for permit changes, engineering studies Please explain

Revised report with corrections noted Revision number

Preliminary test results:

✓ In compliance○ Not in compliance○ N/A

Please explain_____

Sonoma County Central Landfill

BAAQMD PLANT #: 22987

Compliance Emissions Test Report #21022 Enclosed Landfill Gas Flare (A-4)

Located at: Sonoma County 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 & Gloria Espena mhernandez@baaqmd.gov & gespena@baaqmd.gov

> Testing Performed on: January 20th, 2021

Final Report Submitted on: March 3rd, 2021

Performed and Reported by: Blue Sky Environmental, Inc. 624 San Gabriel Avenue Albany, CA 94706

bluesky@blueskyenvironmental.com office (510) 525 1261 / cell (510) 508 3469


Blue Sky Environmental, Inc. 624 San Gabriel Avenue Albany, CA 94706 Office (510) 525 1261 Cell (510) 508 3469 bluesky@blueskyenvironmental.com

March 3rd, 2021

Sonoma County Central Landfill 500 Mecham Road Petaluma, CA 94952

Attn.: Derek Cheney

Subject: Source test emission report for the John Zink ZTOF, 91.26 MMBtu/hr Landfill Gas-Fired Flare (A-4) located at the Sonoma County Central Landfill, 500 Mecham Road, Petaluma, CA 94952. Plant # 22987, ATC 28326, Condition 4044.

Test Date(s): Testing was conducted on January 20th, 2021.

Sampling Location: Sampling was conducted at the exhaust stack of the enclosed flare through ports that were accessible by scissor-lift. Sampling ports were available that met the minimum EPA Method 1 criteria of 2 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 of Blue Sky Environmental, Inc.

Observing Personnel: The BAAQMD was notified of the scheduled source test in a plan submitted on January 11th, 2021 (NST #6295); however, no agency observers from BAAQMD were present during testing. Matt Beat and Derek Cheney of Republic Services were on site to coordinate flare operation.

Process Description: Landfill gas collected at the Sonoma County Central Landfill is vented to internal combustion (IC) engine and generator sets to produce power. 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 ATC 28326. Three consecutive thirty-minute gaseous emissions tests were performed for oxides of nitrogen (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), methane (CH₄) and non-methane organic compounds (NMOC) at the exhaust stack of the flare. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NOx analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.



<u>Sampling and Analysis Methods</u>: The following U.S. Environmental Protection Agency (EPA) ASTM International sampling and analytical methods were used:

EPA Method 3A	O_2 , CO_2 Emissions
EPA Method 7E	NO _x Emissions
EPA Method 10	CO Emissions
EPA Method 25A/ALT-096	THC/CH ₄ /NMHC Emissions
EPA Method 4, part 16.4	Stack Moisture
EPA Method 19	Stack Gas Flowrate
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors & Fixed Gases
ASTM D-5504	Total Reduced Sulfur Compounds (TRS) in Fuel
EPA Method TO-15	Volatile Organic Compounds (VOC) in Fuel

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_x analyzer NO_2 to NO conversion efficiency.

EPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources

This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM) test van. The sampling system consists of a stainless steel sample probe, Teflon sample line, glass-fiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of



effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 25A – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.

EPA Method 4-16.4 – Determination of Moisture Content in Stack Gas

This is an acceptable alternative to EPA Method 4 for the determination of moisture using F-factors. The mole fraction of moisture in the ambient air is calculated using equations in EPA Method 4-16.4 from 1) the measured ambient relative humidity, ambient temperature, and barometric pressure, 2) the mole fraction of free water in the fuel, calculated from the moisture % in the fuel, which is determined by the analytical lab to be the balance after all the major gaseous components have been summed, and 3) the mole fraction of hydrogen in the fuel. To determine the moisture in the fuel, the raw fuel analysis before normalization to 100% is referenced.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

ASTM D1945 - Analysis of Natural Gas by Gas Chromatography

This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.



ASTM D-5504 – Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence

This method is used for the determination of speciated volatile sulfur-containing compounds in high methane content gaseous fuels by gas chromatography. Sulfur compounds are processed using a flame ionization detector (GC/FID). The products are then analyzed with a sulfur chemiluminescence detector (GC/SCD). Samples may be collected in Tedlar bags and analyzed within 24 hours or in Silco SUMMA canisters and analyzed within 72 hours.

EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates

This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

EPA Compendium Method TO-15 – Determination of Toxic Organic Compounds in Ambient Air

This method is used to measure volatile organic compounds that are included in the hazardous air pollutants (HAPs) listed in Title III of the Clean Air Act Amendments of 1990 by GC/MS (gas chromatography/mass spectroscopy). Samples are collected in pre-evacuated 6-Liter SUMMA canisters with pre-set flow controllers set to integrate over the desired test duration. The SUMMA® passivated canisters allow holding times up to 14 days for the TO-15 Method list of volatile organics. The sample gas is drawn by the canister vacuum through a micro-filter, pre-set orifice flow controller and on/off valve into the canister. The canister vacuum is monitored with a vacuum gauge to verify sample collection. The flow controller consisted of capillary orifice tubing designed to sample for a pre-set duration of 0.75hrs.

Instrument	Analyte	Principle
Servomex 1400	O ₂	Paramagnetic
Servomex 1400	CO ₂	IR
TECO Model 42C	NO _X	Chemiluminescence
TECO Model 48C	СО	GFC/IR
TECO Model 55C	CH ₄ /NMOC	FID

Instrumentation: The following continuous emissions analyzers were used:



<u>**Test Results:**</u> Emission results derived from the source test complied with permit conditions and are summarized below. Detailed results for individual test runs are provided in Table 1. The full list of AP42 2.4-1 compounds is provided in Table 2.

Emission Parameter	Average Results (Flare A-4)	Permit Limits	Compliance Status
NO _x , lbs/MMBtu	0.044	0.05	In Compliance
CO, lbs/MMBtu	0.013	0.20	In Compliance
Inlet TRS, ppm	68.7	300	In Compliance
NMOC, ppm @ 3% O ₂	<4.9	30 ppm	In Compliance
NMOC Removal Efficiency	>98.85	>98%	In Compliance
CH ₄ Removal Efficiency	>99.97	>99%	In Compliance
THC (TOC) Removal Efficiency	99.97%	>99%	In Compliance

The appendices are organized as follows:

Calculations

All the calculations performed on the continuous emissions monitoring (CEM) data and flow rate calculations are presented in this section.

Laboratory Reports

All laboratory reports and chain of custody.

Field Data Sheets

All the CEMS data, any transcribed data from the strip charts.

Process Information

Facility Process Data.

Calibration Gas Certificates

Certifications for the calibration gas standards.

Stack Diagram

Sketch or photograph of the stack.

Sample System Diagram

Schematic of the sampling system configuration

Permit to Operate / ATC

Permit to Operate / Authority to Construct

<u>Source Test Plan</u>

Sampling protocols submitted to the BAAQMD prior to testing



Comments: This source test was performed in accordance with the protocol submitted to the BAAQMD. No deviations from the protocol or anomalies were observed during testing. This source test indicates that the emissions comply with permitted limits.

The work performed herein was conducted under my supervision, and I certify that:

- a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,
- b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,
- c) that all testing details and conclusions are accurate and valid, and
- d) that the production rate and/or heat input rate during the source test are reported accurately.

If this report is submitted for compliance purposes it should only be reproduced in its entirety. If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

CII

Anne Richardson

Reviewed by,

Jula be go

Julie Wose-Jennings

TABLE #1

Sonoma-Central Landfill Flare (A-4) 1,652°F

RUN	1	2	3	AVERAGE	LIMITS
Test Date	1/20/21	1/20/21	1/20/21		
Test Time	0925-1014	1037-1115	1135-1213		
Standard Temperature, °F	70	70	70	70	
Flare Temperature, °F	1,644	1,660	1,652	1,652	
Fuel Flow Rate, DSCFM	854	881	905	880	
Fuel Heat Input, MMBtu/hr	26.83	27.92	28.60	27.79	
Exhaust Flow Rate, DSCFM (EPA M19)	11,456	12,036	12,178	11,890	
Oxygen, O ₂ , %	13.2	13.3	13.2	13.2	
Carbon Dioxide, CO ₂ , %	6.9	6.7	6.7	6.8	
Carbon Dioxide, CO ₂ , lbs/hr	5,430	5,525	5,597	5,517	
Water Vapor, H ₂ O, % (EPA M4.16)	4.3	4.3	4.3	4.3	
NOx, ppm	14.8	14.1	14.0	14.3	
NOx, ppm @ 15% O ₂	11.4	10.9	10.7	11.0	
NOx, lbs/hr	1.21	1.21	1.21	1.21	
NOx, lbs/day	29.0	29.1	29.1	29.1	
NOx, lb/MMBTU	0.045	0.043	0.042	0.044	0.05
CO, ppm	2.4	9.0	9.0	6.8	
CO, ppm @ 15% O ₂	1.9	7.0	6.9	5.2	
CO, lbs/hr	0.12	0.47	0.48	0.36	
CO, lbs/day	2.9	11.3	11.4	8.5	
CO, lb/MMBTU	0.004	0.017	0.017	0.013	0.20
THC, ppm (wet) (EPA M25A)	<10.0	<10.0	<10.0	<10.0	
THC, ppm (dry)	<10.5	<10.4	<10.5	<10.5	
THC, lbs/hr as CH ₄	< 0.30	< 0.31	< 0.32	< 0.31	
CH ₄ , ppm (wet) <i>(EPA M25A)</i>	<10.0	<10.0	<10.0	<10.0	
CH ₄ , ppm (dry)	<10.5	<10.4	<10.5	<10.5	
CH ₄ , lbs/hr	< 0.3	< 0.3	<0.3	< 0.3	
TNMHC (POC), ppm as CH ₄ (wet)(EPA M25A)	<2.0	<2.0	<2.0	<2.0	
TNMHC, ppm as CH ₄ (dry)	<2.1	<2.1	<2.1	<2.1	
TNMHC, lbs/hr as CH ₄	< 0.06	< 0.06	< 0.06	< 0.06	
TNMHC, ppm (a) 3% O ₂ as CH ₄	<4.9	<4.9	<4.9	<4.9	30
	(=)	(2.2	(0.0	 - 	200
INLET TRS, ppm (ASTM 5504)	67.6	69.3	69.2	68.7	300
SO ₂ , ppm	0.16	0.16	0.16	0.16	
INLET TNMHC, ppm as CH ₄ (EPA M25C)	2,255	2,537	2,564	2,452	
INLET TNMHC, lbs/hr as CH ₄	4.78	5.55	5.76	5.35	
TNMHC Removal Efficiency	>98.76%	>98.87%	>98.90%	>98.85%	98
INLET CH ₄ , ppm <i>(EPA M25C)</i>	524,000	528,000	527,000	526,333	
INLET CH ₄ , lbs/hr	1,110.42	1,154.08	1,183.36	1,149.22	
CH ₄ Removal Efficiency	>99.97%	>99.97%	>99.97%	>99.97%	99
INLET THC (TOC), ppm as CH ₄	526,255	530,537	529,564	528,785	
INLET THC (TOC), lbs/hr as CH ₄	1,115.20	1,159.63	1,189.12	1,154.58	
THC (TOC) Removal Efficiency	99.97%	99.97%	99.97%	99.97%	99

WHERE,

ppm = Parts per Million Concentration Lbs/hr = Pound per Hour Emission Rate Tstd. = Standard Temperature ($^{\circ}R = ^{\circ}F+460$) MW = Molecular Weight DSCFM = Dry Standard Cubic Feet per Minute NOx = Oxides of Nitrogen as NO₂ (MW = 46) CO = Carbon Monoxide (MW = 28) CO₂ = Carbon Dioxide (MW = 28) CO₂ = Carbon Dioxide (MW = 44) CH₄ = Methane (MW = 16) TOC = THC = Total Organic Carbon as Methane (MW = 16) THC = Total Hydrocarbons as Methane (MW = 16) TNMHC = Total Non-Methane Hydrocarbons as Methane (MW = 16) POC = Precursor Organic Compunds (MW = 16)

CALCULATIONS,

$$\begin{split} & \text{PPM} \; \widehat{(\!0\!)}\; 15\%\; \mathrm{O_2} = \text{ppm} * 5.9 \; / \; (20.9 - \% \mathrm{O_2}) \\ & \text{PPM} \; \widehat{(\!0\!)}\; 3\%\; \mathrm{O_2} = \text{ppm} * 17.9 \; / \; (20.9 - \% \mathrm{O_2}) \\ & \text{Lbs/hr} = \text{ppm} \; x \; 8.223 \; E-05 \; x \; \text{DSCFM} \; x \; \text{MW} \; / \; \text{Tstd.} \; ^{\circ}\text{R} \\ & \text{Lbs/day} = \text{Lbs/hr} * 24 \\ & \text{Removal Efficiency} = \; (\text{inlet lbs/hr} - \text{outlet lbs/hr}) \; / \; \text{inlet lbs/hr} \\ & \text{lbs/MMBtu} = \text{Fd} * \text{MW} * \text{ppm} * 2.59 \text{E-9} * 20.9 / (20.9 - \% \mathrm{O_2}) \\ & < \text{VALUE} = 2\% \; \text{Value of Analyzer Range} \end{split}$$

TABLE #2

Sonoma-Central Landfill Permit 2254, part 18 AP42 2.4-1

		Units	Landfill Gas Samples			Permit
			1/20/21	1/20/21	1/20/21	Limit
			AP42 Table 2.4-1	AP42 Table 2.4-1	AP42 Table 2.4-1	Condition #4044
Constituent	Method		LFG RUN 1	LFG RUN 2	LFG RUN 3	parts 6 & 7
1,1,1-Trichloroethane	EPA TO-15	ppb	<788	<755	<762	
1,1,2,2-Tetrachloroethane	EPA TO-15	daa	<788	<755	<762	
1,1-Dichloroethane (Ethylidene Dichloride)	EPA TO-15	ppb	<788	<755	<762	
1.1-Dichloroethene (1.1-Dichloroethylene)	EPA TO-15	ppb	<788	<755	<762	
1.2-Dichloroethane (Ethylene Dichloride)	EPA TO-15	ppb	<788	<755	<762	
1.2-Dichloropropane	EPA TO-15	ppb	<788	<755	<762	
2-Propanol (Isopropyl Alcohol, IPA)	EPA TO-15	ppb	5,550	11.600	13.100	
Acrylonitrile	EPA TO-15	ppb	<3.150	<3.020	<3.050	
Bromodichloromethane	EPA TO-15	ppb	<788	<755	<762	
Butane (C4)	EPA 18/ASTM 1945	ppm	10.1	9.2	9.3	
Carbon Disulfide	EPA TO-15	ppb	<3.150	<3.020	<3.050	
Carbon Monoxide	EPA 3C/ASTM 1945	°⁄0	< 0.2	< 0.2	<0.2	
Carbon Tetrachloride	EPA TO-15	ppb	<788	<755	<762	
Carbonyl sulfide (COS)	ASTM D-5504	nnm	< 0.079	< 0.076	< 0.076	
Chlorobenzene	EPA TO-15	ppb	<788	<755	<762	
Chlorodifluoromethane	EPA TO-15	ppb	<788	<755	<762	
Chloroethane	EPA TO-15	ppb	<788	<755	<762	
Chloroform	EPA TO-15	ppb	<788	<755	<762	
Chloromethane	EPA TO-15	ppb	<1.580	<1.510	<1.520	
1.3-Dichlorobenzene	EPA TO-15	ppb	<788	<755	<762	
1.4-Dichlorobenzene	EPA TO-15	ppb	<788	<755	<762	
1.2-Dichlorobenzene	EPA TO-15	ppb	<788	<755	<762	
Dichlorodifluoromethane	EPA TO-15	ppb	<788	<755	<762	
Dichlorofluoromethane	EPA TO-15	ppb	<788	<755	<762	
Dichloromethane (Methylene Chloride)	EPA TO-15	ppb	<1.580	<1.510	<1.520	20.000
Dimethyl Sulfide	ASTM D-5504	ppm	1.07	1.21	1.25	
Ethane (C2)	EPA 18/ASTM 1945	ppm	0	0	0	
Ethanol	EPA TO-15	ppb	33.000	69,500	74.600	
Ethyl Mercaptan	ASTM D-5504	ppm	< 0.079	< 0.076	< 0.076	
Ethyl Benzene	EPA TO-15	daa	3,040	3,110	3,380	
1,2 Dibromoethane (Ethylene Dibromide)	EPA TO-15	ppb	<788	<755	<762	
Trichlorofluoromethane	EPA TO-15	dad	<788	<755	<762	
Hexane	EPA TO-15	ppb	<788	<755	<762	
Hydrogen sulfide	ASTM D-5504	ppm	64.6	66.3	66.3	300
Mercury	NIOSH 6009	ug/m3	NA	NA	NA	
2-Butanone (MEK)	EPA TO-15	ppb	5,450	10,200	8,650	
Methyl isoButyl Ketone (MiBK)	EPA TO-15	ppb	<788	<755	<762	
Pentane (C5)	EPA 18/ASTM 1945	ppm	29.4	28.4	28.2	
Tetrachloroethylene (Perchloroethylene)	EPA TO-15	ppb	<788	<755	<762	3,000
Propane (C3)	EPA 18/ASTM 1945	ppm	25.2	24.3	24.0	
trans-1,2-Dichloroethene (t-1,2-Dichloroethylene)	EPA TO-15	ppb	<788	<755	<762	
Trichloroethylene (Trichloroethene)	EPA TO-15	ppb	<788	<755	<762	3,000
Vinyl Chloride	EPA TO-15	ppb	<788	<755	<762	2,500
m,p-Xylene	EPA TO-15	ppb	5,090	5,030	5,430	,
o-Xylene	EPA TO-15	dad	1,700	1,780	1,980	
Benzene	EPA TO-15	ppb	1,120	1,100	1,160	2,500
Chlorobenzene	EPA TO-15	ppb	<788	<755	<762	-
Toluene	EPA TO-15	ppb	6,130	5,910	6,370	

Republic Services of Sonoma County, Inc. BAAQMD PLANT #: 22987

Compliance Emissions Test Report #21083 Caterpillar Landfill Gas Engine #5 (S-9)

Located at: Central Landfill 500 Mecham Road Petaluma, CA 94952

Prepared for: **Republic Services of Sonoma County, Inc.** 500 Mecham Road Petaluma, CA 94952

> Attn: Derek Cheney DCheney@republicservices.com

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

Attn: Marco Hernandez & Gloria Espena mhernandez@baaqmd.gov & gespena@baaqmd.gov sourcetest@baaqmd.gov

> Testing Performed on: March 12th, 2021

Final Report Submitted on: May 6th, 2021

Performed and Reported by: Blue Sky Environmental, Inc. 624 San Gabriel Avenue Albany, CA 94706

bluesky@blueskyenvironmental.com Office (510) 525 1261 / Mobile (510) 508 3469



Blue Sky Environmental, Inc. San Gabriel Avenue Albany, CA 94706 Office (510) 525-1261 Cell (510) 508-3469 bluesky@blueskyenvironmental.com

May 6th, 2021

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

Attn.: Derek Cheney

Subject: Source emissions test report for Republic Services of Sonoma County, Inc.'s Engine #5 (S-9), located at the Central Landfill in Petaluma, CA, to determine compliance with the Bay Area Air Quality Management District (BAAQMD) Title V Permit for Plant 22987.

Test Date(s): Testing was conducted on March 12th, 2021.

Sampling Location: Emission sampling was conducted at the 12-inch diameter exhaust stack of Engine #5 (S-9) through ports that were accessible both from the roof of the facility and from a probe extending from ground level. The ³/₄-inch sample ports on the stack met EPA Method 1 minimum criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

<u>Sampling Personnel:</u> Sampling was performed by Jeramie Richardson of Blue Sky Environmental, Inc.

Observing and Facility Personnel: The Bay Area Air Quality Management District (BAAQMD) was notified of the scheduled testing in a plan submitted on March 4th, 2021 (NST #6401); however, no agency observers from the BAAQMD were present during testing.

Matt Beat of Republic Services of Sonoma County, Inc. was on site to coordinate engine operations.

Process Description: The Central Landfill operates ten Caterpillar Model G3516 lean burn IC engines that produce power from the waste landfill gas generated by the facility. Each of the 1,138 hp reciprocating engines operates with an 800 kW Genset. The control room uses a Yokogawa fuelflow monitoring system to read the LFG flows to each engine. Engines #9 (S-13) and #10 (S-14) are currently out of service; but when operating, carry a 50-kW parasitic load that is added to the generator output kW when calculating total kW.

Each engine has a dedicated fuel meter and individual kW meter that is used to indicate load. Readings taken during testing were used with the gas analysis to calculate the exhaust flow rate and to calculate load.



Test Program: Three consecutive 35-minute gaseous emissions tests were performed for nitrogen oxides (NO_X), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), methane (CH₄), and total nonmethane hydrocarbons (TNMHC) at the engine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NOx analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.

Concurrent with the exhaust sampling, Blue Sky Environmental collected a total of three LFG samples from the engine header for CH₄, CO₂, O₂, CO, N₂, and BTU, F-Factor analysis. The samples were collected in Silco canisters and analyzed at Atmospheric Analysis and Consulting, Inc., located in Ventura, CA.

Sampling & Analytical Methods: The following U.S. Environmental Protection Agency (EPA) and ASTM International sampling methods and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O2 and CO2, Stack Gas Molecular Weight
EPA Method 7E	NO _X Emissions & NO ₂ Converter Efficiency
EPA Method 10	CO Emissions
EPA Method 4, Part 16.4	Moisture Calculated
EPA Method ALT-078	CH4 & NMHC Emissions
EPA Method 19	Calculation of Stack Gas Flow Rate
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)

EPA Method 1 – Sample and Velocity Traverses for Stationary Sources

This method is used to determine the duct or stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements.

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_X analyzer NO_2 to NO conversion efficiency.

EPA Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources

This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and



analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM) test van. The sampling system consists of a stainless-steel sample probe, Teflon sample line, glass-fiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 4-16.4 – Determination of Moisture Content in Stack Gas

This is an acceptable alternative to EPA Method 4 for the determination of moisture using F-factors. The mole fraction of moisture in the ambient air is calculated using equations in EPA Method 4-16.4 from 1) the measured ambient relative humidity, ambient temperature, and barometric pressure, 2) the mole fraction of free water in the fuel, calculated from the moisture % in the fuel, which is determined by the analytical lab to be the balance after all the major gaseous components have been summed, and 3) the mole fraction of hydrogen in the fuel. To determine the moisture in the fuel, the raw fuel analysis before normalization to 100% is referenced.

EPA Method 25A/ALT-078 – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.

EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates

This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is



multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

ASTM D1945 - Analysis of Natural Gas by Gas Chromatography

This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

Instrument	Analyte	Principle
Servomex Model 1400	O_2	Paramagnetic
Servomex Model 1400	CO ₂	IR
TECO Model 42C	NO _X	Chemiluminescence
TECO Model 48C	СО	GFC/IR
TECO Model 55C	THC/CH ₄ /NMOC	FID

Instrumentation: The following continuous emissions analyzers were used:

Emission Parameter	Average Results Engine #5 (S-9)	Permit Limits	Status
NO _x , ppm @ 15% O ₂	27.4		
NO _x , g/Bhp-hr	0.44	0.8	In Compliance
CO, ppm @ 15% O ₂	200.8		
CO, g/Bhp-hr	1.94	2.1	In Compliance
CH ₄ , ppm @ 3% O ₂	1,081	3,000	In Compliance
NMOC ppm as CH ₄ @ 3% O ₂	109.3	120 or	
NMOC Removal Efficiency as CH ₄	>68.7%	>98%	In Compliance

<u>**Test Results:**</u> The engine met all compliance emission criteria. The compliance summary is presented below. Detailed source test information is provided in Table 1.

Note: POC (Precursor Organic Compounds) and NMOC (Non-Methane Organic Compounds) are used synonymously -Condition 19933 Part 8

The appendices are organized as follows:

Calculations

All the calculations performed on the continuous emissions monitoring (CEM) data and flow rate calculations are presented in this section.

Laboratory Reports

All laboratory reports and chain of custody.

Field Data Sheets

All the CEMS data, any transcribed data from the strip charts.

Process Information

Relevant and available facility process operating documentation.

Calibration Gas Certificates

Certifications for the calibration gas standards.

Equipment Calibrations

Calibration records for equipment used (e.g., S-type pitot tubes, dry gas meters, rotameters)

Stack Diagram

Sketch or photograph of the stack.

Sample System Diagram

Schematic of the sampling system configuration.

Permit / Authority to Construct

Permit to Operate / Authority to Construct.

<u>Source Test Plan</u>

Sampling protocols submitted to the BAAQMD prior to testing.



<u>Comments</u>: This source test was performed in accordance with the protocol submitted to the BAAQMD. No deviations from the protocol or anomalies were observed during testing.

The work performed herein was conducted under my supervision, and I certify that:

- a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,
- b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,
- c) that all testing details and conclusions are accurate and valid, and
- d) that the production rate and/or heat input rate during the source test are reported accurately.

If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

Anne Richardson

Reviewed by,

Jula be Ch

Julie Wose-Jennings

TABLE #1

Sonoma Central Landfill ENGINE #5 (S-9)

800 kW Caterpillar Landfill Gas Engine

RUN	1	2	3	AVERAGE	LIMITS
Test Date	03/12/21	03/12/21	03/12/21		
Test Time	0930-1005	1029-1104	1136-1211		
Standard Temperature, °F	70	70	70	70	
Stack Exhaust Temperature, °F	719	723	720	721	
Engine (Generator), kW	800	800	810	803	
Engine BHp	1,072	1,072	1,085	1,076	
Fuel Flow Rate, SCFM	314.5	311.9	312.7	313.0	
Gas Fd-Factor @ 70°F	9,612	9,611	9,595	9,606	
Heat Input, MMBtu/Day	223.9	218.8	215.1	219.2	252.6
Exhaust Flow Rate, DSCFM (EPA M19)	2,391	2,349	2,321	2,354	
Oxygen, O ₂ , %	7.59	7.65	7.75	7.66	6.4-8.3
Carbon Dioxide, CO ₂ %	11.8	11.8	11.7	11.8	
Carbon Dioxide, lbs/hr	1,933	1,890	1,851	1,891	
Water Vapor, H ₂ O, %	12.4	12.4	12.3	12.3	
NOx, ppm	60.2	63.4	61.0	61.5	
NOx, ppm @ 15% O ₂	26.7	28.2	27.4	27.4	
NOx, lbs/hr	1.03	1.06	1.01	1.03	
NOx, lbs/MMBtu	0.108	0.115	0.111	0.111	
NOx, g/Bhp-hr	0.43	0.45	0.42	0.44	0.8
CO, ppm	448.1	455.6	447.9	450.5	
CO, ppm @ 15% O ₂	198.6	202.9	201.0	200.8	
CO, lbs/hr	4.65	4.65	4.52	4.61	
CO, lbs/MMBtu	0.490	0.501	0.495	0.496	
CO, g/Bhp-hr	1.97	1.97	1.89	1.94	2.1
THC, ppm (wet) (EPA M25A)	2,142.2	2,212.5	2,237.6	2,197.4	
THC, ppm (dry)	2,444.8	2,524.5	2,550.3	2,506.6	
THC, lbs/hr as CH_4	14.5	14.7	14.7	14.6	
CH ₄ , ppm (wet) (EPA M25A)	2,073	2,140	2,167	2,127	
CH ₄ , ppm (dry)	2,365	2,442	2,470	2,426	
CH ₄ , ppm @ 15% O ₂	1,048	1,088	1,108	1,081	3,000
CH ₄ , lbs/hr	14.0	14.2	14.2	14.2	
TNMHC (POC), ppm as CH ₄ (wet) <i>(EPA M25A)</i>	69.7	72.0	70.8	70.8	
TNMHC (POC), ppm as CH ₄ (dry)	79.5	82.2	80.8	80.8	
TNMHC (POC), ppm as CH_4 (a) 3% O_2	106.9	111.0	109.9	109.3	120
TNMHC, lbs/hr as CH ₄	0.47	0.48	0.47	0.47	
TNMHC, g/Bhp-hr as CH ₄	0.20	0.20	0.19	0.20	
INLET TNMHC (POC) ppm as CH ₄ (EPA M25C)	2,315	2,232	1,435	1,994	>98% or
INLET TNMHC (POC) lbs/hr as CH ₄	1.81	1.73	1.11	1.55	120ppm @
TNMHC (POC) Removal Efficiency	>73.9%	>72.3%	>58.2%	>68.1%	3%O ₂
INLET % CH ₄ (ASTM D-1945 & EPA M25C)	49.6	48.9	47.9	48.8	
INLET CH ₄ lbs/hr	387.2	378.6	371.8	379.2	
CH ₄ Removal Efficiency	>96.4%	>96.2%	>96.2%	>96.3%	
INLET THC (TOC) % as CH ₄	49.8	49.1	48.0	49.0	
INLET THC (TOC) lbs/hr as CH_4	389.0	380.3	372.9	380.8	
THC (TOC) Removal Efficiency	>96.3%	>96.1%	>96.1%	>96.2%	

WHERE,

 $\begin{array}{l} ppm = Parts per Million Concentration\\ Lbs/hr = Pound per Hour Emission Rate\\ Tstd. = Standard Temp. (°R = °F+460)\\ MW = Molecular Weight\\ DSCFM = Dry Standard Cubic Feet per Minute\\ NOx = Oxides of Nitrogen as NO_2 (MW = 46)\\ CO = Carbon Monoxide (MW = 28)\\ TOC = THC = Total Organic Carbon as Methane (MW = 16)\\ THC = Total Hydrocarbons as Methane (MW = 16)\\ TNMHC = POC = Total Non-Methane Hydrocarbons as Methane (MW = 16)\\ CO_2 = Carbon Dioxide (MW - 44)\\ \end{array}$

CALCULATIONS,

 $\begin{array}{l} \label{eq:ppm} PPM @ 15\% O_2 = ppm * 5.9 / (20.9 - \%O_2) \\ PPM @ 3\% O_2 = ppm * 17.9 / (20.9 - \%O_2) \\ \mbox{lbs/hr} = ppm * 8.223 E-05 * DSCFM * MW / Tstd. °R \\ \mbox{lbs/day} = Lbs/hr * 24 \\ \mbox{lbs/day} = Lbs/hr * 24 \\ \mbox{lbs/MMBtu} = Fd * MW * ppm x 2.59E-9 * 20.9/(20.9 - \%O_2) \\ \mbox{Removal Efficiency} = 100* (inlet lbs/hr - exhaust lbs/hr) / inlet lbs/hr \\ \mbox{Engine BHp} = Engine kW * 1.34 \\ \mbox{gm/BHp-hr} = Lbs/hr * 453.6 / BHp \\ \mbox{TMHC Detection Limit +/- 2\% of THC Value} \\ \mbox{PPM (dry)} = PPM (wet) * 100 / (100 - H_2O\%) \end{array}$

Republic Services of Sonoma County, Inc.

BAAQMD Plant # 22987

Compliance Emissions Test Report #21132 Caterpillar Landfill Gas Engine #6 (S-10)

Located at: Central Landfill 500 Mecham Road Petaluma, CA 94952

Prepared for: **Republic Services of Sonoma County, Inc.** 500 Mecham Road Petaluma, CA 94952

> Attn: Derek Cheney DCheney@republicservices.com

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

Attn: Marco Hernandez & Gloria Espena mhernandez@baaqmd.gov & gespena@baaqmd.gov sourcetest@baaqmd.gov

> Testing Performed on: April 29th, 2021

Final Report Submitted on: June 7th, 2021

Performed and Reported by: Blue Sky Environmental, Inc. 624 San Gabriel Avenue Albany, CA 94706

bluesky@blueskyenvironmental.com Office (510) 525 1261 / Mobile (510) 508 3469



Blue Sky Environmental, Inc. San Gabriel Avenue Albany, CA 94706 Office (510) 525-1261 Cell (510) 508-3469 bluesky@blueskyenvironmental.com

June 7th, 2021

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

Attn.: Derek Cheney

Subject: Source emissions test report for Republic Services of Sonoma County, Inc.'s Engine #6 (S-10), located at the Central Landfill in Petaluma, CA, to determine compliance with the Bay Area Air Quality Management District (BAAQMD) Title V Permit for Plant 22987.

Test Date(s): Testing was conducted on April 29th, 2021.

Sampling Location: Emission sampling was conducted at the 12-inch diameter exhaust stack of Engine #6 (S-10) through ports that were accessible both from the roof of the facility and from a probe extending from ground level. The ³/₄-inch sample ports on the stack met EPA Method 1 minimum criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

Sampling Personnel: Sampling was performed by Jeramie Richardson of Blue Sky Environmental, Inc.

Observing and Facility Personnel: The Bay Area Air Quality Management District (BAAQMD) was notified of the scheduled testing in a plan submitted on April 13th, 2021 and revised April 28th, 2021 (NST #6441); however, no agency observers from the BAAQMD were present during testing.

Matt Beat of Republic Services of Sonoma County, Inc. was on site to coordinate engine operations.

Process Description: The Central Landfill operates ten Caterpillar Model G3516 lean burn IC engines that produce power from the waste landfill gas generated by the facility. Each of the 1,138 hp reciprocating engines operates with an 800 kW Genset. The control room uses a Yokogawa fuelflow monitoring system to read the LFG flows to each engine. Engines #9 (S-13) and #10 (S-14) are currently out of service; but when operating, carry a 50-kW parasitic load that is added to the generator output kW when calculating total kW.

Each engine has a dedicated fuel meter and individual kW meter that is used to indicate load. Readings taken during testing were used with the gas analysis to calculate the exhaust flow rate and to calculate load.



Test Program: Three consecutive 35-minute gaseous emissions tests were performed for nitrogen oxides (NO_X), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), methane (CH₄), and total nonmethane hydrocarbons (TNMHC) at the engine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NOx analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.

Concurrent with the exhaust sampling, Blue Sky Environmental collected a total of three LFG samples from the engine header for CH₄, CO₂, O₂, CO, N₂, and BTU, F-Factor analysis. The samples were collected in Silco canisters and analyzed by Atmospheric Analysis and Consulting, Inc., located in Ventura, CA.

Sampling & Analytical Methods: The following U.S. Environmental Protection Agency (EPA) and ASTM International sampling methods and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O2 and CO2, Stack Gas Molecular Weight
EPA Method 7E	NO _X Emissions & NO ₂ Converter Efficiency
EPA Method 10	CO Emissions
EPA Method 4	Moisture
EPA Method 25A / ALT-078	CH4 & NMHC Emissions
EPA Method 19	Calculation of Stack Gas Flow Rate
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)

EPA Method 1 - Sample and Velocity Traverses for Stationary Sources

This method is used to determine the duct or stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements.

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_X analyzer NO_2 to NO conversion efficiency.

EPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources

This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM)



test van. The sampling system consists of a stainless-steel sample probe, Teflon sample line, glassfiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 4 - Determination of Moisture Content in Stack Gas

This method is used to determine the moisture content of stack gas. The sample is extracted and condensed in Greenburg-Smith impingers immersed in an ice bath and in a final impinger silica gel trap. The moisture is condensed in a solution of de-ionized water, or solutions of another type of sampling train if the moisture is being determined as part of another sampling method, such as EPA Method 5 or EPA 12. The moisture gain in the impinger solutions and silica gel is determined volumetrically and gravimetrically respectively. <u>QA/QC</u> procedures require that a minimum of 21 cubic feet of sample is pulled using a leak tight pump. The sample volume is measured with a calibrated dry gas meter. The impingers are immersed in an ice bath to maintain a gas outlet temperature of less than 68°F. Pre-test leak checks are performed for each run using a minimum 15 inches of mercury vacuum. Post-test leak checks are performed at the highest sample vacuum or greater. The leak test is acceptable if the leak rate is less than 0.02 cubic feet per minute or 4% of the average sampling rate, whichever is less. If the final leak check exceeds the criteria, either the volume is corrected based on the leak rate or the run is voided and repeated.

EPA Method 25A/ALT-078 – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.



EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates

This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

ASTM D1945 – Analysis of Natural Gas by Gas Chromatography

This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

Instrument	Analyte	Principle
Servomex Model 1400	O_2	Paramagnetic
Servomex Model 1400	CO ₂	IR
TECO Model 42C	NO _X	Chemiluminescence
TECO Model 48C	СО	GFC/IR
TECO Model 55C	THC/CH ₄ /NMOC	FID

Instrumentation: The following continuous emissions analyzers were used:

Emission Parameter	Average Results Engine #6 (S-10)	Permit Limits	Compliance Status
NOx, ppm @ 15% O ₂	26.5		
NO _x , g/Bhp-hr	0.40	0.80	In Compliance
CO, ppm @ 15% O ₂	157.8		
CO, g/Bhp-hr	1.44	2.1	In Compliance
CH4, ppm @ 15% O2	951	3,000	In Compliance
TNMHC ppm as CH ₄ @ 3% O ₂	95.7	120 Or	La Canadiana
TNMHC Removal Efficiency, %	>63.1%	<u>98%</u>	in Compliance

<u>**Test Results:**</u> The engine met all compliance emission criteria. The compliance summary is presented below. Detailed source test information is provided in Table 1.

Note: POC (Precursor Organic Compounds) and TNMHC (Total; Non-Methane Hydrocarbons) are used synonymously -Condition 19933 Part 8

The appendices are organized as follows:

Calculations

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

Laboratory Reports

Laboratory reports and chains-of-custody.

Field Data Sheets

CEMS data and any transcribed data from the strip charts.

Process Information

Relevant and available facility process operating documentation.

Calibration Gas Certificates

Certifications for the calibration gas standards.

Equipment Calibrations

Calibration records for equipment used (e.g., S-type pitot tubes, dry gas meters, rotameters)

Stack Diagram

Sketch or photograph of the stack.

Sample System Diagram

Schematic of the sampling system configuration.

Permit / Authority to Construct

Permit to Operate / Authority to Construct.

Source Test Plan

Sampling protocols submitted to the BAAQMD prior to testing.



<u>Comments</u>: This source test was performed in accordance with the protocol submitted to the BAAQMD. The fuel sample collected during Run 2 appeared to have significant air intrusion. The results from Run 2 were therefore excluded from the averages.

The work performed herein was conducted under my supervision, and I certify that:

- a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,
- b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,
- c) that all testing details and conclusions are accurate and valid, and
- d) that the production rate and/or heat input rate during the source test are reported accurately.

If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

1.1

Anne Richardson

Reviewed by,

Jela & gr

Julie Wose-Jennings

TABLE #1

Sonoma Central Landfill Engine #6 (S-10)

800 kW Caterpillar Landfill Gas Engine

RUN	1	2	3	AVERAGE	LIMITS
Test Date	04/29/21	04/29/21	04/29/21		
Test Time	0929-1004	1032-1107	1127-1202		
Standard Temperature, °F	70	70	70	70	
Stack Exhaust Temperature, °F	779	779	781	780	
Engine (Generator) kW	695	675	715	695	
Engine BHp	931	905	958	931	
Fuel Flow Rate, SCFM	289.8	291.9	295.5	292.4	
Gas Fd-Factor @ 70°F	9,691	9,685	9,690	9,689	
Heat Input, MMBtu/day	192.4	154.5	195.3	180.7	252.6
Exhaust Flow Rate, DSCFM (EPA M19)	2,001	1,597	2,018	1,872	
Oxygen, O ₂ %	7.4	7.3	7.3	7.3	6.4-8.3
Carbon Dioxide, CO ₂ %	11.9	12.0	12.1	12.0	
Carbon Dioxide, lbs/hr	1,630	1,310	1,663	1,534	
Water Vapor, H ₂ O %	13.3	12.3	12.6	12.8	
NOx, ppm	56.8	62.3	64.0	61.0	
NOx, ppm @ 15% O ₂	24.8	27.0	27.7	26.5	
NOx, lbs/hr	0.81	0.71	0.92	0.81	
NOx, lbs/MMBtu	0.101	0.111	0.113	0.108	
NOx, g/Bhp-hr	0.40	0.36	0.44	0.40	0.80
CO, ppm	365.6	363.1	360.4	363.0	
CO, ppm @ 15% O ₂	159.5	157.5	156.3	157.8	
CO, lbs/hr	3.18	2.52	3.16	2.95	
CO, lbs/MMBtu	0.397	0.392	0.389	0.393	
CO, g/Bhp-hr	1.55	1.26	1.50	1.44	2.1
THC, ppm (wet) <i>(EPA M25A)</i>	2029.1	1960.0	1924.4	1971.2	
THC, ppm (dry)	2,340.8	2,235.7	2,202.8	2,259.7	
THC, lbs/hr as CH ₄	11.6	8.9	11.0	10.5	
CH ₄ , ppm (wet) <i>(EPA M25A)</i>	1,964	1,897	1,862	1,908	
CH ₄ , ppm (dry)	2,266	2,164	2,132	2,187	
CH ₄ , ppm @ 15% O ₂	989	939	924	951	3,000
CH ₄ , lbs/hr	11.3	8.6	10.7	10.2	
TNMHC (POC), ppm as CH ₄ (wet) (EPA M25A)	64.9	62.8	62.3	63.3	
TNMHC (POC), ppm as CH ₄ (dry)	74.8	71.7	71.3	72.6	
TNMHC (POC), ppm as CH_4 (a) 3% O_2	99.1	94.3	93.7	95.7	120
TNMHC, lbs/hr as CH ₄	0.37	0.28	0.36	0.34	
TNMHC, g/Bhp-hr as CH ₄	0.18	0.14	0.17	0.16	
INLET TNMHC (POC) ppm as CH ₄ (EPA M25C)	1,370	1,050*	1,347	1,359*	>98% or
INLET TNMHC (POC) lbs/hr as CH4	0.986	0.761*	0.988	0.987*	120 ppm @
TNMHC (POC) Removal Efficiency	>62.3%	>62.7%*	>63.9%	>63.1%*	3% O ₂
INLET % CH ₄ (ASTM D-1945 & EPA M25C)	46.4	37.0*	46.2	46.3*	
INLET CH ₄ lbs/hr	333.8	268.1*	338.8	336.3*	
CH ₄ Removal Efficiency	>96.6%	>96.8%*	>96.8%	>96.7%*	
INLET THC (TOC) % as CH ₄	46.5	37.1*	46.3	46.4*	
INLET THC (TOC) lbs/hr as CH ₄	334.8	268.9 [*]	339.8	337.3*	
THC (TOC) Removal Efficiency	>96.5%	>96.7%*	>96.8%	>96.6%*	

*Run 2 results were excluded from the average due to air intrusion of the fuel sample

WHERE,

ppm = Parts per Million Concentration Lbs/hr = Pound per Hour Emission Rate Tstd. = Standard Temp. ($^{\circ}R = ^{\circ}F+460$) MW = Molecular Weight DSCFM = Dry Standard Cubic Feet per Minute NOx = Oxides of Nitrogen as NO₂ (MW = 46) CO = Carbon Monoxide (MW = 28) TOC = THC = Total Organic Carbon as Methane (MW = 16) THC = Total Hydrocarbons as Methane (MW = 16) THC = Total Hydrocarbons as Methane (MW = 16) TNMHC = Total Non-Methane Hydrocarbons as Methane (MW = 16) CH₄ = Methane (MW = 16) POC = Precursor Organic Compounds as Methane (MW = 16)

POC = Precursor Organic Compounds as Methane (MW = 16) CO₂ = Carbon Dioxide (MW = 44)

CALCULATIONS,

 $\begin{array}{l} \label{eq:ppm} PPM @. 15\% O_2 = ppm * 5.9 / (20.9 - \%O_2) \\ PPM @. 3\% O_2 = ppm * 17.9 / (20.9 - \%O_2) \\ \mbox{lbs/hr} = ppm * 8.223 E-05 * DSCFM * MW / Tstd. °R \\ \mbox{lbs/day} = Lbs/hr * 24 \\ \mbox{lbs/day} = Lbs/hr * 24 \\ \mbox{lbs/MMBtu} = Fd * MW * ppm x 2.59E-9 * 20.9/(20.9 - \%O_2) \\ \mbox{Removal Efficiency} = 100* (inlet lbs/hr - exhaust lbs/hr) / inlet lbs/hr \\ \mbox{Engine BHp} = Engine kW * 1.34 \\ \mbox{gm/BHp-hr} = Lbs/hr * 453.6 / BHp \\ \mbox{TNMHC Detection Limit +/- 2% of THC Value} \\ \mbox{PPM (dry)} = PPM (wet) * 100 / (100 - H_2O\%) \end{array}$

Republic Services of Sonoma County, Inc.

BAAQMD Plant # 22987

Compliance Emissions Test Report #21124 Caterpillar Landfill Gas Engine #7 (S-11)

Located at: Central Landfill 500 Mecham Road Petaluma, CA 94952

Prepared for: **Republic Services of Sonoma County, Inc.** 500 Mecham Road Petaluma, CA 94952

> Attn: Derek Cheney DCheney@republicservices.com

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

Attn: Marco Hernandez & Gloria Espena mhernandez@baaqmd.gov & gespena@baaqmd.gov sourcetest@baaqmd.gov

> Testing Performed on: April 26th, 2021

Final Report Submitted on: June 7th, 2021

Performed and Reported by: Blue Sky Environmental, Inc. 624 San Gabriel Avenue Albany, CA 94706

bluesky@blueskyenvironmental.com Office (510) 525 1261 / Mobile (510) 508 3469



Blue Sky Environmental, Inc. San Gabriel Avenue Albany, CA 94706 Office (510) 525-1261 Cell (510) 508-3469 bluesky@blueskyenvironmental.com

June 7th, 2021

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

Attn.: Derek Cheney

Subject: Source emissions test report for Republic Services of Sonoma County, Inc.'s Engine #7 (S-11), located at the Central Landfill in Petaluma, CA, to determine compliance with the Bay Area Air Quality Management District (BAAQMD) Title V Permit for Plant 22987.

Test Date(s): Testing was conducted on April 26th, 2021.

Sampling Location: Emission sampling was conducted at the 12-inch diameter exhaust stack of Engine #7 (S-11) through ports that were accessible both from the roof of the facility and from a probe extending from ground level. The $\frac{3}{4}$ -inch sample ports on the stack met EPA Method 1 minimum criteria of two stack diameters downstream from the nearest disturbance and 0.5 stack diameters upstream from the nearest disturbance or exhaust.

Sampling Personnel: Sampling was performed by Jeramie Richardson of Blue Sky Environmental, Inc.

Observing and Facility Personnel: The Bay Area Air Quality Management District (BAAQMD) was notified of the scheduled testing in a plan submitted on April 19th, 2021 (NST #6446); however, no agency observers from the BAAQMD were present during testing.

Matt Beat of Republic Services of Sonoma County, Inc. was on site to coordinate engine operations.

Process Description: The Central Landfill operates ten Caterpillar Model G3516 lean burn IC engines that produce power from the waste landfill gas generated by the facility. Each of the 1,138 hp reciprocating engines operates with an 800 kW Genset. The control room uses a Yokogawa fuelflow monitoring system to read the LFG flows to each engine. Engines #9 (S-13) and #10 (S-14) are currently out of service; but when operating, carry a 50-kW parasitic load that is added to the generator output kW when calculating total kW.

Each engine has a dedicated fuel meter and individual kW meter that is used to indicate load. Readings taken during testing were used with the gas analysis to calculate the exhaust flow rate and to calculate load.



Test Program: Three consecutive 35-minute gaseous emissions tests were performed for nitrogen oxides (NO_X), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), methane (CH₄), and total nonmethane hydrocarbons (TNMHC) at the engine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. A NO_X analyzer converter efficiency check was performed before the first test run and found to be greater than 90%.

Concurrent with the exhaust sampling, Blue Sky Environmental collected a total of three LFG samples from the engine header for CH_4 , CO_2 , O_2 , CO, N_2 , and BTU, F-Factor analysis. The samples were collected in Silco canisters and analyzed by Atmospheric Analysis and Consulting, Inc., located in Ventura, CA.

Sampling & Analytical Methods: The following U.S. Environmental Protection Agency (EPA) and ASTM International sampling methods and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O2 and CO2, Stack Gas Molecular Weight
EPA Method 7E	NO _X Emissions & NO ₂ Converter Efficiency
EPA Method 10	CO Emissions
EPA Method 4	Moisture
EPA Method 25A/ALT-078	CH4 & NMHC Emissions
EPA Method 19	Calculation of Stack Gas Flow Rate
ASTM D-1945/3588	Fuel Analysis for BTU and F-Factors
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)

EPA Method 1 – Sample and Velocity Traverses for Stationary Sources

This method is used to determine the duct or stack area and appropriate traverse points that represent equal areas of the duct for sampling and velocity measurements.

EPA Method 3A – Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure oxygen and carbon dioxide in stationary source emissions using a continuous instrumental analyzer to determine the molecular weight of the stack gas.

EPA Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_X analyzer NO_2 to NO conversion efficiency.

EPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources

This method is used to measure carbon monoxide from integrated or continuous gas samples extracted from a sampling point.

EPA Methods 3A, 7E and 10 are all continuous monitoring techniques using instrumental analyzers. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample, and analyzing it by continuous monitoring gas analyzers in a continuing emissions monitoring (CEM) test van. The sampling system consists of a stainless-steel sample probe, Teflon sample line, glass-



fiber particulate filter, and glass moisture-knockout condensers in ice, followed by thermoelectric coolers (optional), Teflon sample transfer tubing, a diaphragm pump, and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI is provided to each analyzer to avoid pressure variable response differences. The entire sampling system is leak checked prior to and at the end of the sampling program.

The sampling and analytical system is checked for linearity with zero, mid (40-60%) and high span (80-100%) calibrations and is checked for system bias at the beginning and end of each run. System bias is determined by introducing calibration gas to the probe and pulling it through the entire sampling system. Individual test run calibrations use the calibration gas that most closely matches the stack gas effluent. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. EPA Methods 3A, 7E and 10 all defer to EPA Method 7E for the calculations of effluent concentration, span, calibration gas, analyzer calibration error (linearity), sampling system bias, zero drift, calibration drift and response time.

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of a Honeywell DRP3000 strip chart recorder supported by a Data Acquisition System (DAS).

EPA Method 4 – Determination of Moisture Content in Stack Gas

This method is used to determine the moisture content of stack gas. The sample is extracted and condensed in Greenburg-Smith impingers immersed in an ice bath and in a final impinger silica gel trap. The moisture is condensed in a solution of de-ionized water, or solutions of another type of sampling train if the moisture is being determined as part of another sampling method, such as EPA Method 5 or EPA 12. The moisture gain in the impinger solutions and silica gel is determined volumetrically and gravimetrically respectively. <u>QA/QC</u> procedures require that a minimum of 21 cubic feet of sample is pulled using a leak tight pump. The sample volume is measured with a calibrated dry gas meter. The impingers are immersed in an ice bath to maintain a gas outlet temperature of less than 68°F. Pre-test leak checks are performed for each run using a minimum 15 inches of mercury vacuum. Post-test leak checks are performed at the highest sample vacuum or greater. The leak test is acceptable if the leak rate is less than 0.02 cubic feet per minute or 4% of the average sampling rate, whichever is less. If the final leak check exceeds the criteria, either the volume is corrected based on the leak rate or the run is voided and repeated.

EPA Method 25A/ALT-078 – Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer

This method is used to measure total hydrocarbons, methane, and non-methane hydrocarbons in stationary source emissions using a gas chromatograph with a flame ionization detector (GC/FID). Heated Teflon sample gas transfer lines are used to provide a continuous sample to the heated GC/FID hydrocarbon analyzer. Heated lines are used to avoid moisture or hydrocarbon condensation.

The sampling and analytical system is checked for linearity with zero, low (25-35%), mid (45-55%), and high (80-90%) span calibrations. All calibrations during testing are performed externally to incorporate any system bias that may exist. Sampling system bias, zero and calibration drift values are determined for each test. All data is corrected according to the method.



EPA Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates

This method is used to determine stack gas volumetric flow rates using oxygen-based F-factors. F-factors are ratios of combustion gas volumes to heat inputs. The heating value of the fuel in Btu per cubic foot is determined from analysis of fuel gas samples using ASTM D1946/1945 gas chromatography analytical procedures. The total cubic feet per hour of fuel multiplied times the Btu/cf provides million Btu per hour (MMBtu) heat input. The heat input in MMBtu/hr is multiplied by the F-factor (DSCF/MMBtu) and adjusted for the measured oxygen content of the source to determine volumetric flow rate. The flow rates are used to determine emission rates.

ASTM D1945 – Analysis of Natural Gas by Gas Chromatography

This method is used to measure fixed gases (such as oxygen, nitrogen, carbon monoxide, and carbon dioxide) and methane by gas chromatography (GC/TCD). Light hydrocarbons, including C1-C7, are analyzed by GC/FID.

ASTM D-3588 – Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels

This method uses the molar composition of gaseous fuel determined from Method ASTM D-1945 to calculate the heating value and F-factor.

EPA Method 25C – Determination of Nonmethane Organic Compounds (NMOC) in Landfill Gas

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO_2 are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO_2 then reduced to methane and analyzed.

Instrumentation: The following continuous emissions analyzers were used:

Instrument	Analyte	Principle
Servomex Model 1400	O_2	Paramagnetic
Servomex Model 1400	CO ₂	IR
TECO Model 42C	NO _X	Chemiluminescence
TECO Model 48C	СО	GFC/IR
TECO Model 55C	THC/CH ₄ /NMOC	FID



Emission Parameter	Average Results Engine #7 (S-11)	Permit Limits	Compliance Status
NO _x , ppm @ 15% O ₂	43.7		
NO _x , g/Bhp-hr	0.67	0.80	In Compliance
CO, ppm @ 15% O ₂	158.0		
CO, g/Bhp-hr	1.48	2.1	In Compliance
CH4, ppm @ 15% O2	874	3,000	In Compliance
TNMHC, ppm as CH4 @ 3% O2	74.8	120 Or	La Canaliana
TNMHC Removal Efficiency, %	>69.6%	<u>98%</u>	in Compliance

<u>**Test Results:**</u> The engine met all compliance emission criteria. The compliance summary is presented below. Detailed source test information is provided in Table 1.

Note: POC (Precursor Organic Compounds) and TNMHC (Total Non-Methane Hydrocarbons) are used synonymously -Condition 19933 Part 8

The appendices are organized as follows:

Calculations

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

Laboratory Reports

Laboratory reports and chains-of-custody.

Field Data Sheets

CEMS data and any transcribed data from the strip charts.

Process Information

Relevant and available facility process operating documentation.

Calibration Gas Certificates

Certifications for the calibration gas standards.

Equipment Calibrations

Calibration records for equipment used (e.g., S-type pitot tubes, dry gas meters, rotameters)

<u>Stack Diagram</u>

Sketch or photograph of the stack.

Sample System Diagram

Schematic of the sampling system configuration.

Permit / Authority to Construct

Permit to Operate / Authority to Construct.

Source Test Plan

Sampling protocols submitted to the BAAQMD prior to testing.



<u>Comments</u>: This source test was performed in accordance with the protocol submitted to the BAAQMD. No deviations from the protocol or anomalies were observed during the test.

The work performed herein was conducted under my supervision, and I certify that:

- a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program,
- b) that the sampling and analytical procedures and data presented in the report is authentic and accurate,
- c) that all testing details and conclusions are accurate and valid, and
- d) that the production rate and/or heat input rate during the source test are reported accurately.

If there are any questions concerning this report, please contact Jeramie Richardson at (810) 923-3181, Chuck Arrivas at (925) 338-4875 or Guy Worthington at (510) 508-3469.

Prepared by,

2 CAA

Anne Richardson

Reviewed by,

Juli be go-

Julie Wose-Jennings

TABLE #1

Sonoma Central Landfill Engine #7 (S-11)

800 kW Caterpillar Landfill Gas Engine

RUN	1	2	3	AVERAGE	LIMITS
Test Date	04/26/21	04/26/21	04/26/21		
Test Time	1010-1045	1108-1143	1214-1249		
Standard Temperature, °F	70	70	70	70	
Stack Exhaust Temperature, °F	788	785	787	787	
Engine (Generator) kW	785	790	790	788	
Engine BHp	1,052	1,059	1,059	1,056	
Fuel Flow Rate, SCFM	314	313	311	313	
Gas Fd-Factor @ 70°F	9,656	9,655	9,655	9,655	
Heat Input, MMBtu/day	212.2	211.9	210.8	211.6	252.6
Exhaust Flow Rate, DSCFM (EPA M19)	2,119	2,110	2,078	2,102	
Oxygen, $O_2\%$	6.9	6.8	6.7	6.8	6.4-8.3
Carbon Dioxide, CO ₂ %	12.4	12.5	12.5	12.5	
Carbon Dioxide, lbs/hr	1,795	1,794	1,780	1,790	
Water Vapor, H ₂ O %	12.7	13.0	13.5	13.1	
NOx, ppm	86.4	102.9	124.4	104.6	
NOx, ppm @ 15% O ₂	36.3	43.1	51.6	43.7	
NOx, lbs/hr	1.31	1.55	1.85	1.57	
NOx, lbs/MMBtu	0.148	0.176	0.210	0.178	
NOx, g/Bhp-hr	0.56	0.66	0.79	0.67	0.80
CO, ppm	367.2	376.6	389.7	377.8	
CO, ppm @ 15% O ₂	154.4	157.8	161.8	158.0	
CO, lbs/hr	3.38	3.45	3.52	3.45	
CO, lbs/MMBtu	0.383	0.391	0.401	0.392	
CO, g/Bhp-hr	1.46	1.48	1.51	1.48	2.1
THC, ppm (wet) (EPA M25A)	1879.8	1866.1	1861.7	1869.2	
THC, ppm (dry)	2,152.1	2,145.4	2,152.0	2,149.9	
THC, lbs/hr as CH ₄	11.3	11.2	11.1	11.2	
CH ₄ , ppm (wet) <i>(EPA M25A)</i>	1,828	1,815	1,810	1,818	
CH ₄ , ppm (dry)	2,093	2,087	2,092	2,091	
CH ₄ , ppm @ 15% O ₂	880	875	868	874	3,000
CH ₄ , lbs/hr	11.0	10.9	10.8	10.9	
TNMHC (POC), ppm as CH ₄ (wet) (EPA M25A)	51.5	50.7	51.7	51.3	
TNMHC (POC), ppm as CH ₄ (dry)	59.0	58.3	59.8	59.0	
TNMHC (POC), ppm as CH_4 (a) $3\%O_2$	75.2	74.2	75.3	74.9	120
TNMHC, lbs/hr as CH ₄	0.31	0.31	0.31	0.31	
TNMHC, g/Bhp-hr as CH ₄	0.13	0.13	0.13	0.13	
INLET TNMHC (POC) ppm as CH ₄ (EPA M25C)	1,369	1,183	1,258	1,314	>98% or
INLET TNMHC (POC) lbs/hr as CH ₄	1.068	0.918	0.971	1.019	120 ppm @
TNMHC (POC) Removal Efficiency	>70.9%	>66.7%	>68.2%	>69.6%	3% O ₂
INLET % CH ₄ (ASTM D-1945 & EPA M25C)	47.2	47.4	47.4	47.3	
INLET CH ₄ lbs/hr	368.1	367.7	365.8	367.0	
CH ₄ Removal Efficiency	>97.0%	>97.0%	>97.0%	>97.0%	
INLET THC (TOC) % as CH ₄	47.3	47.5	47.5	47.4	
INLET THC (TOC) lbs/hr as CH ₄	369.2	368.6	366.8	368.0	
THC (TOC) Removal Efficiency	>96.9%	>97.0%	>97.0%	>97.0%	

WHERE,

 $\begin{array}{l} ppm = Parts \ per \ Million \ Concentration \\ Lbs/hr = Pound \ per \ Hour \ Emission \ Rate \\ Tstd. = Standard \ Temp. (°R = °F+460) \\ MW = Molecular \ Weight \\ DSCFM = Dry \ Standard \ Cubic \ Feet \ per \ Minute \\ NOx = Oxides \ of \ Nitrogen \ as \ NO_2 \ (MW = 46) \\ CO = Carbon \ Monoxide \ (MW = 28) \\ TOC = THC = Total \ Organic \ Carbon \ as \ Methane \ (MW = 16) \\ THC = Total \ Norarise \ Carbon \ as \ Methane \ (MW = 16) \\ TNMHC = Total \ Non-Methane \ Hydrocarbons \ as \ Methane \ (MW = 16) \\ CH_4 = Methane \ (MW = 16) \\ POC = Precursor \ Organic \ Compounds \ as \ Methane \ (MW = 16) \\ CO_2 = Carbon \ Dioxide \ (MW = 44) \\ \end{array}$

CALCULATIONS,

 $\begin{array}{l} \label{eq:PPM} @ 15\% \ O_2 = ppm * 5.9 \ / \ (20.9 - \%O_2) \\ \mbox{PPM} @ 3\% \ O_2 = ppm * 17.9 \ / \ (20.9 - \%O_2) \\ \mbox{lbs/hr} = ppm * 8.223 \ E-05 * \ DSCFM * MW \ / \ Tstd. \ ^R \\ \mbox{lbs/day} = \ Lbs/hr * 24 \\ \mbox{lbs/MMBu} = \ Fd * \ MW * \ ppm \ x \ 2.59E-9 * \ 20.9 \ / \ (20.9 - \ \%O_2) \\ \mbox{Removal} \ Efficiency = \ 100^{\circ} \ (inlet \ lbs/hr - \ exhaust \ lbs/hr) \ / \ inlet \ lbs/hr \\ \mbox{Engine} \ BHp = \ Engine \ kW * \ 1.34 \\ \mbox{gm/BHp-hr} = \ Lbs/hr * \ 453.6 \ / \ BHp \\ \ TNMHC \ Detection \ Limit \ + \ 2\% \ of \ THC \ Value \\ \mbox{PPM} \ (dry) = \ PPM \ (wet) * \ 100 \ / \ (100 - \ H_2O\%) \end{array}$

Appendix F – Title V Semi-Annual Report

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE:	10 ACC28107 21	LANG T	FACILITY ID#:	1.0.0
SONOMA COU	INTY CENTRAL LA	ANDFILL		A2254
REPORTING PERIOD:	from	through	1.0.000.000	
	02/01/2020		07/31/2021	

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:

Nen

Signature of Responsible Official

8-26-2021

Date

Rob Sherman Name of Responsible Official (please print)

General Manager Title of Responsible Official (please print)

Mail to:

Director of Compliance and Enforcement BAAQMD 375 Beale Street, Suite 600 San Francisco, CA 94105 Attn: Title V reports

SONOMA COUNTY CENTRAL LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE:			FACILITY ID#:	
SONOMA COU	NTY CENTRAL LA	NDFILL		A2254
REPORTING PERIOD:	from	through		
	02/01/2020	_	07/31/2021	

List of Permitted Sources and Abatement Device in Title V Permit

Permit Unit Number	Equipment Description
S-#	Description
S-1	Landfill with Gas Collection System
S-15	Landfill Gas Compression Plant
S-22	Waste and Cover Material
S-23	Mobile Surface Equipment
A-3	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,	Lean Burn Internal Combustion Engines and Generator Sets
S-10, S-11, S-12, S-13,	
S-14	

Notes:

- Application Number (AN) 28194/Change of Permit Condition (COPC) issued 02/01/2017
 - Change in vertical wells and horizontal collectors. Increase number of components allowed for installation or decommissioning. These changes have not yet been incorporated into the Title V Permit.
- Application Number (AN) 28326/Change of Permit Condition (COPC) issued 07/24/2017
 - Added in operational requirements of the new A-4 Landfill Gas Flare as the replacement of the A-3 Landfill Gas Flare and incorporated changes from AN28194. These changes have not yet been incorporated into the Title V Permit.
- S-24 (Portable reciprocating engine, 195 hp, portable landfill truck tipper). This source is currently operating under a permit to operate (PTO) (Condition No. 26171) which has not yet been incorporated into the Title V Permit. All conditions have been reviewed for compliance, and the site is in compliance. However, note that PTO Condition 26171 Part 3 states that S-24 shall not operate more than 11 hours during any one day or 2,000 hours during any consecutive rolling 12-month period unless the owner/operator can demonstrate to the BAAQMD's satisfaction that the heat input to the engine has not exceeded 3,129 MMBTU during any consecutive rolling 12-month period. The S-24 tipper engine operated over its permitted operational hours during the semi-annual reporting period; however, the site has demonstrated below, using the default high heat

value (HHV) for propane of 0.091 MMBtu/gal and the daily and annual fuel usages, that the alternative heat input limits are well below the annual and daily heat input limits. Therefore, the facility believes compliance with the S-24 operational limits has been demonstrated based on this data.

Rolling 12-Month Propane Usage: 6,575.8 gallons Number of Operating Days: 311 days Average Daily Propane Usage: 21.1 gallons

6,575.8 gallons/yr × 0.091 MMBtu/gal = 598.4 MMBtu/yr (permit limit: 3,129 MMBtu/yr)

21.1 gallons/day × 0.091 MMBtu/gal = 1.92 MMBtu/day (permit limit: 17.2 MMBtu/day)

 Condition No 26507 – applies to all sources at the facility. This condition in the PTO has not yet been incorporated into the Title V permit. All conditions have been reviewed for compliance, and the site is in compliance.
Site: Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted Unit: Landfill Gas Compres 23 Mobile Surface Eg	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 SSION PLANT; S-22 WASTE AND COVER MATERIAL; S- DUIPMENT: A-3 LANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

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
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

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-1 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment: A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection	40 CFR 60.758(a),	Records	Periodic / On	40 CFR 60.753	For Inactive/Closed	Continuous	N/A
System	(d)(1) and (d)(2),		event basis	(a)(2) and 60.755	Areas: collection system		
Installation	and 60.759(a)(3)			(b)(2)	components must be		
Dates	and BAAQMD				installed and operating		
	Condition # 4044,				by 2 years + 60 days		
	Parts 19d, f, g				after initial waste		
					placement		
Collection	40 CFR 60.758(a),	Records	Periodic / On	40 CFR 60.753	For Active Areas:	Continuous	N/A
System	(d)(1) and (d)(2) and		event basis	(a)(1) and 60.755	Collection system		
Installation	BAAQMD			(b)(1)	components must be		
Dates	Condition # 4044,				installed and operating		
	Parts 19d, f, g				by 5 years + 60 days		
					after initial waste		
					placement		

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-1 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment: A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Flow	BAAQMD Condition	Gas Flow	Continuous	BAAQMD 8-34-301	Landfill gas collection	Intermittent	There were two landfill
	#4044, Part 11 and	Meter		and 301.1;	system shall operate		gas collection and
	Condition #19933,			BAAQMD Condition	continuously and all		control system (GCCS)
	Part 4			# 4044,	collected gases shall be		downtime events that
				Parts 4a, 5, 8, and 9;	vented to a properly		did not meet the
				BAAQMD Condition	operating control system		exemption criteria
				#19933, Parts 1 & 2			specified in Rule 8-34-
							113. These events
							included a blower
							shutdown resulting from
							the variable frequency
							drive (VFD), which
							resulted in a shutdown
							of the GCCS that
							occurred on February
							11, 2021 from 03:20 to
							06:34, and a loss of
							power due to a utility
							outage, which resulted
							in a shutdown of the
							GCCS that occurred on
							June 5, 2021 from 06:44
							to 06:54. These events
							were reported to the
							BAAQMD as reportable
							compliance activities
							(RCA) and breakdown
							relief was requested.

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-1 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment: A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

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

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-1 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment: A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection and	BAAQMD	Operating	Periodic / Daily	BAAQMD 8-34-	240 hours per year and	Continuous	N/A
Control	8-34-501.1 and	Records		113.2	5 consecutive days		
Systems	BAAQMD Condition						
Shutdown	# 4044, Part 19i						
Time							
Collection	40 CFR 60.7(b),	Operating	Periodic / Daily	40 CFR 60.755(e)	5 days per event for	Continuous	N/A
System Startup	60.757(f)(2) and	Records (all			collection system or 1		
Shutdown or	(f)(4)	occurrences			hour for control system		
Malfunction		and duration					
		of each)					
Periods of	BAAQMD	Operating	Periodic / Daily	BAAQMD 1-523.2	\leq 15 consecutive days	Continuous	N/A
Inoperation for	1-523.4	Records for			per incident and		
Parametric		All			\leq 30 calendar days per		
Monitors		Parametric			12-month period		
		Monitors					
Continuous	40 CFR 60.7(b)	Operating	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous	Continuous	N/A
Monitors		Records for			Operation except for		
		All			breakdowns, repairs,		
		Continuous			calibration, and required		
		Monitors			span adjustments		
Wellhead	BAAQMD	Monthly	Periodic / Monthly	BAAQMD 8-34-	< 0 psig	Continuous	N/A
Pressure	8-34-414, 501.9 and	Inspection		305.1			
	505.1	and Records					

Site: Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted Unit: Landfill Gas Compres 23 Mobile Surface Eg	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 SSION PLANT; S-22 WASTE AND COVER MATERIAL; S- DUIPMENT: A-3 LANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Wellhead	40 CFR	Monthly	Periodic / Monthly	40 CFR 60.753(b)	< 0 psig	Continuous	N/A
Pressure	60.755(a)(3),	Inspection					
	60.756(a)(1), and	and Records					
	60.758(c) and (e)						
Temperature of	BAAQMD	Monthly	Periodic / Monthly	BAAQMD 8-34-	< 55 °C (< 131 °F),	Continuous	N/A
Gas at	8-34-414, 501.9 and	Inspection		305.2			
Wellhead	505.2	and Records					
Temperature of	40 CFR	Monthly	Periodic / Monthly	40 CFR 60.753(c)	< 55 °C	Continuous	N/A
Gas at	60.755(a)(5),	Inspection					
Wellheads	60.756(a)(3), and	and Records					
	60.758(c) and (e)						
Gas	BAAQMD	Monthly	Periodic / Monthly	BAAQMD	N ₂ < 20% OR O ₂ < 5%	Continuous	N/A
Concentration	8-34-414, 501.9 and	Inspection		8-34-305.3 or 305.4			
at Wellhead	505.3 or 505.4	and Records					
Gas	40 CFR	Monthly	Periodic / Monthly	40 CFR 60.753(c)	N2 < 20% OR O ₂ < 5%	Continuous	N/A
Concentration	60.755(a)(5),	Inspection					
at Wellhead	60.756(a)(2), and	and Records					
	60.758(c) and (e)						
Well Shutdown	BAAQMD	Records	Periodic / Daily	BAAQMD 8-34-	No more than 5 wells at	Continuous	N/A
Limits	8-34-116.5 and			116.2	a time or 10% of total		
	501.1				collection system,		
					whichever is less		
Well Shutdown	BAAQMD	Records	Periodic / Daily	BAAQMD 8-34-	< 24 hours per well	Continuous	N/A
Limits	8-34-116.5 and			116.3			
	501.1						

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-1 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment: A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

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 Com- pounds Plus Methane)	BAAQMD 8-34-501.6 and 503	Quarterly Inspection of collection and control system components with OVA and Records	Periodic / Quarterly	BAAQMD 8-34- 301.2	Component Leak Limit: < 1000 ppmv as methane	Continuous	N/A

Site: Sonoma County Ce	ntral Landfill	Facility ID#:	A225	54
Permitted Unit: S-1 Landfill Landfill Gas Compression Plant; S- 23 Mobile Surface Equipment; A-3 L	WITH GAS COLLECTION SYSTEM; S-15 22 WASTE AND COVER MATERIAL; S- ANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
тос	BAAQMD	Monthly	Periodic /	BAAQMD 8-34-303	Surface Leak Limit:	Continuous	N/A
	8-34-415, 416,	Visual	Monthly,		< 500 ppmv as methane		
	501.6, 506 and 510	Inspection of	Quarterly, and on		at 2 inches above		
		Cover,	an Event Basis		surface		
		Quarterly					
		Inspection					
		with OVA of					
		Surface,					
		Various					
		Reinspec-					
		tion Times					
		for Leaking					
		Areas, and					
		Records					

Site: Sonoma County Central Landfill	Facility ID#: A2254
Permitted Unit: S-1 Landfill with Gas Collection System; S-15 Landfill Gas Compression Plant; S-22 Waste and Cover Material; S- 23 Mobile Surface Equipment; A-3 Landfill Gas Flare	Reporting Period: from 02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TOC	40 CFR	Monthly	Periodic /	40 CFR 60.753(d)	<500 ppmv as methane	Continuous	N/A
	60.755(c)(1), (4) and	Visual	Monthly,		at 5-10 cm from surface		
	(5), 60.756(f), and	Inspection of	Quarterly, and on				
	60.758(c) and (e)	Cover,	an Event Basis				
		Quarterly					
		Inspection					
		with OVA of					
		Surface,					
		Various					
		Reinspection					
		Times for					
		Leaking					
		Areas, and					
		Records					
Non-Methane	BAAQMD	Initial and	Periodic / Annual	BAAQMD 8-34-	> 98% removal by	Continuous	N/A
Organic Com-	8-34-412 and 8-34-	Annual		301.3	weight		
pounds	501.4 and BAAQMD	Source			OR		
(NMOC)	Condition # 4044,	Tests			< 30 ppmv,		
	Parts 17 and 19m				dry basis @ 3% O2,		
					expressed as methane		
NMOC	40 CFR 60.8 and	Initial Source	Periodic	40 CFR 60.752(b)	98% removal by weight	Continuous	N/A
	60.752(b)	Test and		(2)(iii)(B)	OR		
	(2)(iii)(B) and 60.758	Records			< 20 ppmv dry @ 3%		
	(b)(2)(ii)				O2, expressed as		
					hexane		

Site: Sonoma County Central Landfill	Facility ID#: A2254	4
Permitted Unit: S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15	Reporting Period: from	02/01/2021 through 07/31/2021
23 MOBILE SURFACE EQUIPMENT; A-3 LANDFILL GAS FLARE		

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
NOx	BAAQMD Condition	Annual	Periodic / Annual	BAAQMD Condition	0.05 lb/MMBTU (as	Continuous	N/A
	# 4044,	Source Test		# 4044,	NO2)		
	Part 17			Part 11			
СО	BAAQMD Condition	Annual	Periodic / Annual	BAAQMD Condition	0.20 lb/MMBTU	Continuous	N/A
	# 4044,	Source Test		# 4044,			
	Part 17			Part 12			
Temperature of	BAAQMD	Temperature	Continuous	BAAQMD Condition	CT > 1400°F	Continuous	N/A
Combustion	8-34-501.3 and 507	Sensor and		# 4044,			
Zone (CT)	and BAAQMD	Recorder		Part 10			
	Condition # 4044,	(continuous)					
	Parts 16 and 19I						
Temperature of	40 CFR 60.756(b)(1)	Temperature	Continuous	40 CFR 60.758	CT (3-hour average)	Continuous	N/A
Combustion	and 60.758	Sensor and		(c)(1)(i)	> (CT _{PF} – 28 °C),		
Zone (CT)	(b)(2)(i)	Recorder			where CT _{PF} is the		
		(measured			average combustion		
		every 15			temperature during the		
		minutes and			most recent complying		
		averaged			performance test		
		over					
		performance					
		test time					
		period and					
		3-hours)					

Site: Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted Unit: Landfill Gas Compres 23 Mobile Surface Eg	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 SSION PLANT; S-22 WASTE AND COVER MATERIAL; S- DUIPMENT: A-3 LANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
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
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

Site: Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted Unit: Landfill Gas Compres 23 Mobile Surface Eg	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 SSION PLANT; S-22 WASTE AND COVER MATERIAL; S- DUIPMENT: A-3 LANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Amount of	None	N/A	None	BAAQMD 8-40-117	Soil Contaminated by	Continuous	N/A
Accidental					Accidental Spillage of		
Spillage					< 5 Gallons of Liquid		
					Organic Compounds		
Total Aeration	BAAQMD Condition	Records	Periodic / On	BAAQMD 8-40-118	< 150 pounds VOC per	Continuous	N/A
Project	# 4044, Part 20I		Event Basis		project and toxic air		
Emissions					contaminant emissions		
					per year < BAAQMD		
					Table 2-1-316 limits		N1/A
Contaminated	BAAQMD Condition	Records	Periodic / On	BAAQMD Condtion	Limited to 2 on-site	Continuous	N/A
Soil Handling	# 4044, Part 20I		Event Basis	# 4044, Part 20d	transfers per lot of		
					contaminated soil		N1/A
Contaminated	BAAQMD Condition	Records	Periodic / On	BAAQMD Condtion	If organic content is:	Continuous	N/A
Soil On-Site	# 4044, Part 20I		Event Basis	# 4044, Part 20e-f	< 500 ppmw,		
Storage Time					storage time < 90 days		
					> 500 ppmw,		
					storage time < 45 days	A 11	ΝΙ/Δ
Opacity	BAAQMD Condition	Records of	Periodic / On	BAAQMD 6-1-301	Ringelmann No. 1	Continuous	N/A
	# 4044, Part 19n-o	Dust	event basis		for ≤ 3 minutes/hr		
		Suppressant					
		and Water					
		Application					Ν/Δ
Opacity	None	N/A	None	BAAQMD 6-1-301	Ringelmann No. 1	Continuous	IN/A
					for < 3 minutes/hr		

Site:	Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted	Unit:	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-1	Reporting Period:	from	02/01/2021 through 07/31/2021
LANDFILL GAS	S COMPRES	SSION PLANT; S-22 WASTE AND COVER MATERIAL; S-			
23 MOBILE SU	JRFACE EQ	UIPMENT; A-3 LANDFILL GAS FLARE			

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
FP	None	N/A	None	BAAQMD 6-310	0.15 grains/dscf (applies to FlareA-3)	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
Amount of Waste Accepted	BAAQMD Condition # 4044, Part 19a-c	Records	Periodic / Daily	BAAQMD Condition # 4044, Part 1	< 2500 tons/day (except for temporary situations approved by the LEA) and < 897,500 tons/year	Continuous	N/A
Total Amount of Waste and Cover Materials	BAAQMD Condition # 4044, Part 19c	Records	Periodic / Monthly	BAAQMD Condition # 4044, Part 1	< 32.65 E6 yd ³ and < 19.59 E6 tons	Continuous	N/A
SO ₂	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: < 0.5 ppm for 3 minutes and < 0.25 ppm for 60 min. and <0.05 ppm for 24 hours	Continuous	N/A

Site: Sonom	a County Central Landfill	Facility ID#:	A225	54
Permitted Unit: Landfill Gas Compres 23 Mobile Surface Eg	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 SSION PLANT; S-22 WASTE AND COVER MATERIAL; S- DUIPMENT: A-3 LANDFILL GAS FLARE	Reporting Period:	from	02/01/2021 through 07/31/2021

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
SO ₂	BAAQMD Condition	Sulfur	Periodic / Annual	BAAQMD	< 300 ppm (dry basis)	Continuous	N/A
	# 4044, Parts 18 and	analysis of		Regulation 9-1-302			
	19m	landfill gas					
		and Records					
H ₂ S	None	N/A	None	BAAQMD 9-2-301	Property Line Ground	Continuous	N/A
					Level Limits:		
					< 0.06 ppm,		
					averaged over 3 minutes		
					and < 0.03 ppm,		
					averaged over 60		
					minutes		
Total Sulfur	BAAQMD Condition	Sulfur	Periodic / Annual	BAAQMD Condition	< 1300 ppmv	Continuous	N/A
Content in	# 4044, Parts 18 and	analysis of		# 4044, Part 7			
Landfill Gas	19m	landfill gas					
Toxic Air	BAAQMD Condition	Annual	Periodic / Annual	BAAQMD Condition	Benzene < 2.5 ppmv	Continuous	N/A
Contaminants	# 4044, Part 18	Source Test		# 4044, Part 6	Trichloroethylene < 3.0 ppmv		
in Collected					Perchloroethylene < 3.0 ppmv		
Landfill Gas					Methylene Chloride<20.0ppmv		
					Vinyl Chloride < 2.5 ppmv		
Periods of	BAAQMD 1-523.4	Operating	Periodic / Daily	BAAQMD 1-523.2	15 consecutive	Continuous	N/A
Inoperation for		Records for			days/incident and		
Parametric		All			30 calendar days/12		
Monitors		Parametric			month period		
		Monitors					

Site: Sond	ma County Central Landfill	Facility ID#:	A2254		
Permitted Unit: Landfill Gas Compi 23 Mobile Subface	S-1 LANDFILL WITH GAS COLLECTION SYSTEM; S-15 RESSION PLANT; S-22 WASTE AND COVER MATERIAL; S- FOLIPMENT: A-3 LANDELL GAS FLARE	Reporting Period:	: from 02/01/2021 through 07/31/2021		

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Continuous	40 CFR 60.7(b)	Operating	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous	Continuous	N/A
Monitors		Records for			Operation except for		
		All			breakdowns, repairs,		
		Continuous			calibration, and required		
		Monitors			span adjustments		
Heat Input	BAAQMD Condition	Monthly and	Periodic / Monthly	BAAQMD Condition	< 547,680 MM BTU per	Continuous	N/A
	#4044,	Annual	/ Annual	#4044,	year		
	Part 13	Records		Part 13			

Site:	Sonoma	a County	/ Central Land	fill	Facility ID#:		A225	4
Permitted	Unit:	S-4, S-5,	S-6, S-7, S-9, S-	10, S-11, S-12, S-13, S-	Reporting Peri	od:	from	02/01/2021 through 07/31/2021
14 LEAN BURI	N INTERNAL	COMBUST	TION ENGINES AND	GENERATOR SETS				

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TSP	None	N/A	None	BAAQMD 6-301	Ringelmann No. 1	Continuous	N/A
TSP	None	N/A	None	BAAQMD 6-310	0.15 grains/dscf	Continuous	N/A
TOC (Total Organic Com-pounds Plus Methane)	BAAQMD 8-34-501.6 and 8- 34-503	Quarterly Inspection and Records	Periodic / Quarterly	BAAQMD 8-34- 301.2	1000 ppmv as methane (component leak limit)	Continuous	N/A
Non- Methane Organic Com-pounds (NMOC)	BAAQMD 8-34-412 and 8-34- 501.4 and BAAQMD Condition #19933, Part 8	Initial and Annual Source Tests and Records	Periodic / Annual	BAAQMD 8-34- 301.4	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane	Continuous	N/A
NMOC	BAAQMD Condition #24894, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition # 19933, Part 6	< 120 ppmv dry @ 3% O2, expressed as methane (S-13, S-14: when fired by biogas fuel)	Continuous	N/A
POC	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition # 19933, Part 7	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane	Continuous	N/A
SO ₂	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: < 0.5 ppm for 3 minutes, < 0.25 ppm for 60 minutes & < 0.05 ppm for 24 hours	Continuous	N/A

Site: Sonoma County Central Landfill Facility ID#: A2254									
Permitted 14 Lean Buri	Unit: S-4, S-5, S	S-6, S-7, S-9, S-10 ON ENGINES AND G), S-11, S-12, S-1 ENERATOR SETS	3, S-	Reporting	Period: from 02	/01/202	21 through 07/3	31/2021
Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit		Limit		Compliance	Corrective Actions Taken
SO ₂	BAAQMD Condition # 4044, Parts 15 and 17m	Sulfur Analysis of landfill gas	Periodic / Annual	BAAQMD 9-1-302		300 ppm (dry)		Continuous	N/A
H ₂ S	None	N/A	None	BAA	QMD 9-2-301	1 Property Line ground level limits < 0.06 ppm Averaged over 3 minutes and < 0.03 ppm Averaged over 60 minutes		Continuous	N/A
Total Sulfur Content in Landfill Gas	BAAQMD Condition # 4044, Parts 15 and 17m	Sulfur Analysis of landfill gas	Periodic / Annual	BAA Conc Part	QMD dition # 4044, 7	< 1300 ppmv		Continuous	N/A
NOx	None	N/A	None	BAA 9-8-3	QMD 301.2	Fossil Fuel Gas, Lean-Burn 140 ppmv dry @ 15% O2		Continuous	N/A
NO _x	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAA 302.1	QMD 9-8- 1	Waste Fuel Gas, Lean-E 140 ppmv dry @ 15% O	3urn 2	Continuous	N/A
NOx	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAA Conc 1993 Part	QMD dition # 33, 5	0.80 grams per brake horsepower hour (g/bhp	-hr)	Continuous	N/A
NOx	BAAQMD Condition #24894, Part 8	Annual Source Test	Periodic / Annual	BAA Conc 2489 Part	QMD dition # 04, 4	0.80 grams per brake horsepower hour (g/bhp 13, S-14: when fired by biogas fuel)	-hr) (S-	Continuous	N/A
CO	None	N/A	None	BAA 9-8-3	QMD 301.3	Fossil Fuel Gas: 2000 ppmv dry @ 15% (02	Continuous	N/A
СО	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAA 302.3	QMD 9-8- 3	Waste Fuel Gas: 2000 p dry @ 15% O ₂	opmv	Continuous	N/A

Site: Sonoma County Central Landfill Facility ID#: A2254								
Permitted	Unit: S-4, S-5,	S-6, S-7, S-9, S-1	0, S-11, S-12, S-1	3, S-	Reporting	g Period: from 02/01/202	21 through 07/	31/2021
14 LEAN BUR	N INTERNAL COMBUSTI	ON ENGINES AND G	SENERATOR SETS					
Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit		Limit	Compliance	Corrective Actions Taken
СО	BAAQMD Condition #19933, Part 8	Annual Source Test	Periodic / Annual	BAAQMD Condition #19933, Part 6		2.1 g/bhp-hr	Continuous	N/A
СО	BAAQMD Condition #24894, Part 8	Annual Source Test	Periodic / Annual	BAA Conc 2489 Part	QMD dition # 94, 5	2.1 grams per brake horsepower hour (g/bhp-hr) (S- 13, S-14: when fired by biogas fuel)	Continuous	N/A
Heat Input	BAAQMD Condition #19933, Part 9a-e	Records	Periodic / Daily	BAA Conc # 199 Part	QMD dition 933, 10	Limits for each engine: < 252.6 MM BTU/day And < 92,199 MM BTU/year	Continuous	N/A
Emission Control System Shutdown Time	BAAQMD 8-34-501.2 and BAAQMD Condition #19933, Part 9a	Records	Periodic / Daily	BAA 8-34	QMD -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	BAA 8-34	QMD -301.4	98% removal by weight OR < 120 ppmv dry @ 3% O2, expressed as methane (as demonstrated by proper exhaust oxygen content range)	Continuous	N/A
Natural Gas Usage	BAAQMD Condition #19933, Part 9a-c	Records	Periodic / Daily	BAAQMD Condition # 19933, Part 3		Prohibited when flare is operating and unless it is needed as supplemental fuel	Continuous	N/A
Gas Flow	BAAQMD Condition #19933, Part 4	Gas Flow Meter (per engine)	Continuous	BAA 8-34 301	QMD -301 and 1:	Vent all collected gases to a properly operating control system and operate control	Continuous	N/A

Site:	Sonoma County	Central Landfil		Fac	Facility ID#: A2254					
Permitted 14 LEAN BUR	Unit: S-4, S-5, S-4, S-5, S-5, S-4, S-5, S-5, S-5, S-5, S-5, S-5, S-5, S-5	S-6, S-7, S-9, S-10 ON ENGINES AND G), S-11, S-12, S-1 SENERATOR SETS	3, S- Rep	orting	Period: from 02/01/202	21 through 07/3	31/2021		
Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit		Limit	Compliance	Corrective Actions Taken		
				BAAQMD Condition # 19933, Parts 1 & 2		system continuously.				
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		