

Vasco Road Landfill 4001 N. Vasco Road, Livermore, CA 94551 o 925.447.0491 republicservices.com

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Director 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

Subject: Combined NESHAP Semi-Annual Report, Bay Area Air Quality Management District Regulation 8, Rule 34, 40 Code of Federal Regulations (CFR) Subpart AAA Semi-Annual Report, and Title V Semi-Annual Monitoring Report Vasco Road Landfill, Livermore, California (Title V Facility No. A5095)

Dear Sir or Madam:

Vasco Road, LLC is pleased to submit the enclosed combined Bay Area Air Quality Management District (BAAQMD), Regulation 8, Rule 34 (8-34) Semi-Annual Report; Semi-Annual Startup, Shutdown and Malfunction (SSM) Plan Report, National Emissions Standards for Hazardous Air Pollutants (NESHAP) Semi-Annual 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 (USEPA) Region IX for the Vasco Road Landfill (Vasco).

The Title V Semi-Annual Monitoring Report, the BAAQMD Rule 8-34 Semi-Annual Report and the SSM Plan Report, and NESHAP cover the period from August 1, 2022 through January 31, 2023.

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

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

If you have any questions regarding this submittal, please do not hesitate to reach Antonia Gunner at (619) 201-3764 or agunner@republicservices.com or Maria Bowen at (619) 455-9518 or mbowen@scsengineers.com.

Sincerely,

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Josh Mills General Manager Vasco Road Landfill

cc: Antonia Gunner, Vasco Maria Bowen, SCS Engineers Meghan Caesar, SCS Engineers

NESHAP/NSPS/BAAQMD Rule 8-34 Semi-Annual Report, SSM Plan Semi-Annual Report, and Title V Semi-Annual Report Vasco Road Landfill Livermore, California (Title V Facility No. 5095)

Prepared for:



Republic Services Vasco Road, LLC 4001 N. Vasco Road Livermore, CA 94551

For Submittal to:

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



01204082.06 Task 5 | February 2023

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/National Emission Standards for Hazardous Air Pollutants (NESHAP) Report, the Semi-Annual Startup, Shutdown, and Malfunction (SSM) Plan Report, and the Title V Semi-Annual Monitoring Report for the Vasco Road Landfill in Livermore, California, dated February 2023, was prepared and reviewed by the following:

Meghan Caesar Project Professional SCS ENGINEERS

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SECTION I. NSPS/BAAQMD RULE 8-34 SEMI-ANNUAL REPORT

1.0 INTRODUCTION

On behalf of Republic Services Vasco Road, LLC, SCS Engineers (SCS) hereby submits this New Source Performance Standard (NSPS) Semi-Annual/National Emission Standards for Hazardous Air Pollutants (NESHAP) Report of information and Bay Area Air Quality Management District (BAAQMD or District) Rule 8-34 Semi-Annual Report and Semi-Annual Start-up, Shutdown, and Malfunction (SSM) Plan Report for Vasco Road Landfill (Vasco Road or Landfill) for the period of August 1, 2022 through January 31, 2023 to the BAAQMD.

1.1 UPDATED NESHAP 40 CFR 63, SUBPART AAAA

As of June 21, 2021, the facility complies with the new Emission Guidelines (EG) requirements in California. The approved state plan for the EG includes compliance with Title 17 California Code of Regulations (CCR) Sections 95460 to 95476, known as AB 32 Landfill Methane Rule (LMR) and specific portions of 40 CFR Part 62 Subpart 000.

Due to the site's permitted design capacity being over the 2.5 million Megagram/2.5 million cubic meter limits and having an uncontrolled non-methane organic compound (NMOC) content exceeding 50 Megagrams per year (mg/year), the major compliance provisions of Subpart WWW and OOO were replaced as of September 27, 2021 by the NESHAP 40 CFR 63, Subpart AAAA requirements, which essentially implement and enhance provisions of 40 CFR 60, Subparts XXX (which were updated NSPS for Municipal Solid Waste (MSW) landfills promulgated in 2016) as well as removing the SSM Plan requirements. However, because the Title V Permit references Subpart WWW and SSM, this semi-annual report will continue to include Subpart WWW and SSM requirements. References to Subpart WWW and SSM will be removed from all reports after a new Title V Permit is issued removing references to Subpart WWW and updating applicable regulations, or we otherwise obtain approval from the BAAQMD to only comply with the new requirements.

For the reporting period from August 1, 2022 through January 31, 2023, this Semi-Annual Report complies with the sections specified in Subpart WWW, 40 CFR 60.757(f), and Subpart AAAA, 40 CFR 63.1981(h), which describes the items to be submitted in an annual report for landfills using an active collection system. Moreover, this report also includes SSM reporting as it is listed in the Title V Permit, even though it is no longer contained in NESHAP Subpart AAAA. In accordance with NESHAP 40 CFR 63, Subpart AAAA, this report is submitted semi-annually. This report includes a certification signed by a Responsible Official which is provided in **Appendix A**.

2.0 SITE BACKGROUND INFORMATION

Vasco Road is located in Livermore, California and is owned and operated by Republic Services Vasco Road, LLC. The MSW landfill is located on Vasco Road about three miles north of Interstate 580 in an unincorporated portion of eastern Alameda County north of the City of Livermore. The Landfill lies within the Northern Diablo Range along the Altamont Anticline. The Landfill was permitted in 1962 and began accepting waste circa 1963. The 323-acre site is currently in operation, accepting nonhazardous solid waste and inert waste.

2.1 EXISTING AIR PERMITS

Vasco Road maintains a BAAQMD permit to operate (PTO) (Plant No. 5095), which includes conditions for the wellfield, collection system, and flare station (Condition No. 818). Permit Condition 818 incorporates all applicable requirements from NSPS Subpart WWW and BAAQMD Rule 8-34, which are addressed in this report. Vasco Road also maintains a Title V Permit (Facility No. A5059), which was most recently renewed in February 4, 2019. The current permit is a Title V revision permit issued on November 6, 2019, expiring in February 3, 2024.

As discussed above, the permit incorporates the new EG requirements and specific parts of Subpart OOO which became effective June 21, 2021 and NESHAP which became effective September 27, 2021. As allowed by the regulations, Vasco has complied with the Subpart AAAA provisions in lieu of the equivalent Subpart OOO provisions. As the new rules are in effect, they are being implemented by the Landfill, and applications for the Title V Modification to add the new rule elements and remove the old NSPS Subpart WWW removed will be submitted accordingly.

A Gas Collection and Control System (GCCS) Design Plan was prepared for the site to review and determine the adequacy of the existing landfill gas (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 USEPA 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 Vasco Road 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 from collection system components.

A LFG to energy (LFGTE) facility, which is permitted by the BAAQMD separately from Vasco Road as Facility No. 20432, has been the primary control system for Vasco Road's collected LFG since it began commercial operation in 2012. The LFGTE facility is owned and operated by Ameresco Vasco Road, LLC (Ameresco). The flare station, which is operated and maintained by Republic Services Vasco Road, LLC, consists of one enclosed flare (A-4) which acts as a supplementary emission control and/or backup control devices in the event that the LFGTE facility goes offline.

In the event the LFGTE facility and the LFG flare go off-line concurrently, an automatic valve is actuated that prevents LFG flow to the control systems. As a result, LFG flow from the collection system ceases entirely, such that there is no free-venting of uncombusted LFG to the atmosphere.

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

3.0 REPORTING REQUIREMENTS

The following information is required to be reported in a semi-annual report:

NSPS Subpart WWW	Updated NESHAP Subpart AAAA
40 CFR 60.757(f), (g)	40 CFR 63.1981(h), (i), (j), (k), (l)
Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).	Number of times that applicable parameters monitored under 40 CFR 63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under 40 CFR 63.1958(e), including periods of SSM.
Description and duration of all periods when the gas stream is diverted from the control device.	Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 63.1961.
Description and duration of all periods when the control device was not operating for more than 1 hour.	Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.
All periods when the collection system was not operating in excess of 5 days.	All periods when the collection system was not operating.
The location of each 500 ppmv methane exceedance, and the concentration recorded at each location for which an exceedance was recorded in the previous month.	The location of each exceedance of the 500-ppm methane concentration as provided in 40 CFR 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755 paragraphs (a)(3), (b), and (c)(4).	The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 63.1960(a)(3) and (4), (b), and (c)(4).
Required information of the initial performance source test report pursuant to 40 CFR 60.757(g).	Required information of the initial performance source test report pursuant to 40 CFR 63.1981(i).
-	For any corrective action analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted.

Table 1. Reporting Requirements, Corresponding Regulatory References

NSPS Subpart WWW	Updated NESHAP Subpart AAAA
40 CFR 60.757(f), (g)	40 CFR 63.1981(h), (i), (j), (k), (l)
	Each owner or operator required to conduct enhanced monitoring in 40 CFR 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.
	Where an owner or operator subject to the provisions of subpart 40 CFR 63.1981(k) seeks to demonstrate compliance with the operational standard for temperature in § 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then you must report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of the measurement.
-	Beginning no later than September 27, 2021, the owner or operator must submit reports electronically according to paragraphs 40 CFR 63.1981(I)(1) and (2) of this section.
-	Submit semi-annual CMS summary reports including required items listed in 40 CFR 63.10(e)(3)(vi)

3.1 MONITORED PARAMETERS

The following information is required to be monitored:

Table 2.	Monitored Parameters, Corresponding Regulatory References
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NSPS Subpart WWW	Updated NESHAP Subpart AAAA
40 CFR 60.756(a), (b), (c), (d)	40 CFR 63.1961(a), (b), (f)
Vacuum applied to the extraction wells via the gas collection header is monitored on a monthly basis. A vacuum must be maintained at each wellhead to be in compliance with 40 CFR 60.753 (b).	Vacuum applied to the extraction wells via the gas collection header is monitored on a monthly basis. A vacuum must be maintained at each wellhead to be in compliance with 40 CFR 63.1961 (a)(1).

NSDS Subpart W/W/W	Undated NESHAD Subpart AAAA
NSPS Subpart WWW	Updated NESHAP Subpart AAAA
40 CFR 60.756(a), (b), (c), (d)	40 CFR 63.1961(a), (b), (f)
Nitrogen or oxygen content of LFG at the wellheads is monitored on a monthly basis. Nitrogen must be less than 20 percent (%) or oxygen less than five (5) % to comply with 40 CFR 60.753 (c).	Nitrogen or oxygen content of LFG at the wellheads is monitored on a monthly basis.
Temperature of the LFG at the wellheads is monitored on a monthly basis. Temperature must be maintained below 55 degrees C (131 degrees F) to comply with 40 CFR 60.753 (c).	Temperature of the LFG at the wellheads is monitored on a monthly basis. Temperature must be maintained below 62.8 degrees C (145 degrees F) to comply with 40 CFR 63.1961(a)(3).
A temperature or flame presence monitoring device with a continuous recorder, and a gas flow rate measuring device, which records flow at least once every 15 minutes, must be installed at the flare station. The temperature/flame presence and LFG flow rate monitoring data are used to determine the amount of time the LFG collection and control systems are on-line and to ensure compliance with the minimum temperature requirement for enclosed flares. The flare monitoring devices must be operating continuously to comply with 40 CFR 60.756 (b) and to show that the flare is on-line at any time that the collection system is operating (in compliance with 40 CFR 60.753 (e) and (f)).	A temperature or flame presence monitoring device with a continuous recorder, and a gas flow rate measuring device, which records flow at least once every 15 minutes, must be installed at the flare station. The temperature/flame presence and LFG flow rate monitoring data are used to determine the amount of time the LFG collection and control systems are on- line and to ensure compliance with the minimum temperature requirement for enclosed flares. The flare monitoring devices must be operating continuously to comply with 40 CFR 63.1961(b) and to show that the flare is on-line at any time that the collection system is operating (in compliance with 40 CFR 63.1958 (e) and (f)).
Landfill surface emissions monitoring was performed on a quarterly basis to measure concentrations of total organic carbon (TOC) as methane. A portable flame ionization detector (FID) organic vapor analyzer, which meets NSPS specifications, was used to measure concentrations of TOC as methane (in compliance with 40 CFR 60.756(f).	Landfill surface emissions monitoring was performed on a quarterly basis to measure concentrations of TOC as methane. A portable FID organic vapor analyzer, which meets NSPS specifications, was used to measure concentrations of TOC as methane (in compliance with 40 CFR 63.1961(f)).
The landfill surface was inspected at least monthly for evidence of cracks or other surface integrity issues, in accordance with 40 CFR 60.755(c)(5). Per 40 CFR 60 758(c)(1)(i), the	The landfill surface was inspected at least monthly for evidence of cracks or other surface integrity issues, in accordance with 40 CFR 63.1960(c)(5). Per 40 CFR 63.1983(c)(1)(i), the
average temperature of the flare	average temperature of the flare for a

NSPS Subpart WWW	Updated NESHAP Subpart AAAA
40 CFR 60.756(a), (b), (c), (d)	40 CFR 63.1961(a), (b), (f)
for a 3-hour time period cannot fall below 28 °C (50 °F) less than the average operation temperature based on the most recent source test except during periods of SSM.	3-hour time period cannot fall below 28 °C (50 °F) less than the average operation temperature based on the most recent source test. Please note, continuous monitoring of temperature monitoring is required at all times except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (in compliance with 40 CFR 63.1961(h)).

3.1.1 Gas Extraction System Downtime

During the reporting period, the LFG extraction system was off-line on multiple occasions for a total of 119.33 hours. All 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, except as noted.

The typical operating scenario involves the LFGTE facility acting as the primary control device and the A-4 Flare acting as backup or supplemental control. In addition, if the LFGTE facility goes offline unexpectedly in the middle of the night, LFGTE facility staff must drive to the site and perform inspection and maintenance of their system prior to the LFGTE facility and/or LFG flare re-starting, as re-starting these control systems without someone first inspecting or conducting maintenance on these systems could cause damage to the systems. Republic staff are alerted each time the LFGTE facility goes offline, and during each shutdown, Republic staff are in close communications with LFGTE facility staff regarding their inspections and maintenance of the LFGTE facility system and their estimates on when the GCCS can be brought back online. During the reporting period, there were three shutdown events reported to the BAAQMD as combined Reportable Compliance Activity (RCA) Notifications and Requests for Breakdown Relief. Subsequent BAAQMD and Title V reporting submittals were completed within the required timeframes.

A summary of the GCCS downtime for this reporting period is provided in **Table 3a**, 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.

3.1.2 Emission Control System Downtime

A-4 Flare

During the reporting period, the flare was off-line on several occasions. A summary of A-4 Flare downtime is provided in **Table 3b**, including the date, reason for the downtime, and the total elapsed time for each event. Note that the LFGTE facility acts as the primary control device and the majority of collected LFG is sent to this facility. As a result, the flare has been offline on a regular basis. In

the event the LFGTE facility shuts down, or additional control is required, the flare acts as a backup control device. In the event the LFGTE facility and the flare go offline concurrently, the collection system will automatically shut down resulting in the entire GCCS going offline. During the reporting period, the flare was offline for approximately 3,701.97 hours. Emission control system downtime records are available for review at the site.

As previously noted, whenever the LFGTE facility and the flare are offline concurrently, LFG flow to the control systems is automatically stopped. Therefore, during this reporting period, there were no instances during which LFG flow passed through the control devices uncontrolled (i.e., free venting), and the collected LFG stream was never diverted from the control devices.

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 (both engines were offline concurrently). 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. Five (5) wells were taken off-line during the reporting period due to active fill. Two (2) wells were abandoned and no new wells were started up during the reporting period.

Pursuant to permit condition No. 818, Part 2b, the owner/operator must notify the District of expected installation or decommissioning dates prior to commencing any component alterations. On September 30 and November 30, 2022, Well Decommissioning Notification Letters were submitted to the BAAQMD for the decommissioning the wells.

Details of individual well shutdown and well startups occurring during the reporting period are provided in **Table 4**. Please see the Semi-Annual SSM Report included as Section II of this report for additional details.

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 the flare and the flare combustion temperature. As required by Rule 8-34, the A-4 Flare is equipped with a flow measuring device and a temperature gauge that provide continuous readout displays using digital chart recorders. During the reporting period, the flow meter and temperature gauge/recorder 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

Vasco Road is required by permit condition No. 818, Part 5 to operate the flare (A-4) in such a manner that the combustion zone temperature within the flare does not drop below the permitted limit of 1,402 degrees Fahrenheit (°F) (averaged over a 3-hour period) or a higher or lower

temperature based on the most recent source test. From August 1, 2022 through January 31, 2023, the minimum temperature above which the flare was required to operate was 1,426°F (source test results of 1,476°F minus 50°F), based on the source test (conducted on March 29, 2022) results in the test report dated May 12, 2022.

During the reporting period, the average temperature for the A-4 Flare did not drop below the established minimum temperatures. From August 1, 2022 through January 31, 2023, there were zero (0) missing data events for the flare during the reporting period, except for periods excluded per 40 CFR 63.1961.

Please note the new NESHAP minimum temperature requirement is 82°F below the most recent source test. Due to Vasco's Title V permit still including the WWW requirement of 50°F below the most recent source test, the most stringent requirement was used for this report.

Flare temperature records are available for review at the site. Excerpts from the May 12, 2022 source test report, summarizing the test results for the flare were provided as Appendix D in the February 1, 2022 through July 31, 2022 Semi-Annual Report submitted to BAAQMD on August 31, 2022.

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 (ppm_v), 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 and calibration records are provided in **Appendix D** and are available for review at the site.

3.2.1 Third Quarter 2022 Monitoring

SCS Field Services (SCSFS) conducted the component leak testing of the wellfield and flare station on July 13, 2022. No component leaks above 1,000 ppm_v were detected in the wellfield or at the flare station during the Third Quarter 2022 monitoring event.

3.2.2 Fourth Quarter 2022 Monitoring

SCSFS conducted the component leak testing of the wellfield and flare station on October 14, 2022. No component leaks above 1,000 ppm^v were detected in the wellfield or at the flare station during the Fourth Quarter 2022 monitoring events.

3.3 CONTROL EFFICIENCY

LFG Flare A-4 was also tested on March 29, 2022 to demonstrate compliance with the control efficiency standard of 98 percent NMOC destruction efficiency or outlet concentration of 30 ppm_v of NMOC as methane (for flares) as required by BAAQMD Rules 8-34-301.3, 8-34-412, 8-34-501.4, and Condition Number 818, Part 20. The NMOC destruction efficiency for the March 2022 source test was measured to be >99.37 percent by weight and the NMOC as methane concentration in the flare outlet was <3.9 ppmv. As such, flare A-4 is in compliance with the aforementioned rules and permit condition by meeting the exhaust ppmv limit.

Excerpts from the March 2022 source test report dated May 12, 2022, summarizing the test results, were provided in the previous semi-annual report.

3.4 LANDFILL SURFACE EMISSIONS MONITORING

Surface emissions monitoring (SEM) was conducted at Vasco Road 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**. Records of SEM are available for review at the site.

3.4.1 Third Quarter 2022 Monitoring

SCSFS technicians monitored the landfill surface for leaks with a methane concentration of greater than 500 ppm_v above background on July 12, and 13, 2022. There were four (4) surface emissions monitoring results which exceeded the threshold of 500 ppm_v were detected during the Third Quarter 2022 monitoring event. SCSFS field technicians performed appropriate corrective actions. SCSFS completed the 10-day re-monitoring event occurred on July 22, 2022, all locations were under the 500 ppmv threshold. The 30-day follow-up monitoring event occurred on August 11, 2022 and the locations remained in compliance. The monitoring results are provided in the Third Quarter 2022 SEM report (**Appendix D**).

3.4.1 Fourth Quarter 2022 Monitoring

SCSFS monitored the landfill surface for leaks with a methane concentration of greater than 500 ppm_v above background on October 12, 14, 17, and 18, 2022. Surface emissions in excess of 500 ppm_v was detected at three (3) locations during the Fourth Quarter 2022 monitoring event. The location of the exceedances and associated methane concentrations are provided in the Fourth Quarter 2022 SEM report (**Appendix D**).

SCSFS field technicians performed appropriate corrective actions, including flow increases to the surrounding extraction wells and borehole repairs. SCSFS completed the 10-day re-monitoring event for this location on October 21, 2022. All the locations were under the 500 ppm_v threshold and thus back in compliance. SCSFS performed the 1-month re-monitoring event, as required by NSPS/NESHAP, on May 5, 2022, and all locations remained in compliance.

3.5 WELLHEAD MONTHLY MONITORING

Monthly wellhead monitoring for pressure, temperature, and oxygen content was conducted by SCSFS from August 2022 through January 2023 to comply with BAAQMD Rules 8-34-305 and 8-34-414. The results of this monitoring are summarized below. Wellhead exceedances are provided in **Table 5, 6, and 7.**

Please note that during the reporting period, all wells were monitored.

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 Rules 8-34-305 and 8-34-414. The dates when wells were operating with positive pressure, and the well identification number, correction corrective actions, and re-monitoring results for these wells are provided in **Table 5.** Corrective action and re-monitoring were performed in accordance with the 5- and 15-day requirements specified in the NSPS/NESHAP regulations and in Rule 8-34.

Four (4) wells demonstrated positive pressure readings beyond 15 days and therefore required additional corrective actions and recordkeeping.

Per 40 CFR 63.1960(a)(3)(i), a "root cause analysis" (RCA) is required if pressure exceedances cannot be corrected in 15 days. An additional "corrective action analysis" (CAA) and notification is required for corrective actions that require more than 60 days to complete. At the end of the reporting period, all wells with positive pressure were corrected within the 120-day timeframe. No wells were operating with positive pressure at the end of the reporting period. See **Appendix F** for RCA forms, CAA forms, and 75-day notifications.

As of the end of this reporting period, all wells were operating with negative pressure in accordance with 8-34-305 and 8-34-414.

As of the end of the previous reporting period, wells VEW2204B, VRLRW003, and VRLRW004 were operating with positive pressure. These wells returned to compliance or were abandoned during this reporting period.

3.5.2 Oxygen

Vasco Road has elected to use oxygen as its compliance standard under Rule 8-34-305, rather than nitrogen. Per Vasco Road's PTO Condition No. 818, Part 3b(ii), the oxygen concentration limit does not apply to the wells listed below, provided that the oxygen concentration in the LFG at the main header does not exceed five percent oxygen by volume (dry basis) and the methane concentration in the LFG at the main header is greater than 35 percent by volume (dry basis). The oxygen Higher Operating Value (HOV) is approved for wells: EW-9 (VRLFEW09), EW-27 (VRLFEW27), EW-31A (VRLFEW31A), EW- 33A (VRLEW33A), and EW- 41R (VRLFEW41).

Pursuant to Title V Permit Condition 818, Part 3c(i-iv) the four vertical leachate recirculation wells (VRLRW001, VRLRW002, VRLRW003, and VRLRW004), and two vertical LFG extraction wells (VR12GT4R and VR12GT05) operate on a non-continuous basis and are subject to an alternative oxygen wellhead standard. Oxygen concentrations in these wells may not exceed 15 percent by volume. The wells may be disconnected from the vacuum system if the oxygen concentration is above 15 percent or the temperature is greater than 131°F.

The majority of the wells were operating within the regulatory limit of five (5) percent oxygen 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 6**.

As of the end of this reporting period, all of the operating wells were operating with an oxygen concentration below the 5 or 15 percent limit except for wells VREW122A and VR12GT03. These wells will be returned to below the 5 percent limit as specified in BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report. Note under Subpart AAAA, which

took effect September 27, 2021, oxygen above 5 percent is no longer an exceedance, but under BAAQMD Rule 8-34-414 and Subpart WWW it still is, and the Landfill will continue to follow these requirements.

As of the end of the previous reporting period, wells VRLFEW19, VRLEW38A, and VREW2108 were operating with an oxygen concentration above the 5 percent limit. These wells returned to compliance or were abandoned during this reporting period.

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 No. 818, Part 3b(i) in Vasco Road's BAAQMD PTO allows Vasco Road to operate wells EW- 9 (VRLFEW09), EW- 33A (VRLEW33A), and EW-44 (VRLFEW44) at an alternative temperature of 140°F. Subpart AAAA allows wellhead temperatures up to 145°F.

The majority of wells were operating within their respective limits of 131°F or 140°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, corrective actions, and re-monitoring results for these wells are provided in **Table 7**.

As of the end of the reporting period, all the active wells were operating with temperature limits below their respective limits except for well VREW2104. This well will be returned to below the 131°F or 140°F limit as specified in BAAQMD Rule 8-34-414, and compliance will be documented in the next semi-annual report.

As of the end of the previous reporting period, wells VREW2103, and VREW2104 were operating with a temperature higher than 131 °F. These wells returned to compliance during this reporting period. A higher operating value request of 150 °F was submitted on September 1, 2021 for wells VREW2103, VREW2104, VREW2106, VREW2107, VREW2108, and VREW2109. Vasco Road is currently awaiting a response from the USEPA on the request as of the submittal of this report.

Per 40 CFR 63.1960(a)(4)(i), an RCA is required if temperature exceedances cannot be corrected in 15 days. An additional CAA and notification is required for corrective actions that require more than 60 days to complete. At the end of the reporting period, wells VEW2204B, VREW2103, and VREW2104 could not be corrected within 15 days and RCAs were required. Moreover, well VREW2104 could not be corrected within 60 days and CAA and 75-day notifications were required. See **Appendix F** for RCA forms, CAA forms, and 75-day notifications.

Moreover, please note that there were no wells with temperature readings over 145°F, so no enhanced monitoring was required under Subpart AAAA.

3.6 COVER INTEGRITY MONITORING

Under BAAQMD Rule 8-34-510 and the NSPS/NESHAP, 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 in conjunction with the wellhead monitoring on August 19, September 18, October 11, November 30, and December 5, 2022, as well as January 4, 2023 using procedures specified in the GCCS Design Plan. The observations during these monitoring events indicated the landfill surface was in good

condition. In the event visual evidence suggested otherwise, the surface will be promptly repaired. Records of cover integrity monitoring are available for review upon request.

3.7 GAS GENERATION ESTIMATE AND MONTHLY LANDFILL GAS FLOW RATES

The Vasco Road GCCS has been operating under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) as of November 19, 2014.

Pursuant to Application Number (A/N) 26049 Condition 818 Part 1 (b), the owner/operator may operate the A-4 Flare on a less than continuous basis. If the three-month rolling average of LFG methane content exceeds 50 percent, the owner/operator shall attempt to restart the A-4 Flare within one week of discovery of this excess. If the restart is successful, the A-4 Flare shall operate continuously until the remaining amount of LFG available for flaring is less than 800 standard cubic feet per minute (scfm) or the equivalent heat input rate for this excess LFG is less than 24 million British thermal units per hour (MMBTU/hour). The rolling average methane content is currently being calculated using the average of the inlet readings collected onsite.

3.8 ANNUAL WASTE ACCEPTANCE RATE AND REFUSE IN PLACE

Vasco Road is an active landfill that continues to accept refuse for disposal. From August 1, 2022 through January 31, 2023, the site accepted 215,153.07 tons of decomposable waste and cover material, resulting in a cumulative waste-in-place total of 18,896,202.36 tons as of January 31, 2023.

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.

3.9 24 HOUR HIGH TEMPERATURE

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

3.10 TREATMENT SYSTEM MONITORING PLAN

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

SECTION II. SSM PLAN REPORT

As mentioned previously, Vasco Road is subject to 40 CFR Part 63, Subpart AAAA, the NESHAPS for MSW Landfills. Vasco Road maintains a SSM Plan which documents the procedures for operating and maintaining the affected elements of the GCCS during startup, shutdown, and malfunction (SSM). The SSM events that occurred during the reporting period of August 1, 2022 through January 31, 2023 are documented in this section.

During the reporting period, there were fourteen (25) SSM events involving shutdown of the entire GCCS. All of these startup/shutdown events were associated with a malfunction of the GCCS.

During the reporting period, there were seven (7) SSM events involving the wellfield as two (2) wells were permanently decommissioned due to poor gas quality, zero (0) new wells were started up, and five (5) wells were temporarily offline due to active fill operations. There were no malfunctions of any of the wellfield components during the reporting period.

During the reporting period, there were no planned startups/shutdowns or malfunctions of LFG monitoring equipment (e.g. flow measuring/recording device, temperature measuring/recording device).

In each case described above, the SSM Plan was successfully implemented. Specific information regarding these SSMs are included in Tables 3a (GCCS Downtime), 3b (A-4 Flare Downtime), and 4 (Individual Well Startup, Shutdown, and Decommissions).

No revisions were made to the SSM Plan during this reporting period. A copy of the SSM Plan and all revisions/addenda are kept on file at the facility for at least five (5) years and are available to appropriate regulatory agency personnel for inspection.

SECTION III. TITLE V SEMI-ANNUAL REPORT

As specified in 40 Code of Federal Regulation (CFR) Part 70, reports of any required monitoring must be submitted at least every 6 months. All instances of deviations from permit requirements for the semi-annual reporting period, specified in the Landfill's Initial Title V Permit as August 1 through January 31 and February 1 through July 31, must be clearly identified in each report. This Title V Report covers the August 1, 2022 through January 31, 2023 reporting period.

This report has been prepared based on Table 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 D**.

Tables

Table 3a. GCCS Downtime Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

GCCS Shutdown	Restarted	Downtime Hours	Reason for Downtime	Corrective Actions Taken
8/22/22 10:37	8/22/22 11:04	0.45	Planned shutdown of flare to restart engines	Plant restarted
9/14/22 10:50	9/14/22 13:40	2.83	Planned shutdown of flare to restart engines	Plant restarted
9/15/22 9:44	9/15/22 10:26	0.70	Planned shutdown of flare to restart engines	Plant restarted
9/27/22 13:21	9/27/22 14:42	1.35	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
9/29/22 11:38	9/29/22 12:57	1.32	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
9/29/22 14:47	9/29/22 15:45	0.97	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
9/30/22 23:28	10/1/22 0:42	1.23	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
10/6/22 17:16	10/6/22 19:04	1.80	Proactive shutdown due to electrical issue	Engine started
10/25/22 12:24	10/25/22 17:48	5.40	Proactive shutdown due to engine maintenance	Engine started
11/23/22 8:56	11/23/22 10:35	1.65	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
11/23/22 13:29	11/23/22 14:24	0.92	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
12/1/2022 22:48	12/2/2022 8:29	9.68	Unplanned shutdown due to oxygen levels, parametric shutdown	Engine started
12/13/2022 10:08	12/13/2022 14:04	3.93	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
12/13/2022 14:19	12/13/2022 14:31	0.20	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
12/16/2022 11:22	12/16/2022 11:46	0.40	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
12/18/2022 14:53	12/18/2022 17:16	2.38	Shutdown due to engine maintenance/repair	Engine started
12/28/2022 9:43	12/28/2022 11:03	1.33	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Engine started
12/31/2022 14:21	1/3/23 10:06	67.75	Unplanned shutdown due to utility outage	Engine started, RCA ID 08P84 / 08P85 submitted to BAAQMD*
1/4/23 1:52	1/4/2023 9:42	7.83	Shutdown due to TSA/H2S/siloxane removal	Flare started
1/5/2023 9:36	1/5/2023 9:58	0.37	Shutdown due to engine maintenance/repair	Engine started
1/16/2023 4:13	1/16/23 10:58	6.75	Unplanned shutdown due to utility outage, extreme weather	Flare started, RCA ID 08Q09 / 08Q10 submitted to BAAQMD*
1/27/2023 8:47	1/27/23 8:52	0.08	Unplanned shutdown due to low flow, parametric monitor (flow meter)	Flare started
	Total:	119.33		

Notes:

*Reportable Compliance Activity (RCA) notifications were submitted to BAAQMD to request breakdown relief for event. All subsequent reporting was completed within the required timeframes.

TSA = temperature swing adsorption, H2S = hydrogen sulfide, HVAC = Heating, Ventilation, and Air Conditioning

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.

Table 3b. Flare (A-4) DowntimeVasco Road Landfill, Livermore, California(August 1, 2022 through January 31, 2023)

Shutdown	Startup	Downtime Hours	Reason for Downtime*
8/1/22 0:00	8/1/22 8:02	8.03	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/1/22 12:06	8/4/22 7:32	67.43	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/4/22 9:10	8/4/22 9:24	0.23	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/4/22 12:32	8/6/22 14:24	49.87	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/12/22 17:24	8/15/22 11:18	65.90	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/15/22 13:56	8/17/22 9:34	43.63	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/17/22 14:30	8/17/22 22:34	8.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/17/22 22:56	8/19/22 8:42	33.77	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/19/22 8:46	8/19/22 8:56	0.17	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/19/22 9:20	8/19/22 9:28	0.13	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/19/22 12:36	8/22/22 8:28	67.87	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/22/22 8:40	8/22/22 8:52	0.20	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/22/22 8:56	8/22/22 10:44	1.80	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/22/22 13:58	8/22/22 14:12	0.23	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/22/22 14:52	8/23/22 8:54	18.03	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/23/22 10:54	8/23/22 11:04	0.17	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/23/22 12:24	8/24/22 9:52	21.47	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/24/22 13:14	8/30/22 8:18	139.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/30/22 9:10	8/30/22 9:26	0.27	Automatic shutdown due to flame failure, preventative parametric shutdown.
8/30/22 9:38	9/6/22 9:14	167.60	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/6/22 9:26	9/13/22 8:20	166.90	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/13/22 8:36	9/14/22 10:50	26.23	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/14/22 13:40	9/14/22 13:48	0.13	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/14/22 14:04	9/15/22 9:44	19.67	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/15/22 10:26	9/15/22 10:34	0.13	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/15/22 10:42	9/19/22 18:32	103.83	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/19/22 20:34	9/20/22 7:56	11.37	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/20/22 8:26	9/20/22 8:34	0.13	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/20/22 10:42	9/20/22 12:18	1.60	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/20/22 12:36	9/27/22 13:34	168.97	Automatic shutdown due to flame failure, preventative parametric shutdown.
9/27/22 14:56	9/30/22 23:46	80.83	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/3/22 6:04	10/3/22 7:08	1.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/3/22 7:12	10/3/22 7:16	0.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/6/22 17:16	10/7/22 10:30	17.23	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/7/22 13:00	10/12/22 7:54	114.90	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/15/22 0:22	10/15/22 1:00	0.63	Automatic shutdown due to flame failure, preventative parametric shutdown.

Table 3b. Flare (A-4) Downtime Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

Shutdown	Startup	Downtime Hours	Reason for Downtime*
10/17/22 11:50	10/17/22 11:54	0.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/17/22 14:08	10/17/22 14:12	0.07	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/17/22 22:20	10/18/22 6:08	7.80	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/18/22 6:26	10/18/22 6:42	0.27	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/21/22 6:50	10/21/22 7:18	0.47	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/21/22 7:22	10/21/22 7:52	0.50	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/22/22 19:54	10/22/22 22:54	3.00	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/22/22 23:04	10/22/22 23:14	0.17	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/23/22 18:20	10/23/22 19:14	0.90	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/23/22 23:30	10/24/22 7:58	8.47	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/24/22 12:58	10/25/22 12:22	23.40	Automatic shutdown due to flame failure, preventative parametric shutdown.
10/25/22 17:56	11/16/22 8:32	518.60	Automatic shutdown due to flame failure, preventative parametric shutdown.
11/17/22 2:56	11/17/22 7:12	4.27	Automatic shutdown due to flame failure, preventative parametric shutdown.
11/17/22 12:02	11/21/22 15:02	99.00	Automatic shutdown due to flame failure, preventative parametric shutdown.
11/21/22 18:32	11/21/22 18:54	0.37	Automatic shutdown due to flame failure, preventative parametric shutdown.
11/22/22 23:36	11/30/22 11:04	179.47	Automatic shutdown due to flame failure, preventative parametric shutdown.
11/30/22 17:34	12/13/22 10:16	304.70	Automatic shutdown due to flame failure, preventative parametric shutdown.
12/13/22 11:04	12/13/22 11:28	0.40	Automatic shutdown due to flame failure, preventative parametric shutdown.
12/13/22 11:40	12/13/22 11:52	0.20	Automatic shutdown due to flame failure, preventative parametric shutdown.
12/13/22 14:22	12/16/22 11:22	69.00	Automatic shutdown due to flame failure, preventative parametric shutdown.
12/16/22 12:12	12/28/22 9:52	285.67	Automatic shutdown due to flame failure, preventative parametric shutdown.
12/28/22 11:10	1/3/23 10:06	142.93	Automatic shutdown due to flame failure, preventative parametric shutdown.
1/4/23 1:52	1/11/23 8:46	174.90	Automatic shutdown due to flame failure, preventative parametric shutdown.
1/11/23 8:56	1/16/23 10:58	122.03	Automatic shutdown due to flame failure, preventative parametric shutdown.
1/16/23 16:32	1/19/23 15:58	71.43	Automatic shutdown due to flame failure, preventative parametric shutdown.
1/20/23 9:04	1/27/23 8:52	167.80	Automatic shutdown due to flame failure, preventative parametric shutdown.
1/27/23 11:32	2/1/23 0:00	108.47	Automatic shutdown due to flame failure, preventative parametric shutdown.
To	tal	3,701.97	

Notes:

¹The A-4 flare was offline at the beginning and end of the reporting period. For reporting purposes, downtime is calculated as of August 1, 2022 at 0:00 and continuing through February 1, 2023 at 0:00, respectively.

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

A-4 flare operated during all instances when the flow rate to the power generating facility was less than 1,200 scfm, in accordance with PTO Condition 818 Part 1(a). In addition, the A-4 flare only operated intermittently when the conditions in Part 1(b) were met.

All events where the entire GCCS was offline listed involved GCCS inspection and/or maintenance activities prior to start up (or as soon as feasible following programmed startups) in accordance with Rule 8-34-113 requirements and the BAAQMD Compliance Advisory for Municipal Solid Waste Landfills, dated November 5, 2018.

Table 4. Individual Well Startups, Shutdowns and Decommissions Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

Well ID	Shutdown	Start-up	Days Offline	Reason for Shutdown	
VREW0110	N/A	N/A	N/A	Well not read in January due to safety/accessibility concerns in active filling area.	
VREW0901	N/A	N/A	N/A	Well not read in October - January due to safety/accessibility concerns in active filling area.	
VREW0907	N/A	N/A	N/A	Well not read in October - January due to safety/accessibility concerns in active filling area.	
VREW2004	N/A	N/A	N/A	Well not read in January due to safety/accessibility concerns in active filling area.	
VREW2109	N/A	N/A	N/A	Well not read in May - July due to safety/accessibility concerns in active filling area.	
VREW2110	N/A	N/A	N/A	Well not read October - January due to safety/accessibility concerns in active filling area.	
VRLEW2108	8/22/2022	N/A	N/A	Well abandoned.	
VRLEW93A	11/21/2022	N/A	N/A	Well abandoned.	

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

Table 5. Wells with Positive Pressure Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

Well ID	Date	Initial Static Pressure ("H ₂ O)	Adjusted Static Pressure ("H ₂ O)	· · · · · · · · ·	Corrective Action	15-Day Follow- Up Pressure ["H2O]	15-Day Follow-Up Date	Comments	Additional Corrective Action
VRLEW111	10/10/2022	1.58	2.41	10/10/2022	Adjusted Valve	-3.21	10/18/2022	Surging in header, cleared 10/18/22	N/A
VRLEW111*	11/2/2022	5.96	6.68	11/2/2022	Adjusted Valve	13.98	11/11/2022	Header vacuum loss, cleared 1/5/23	RCA, CAA
VRLEW113	9/13/2022	3.95	3.96	9/13/2022	Adjusted Valve	-11.22	9/21/2022	Header vacuum loss, cleared 9/21/22	N/A
VRLEW117	9/13/2022	0.45	0.45	9/13/2022	Adjusted Valve	-11.07	9/21/2022	Header vacuum loss, cleared 9/21/22	N/A
VRLFEW44	9/15/2022	0.05	-0.49	9/15/2022	Adjusted Valve	-0.64	9/26/2022	Cleared 9/15/22	N/A
VRLFEW88	9/15/2022	0.12	-0.47	9/15/2022	Adjusted Valve	-0.61	9/26/2022	Cleared 9/15/22	N/A
VEW2204B*	9/14/2022	0.66	0.7	9/14/2022	Adjusted Valve	0.66	9/29/2022	Cleared 10/31/22	RCA
VREW2003	1/4/2023	-0.43	0.11	1/5/2023	Adjusted Valve	-2.02	1/5/2023	Cleared 1/5/23	N/A
VREW2104	9/14/2022	0.51	0.51	9/14/2022	Adjusted Valve	-2.59	9/29/2022	Header vacuum loss, cleared 9/29/22	N/A
VREW2108	8/22/2022	-0.06	0.01	N/A	N/A	N/A	N/A	Well abandoned	N/A
VREW2109	9/14/2022	1.17	1.17	9/14/2022	Adjusted Valve	-0.36	9/28/2022	Header vacuum loss, cleared 9/28/22	N/A
VREW2112	1/4/2023	0.57	0.58	1/4/2023	Adjusted Valve	-2.32	1/17/2023	Header vacuum loss, cleared 1/17/23	N/A
VRLRW002	9/13/2022	3.41	3.42	9/13/2022	Adjusted Valve	-10.41	9/21/2022	Header vacuum loss, cleared 9/21/22	N/A
VRLRW003*	9/1/2022	6.16	6.18	9/1/2022	Adjusted Valve	6.03	9/6/2022	Header vacuum loss, cleared 9/21/22	RCA
VRLRW004*	9/1/2022	6.28	6.28	9/1/2022	Adjusted Valve	5.99	9/6/2022	Header vacuum loss, cleared 9/21/22	RCA

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

*Exceedance was not corrected in 15 days. Compliance will be achieved by the 120-day compliance dates specified above.

RCA = Root Cause Analysis, CAA = Corrective Action Analysis, 75-day = 75-Day Notification or request for additional time.

Table 6. Wells with Oxygen Exceedance Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

Well ID	Date	Initial O2 [%]	5-Day Corrective Action Date	Corrective Action	Adjusted O2 [%]	15-Day Follow-Up Date	Comments
VRLEW110	8/4/2022	8.8	8/4/2022	Adjusted Valve	0	8/24/2022	Cleared 8/4/2022
VRLEW111	1/5/2023	11.5	1/5/2023	Adjusted Valve	2.8	1/17/2023	Cleared 1/5/2023
VREW122A	1/31/2023	22.8	1/31/2023	Adjusted Valve	22.9	TBD	Remained in exceedance at end of reporting period
VR12LR01	11/2/2022	7.7	11/2/2022	Adjusted Valve	4	11/21/2022	Cleared 11/2/2022
VR12LR01	12/20/2022	6.7	12/20/2022	Adjusted Valve	5.2	1/5/2023	Cleared 1/5/2023
VRLEW134	8/17/2022	17.8	8/17/2022	Adjusted Valve	17.7	8/25/2022	Cleared 9/13/2022
VRLEW134	10/18/2022	6.8	10/18/2022	Adjusted Valve	6.5	11/1/2022	Cleared 11/1/2022
VRLEW136	9/14/2022	21.3	9/14/2022	Adjusted Valve	21.3	9/28/2022	Cleared 10/10/2022
VRLEW139	8/1/2022	20.2	8/1/2022	Adjusted Valve	20.3	8/11/2022	Cleared 9/13/2022
VRLEW139	10/10/2022	11.2	10/10/2022	Adjusted Valve	11.3	10/18/2022	Cleared 11/7/2022
VRLEW139	11/21/2022	12.9	11/21/2022	Adjusted Valve	13	12/2/2022	Cleared 12/2/2022
VRLEW147	10/10/2022	14.5	10/10/2022	Adjusted Valve	14.2	10/18/2022	Cleared 11/7/2022
VRLEW147	11/21/2022	6.6	11/21/2022	Adjusted Valve	6.9	12/2/2022	Cleared 12/2/2022
VRLEW161	8/22/2022	12.2	8/22/2022	Adjusted Valve	17.8	9/6/2022	Cleared 9/6/2022
VRLFEW19	8/1/2022	5.7	8/23/2022	Adjusted Valve	0	8/23/2022	Cleared 8/23/2022
VRLFEW19	9/15/2022	20.7	9/15/2022	Adjusted Valve	19.9	9/28/2022	Cleared 10/6/2022
VRLFEW19	10/24/2022	19.8	10/24/2022	Adjusted Valve	2	11/11/2022	Cleared 10/24/2022
VRLFEW19	12/9/2022	6.3	12/9/2022	Adjusted Valve	3.7	12/21/2022	Cleared 12/9/2022
VRLFEW19	12/21/2022	10.8	12/21/2022	Adjusted Valve	10.6	1/5/2023	Cleared 1/5/2023
VRLFEW30	12/21/2022	17.1	12/21/2022	Adjusted Valve	2.4	1/10/2023	Cleared 12/21/2022
VRLEW38A	8/24/2022	9.1	8/24/2022	Adjusted Valve	7.6	9/6/2022	Cleared 9/6/2022
VRLEW38A	10/6/2022	7.2	10/6/2022	Adjusted Valve	7.2	10/18/2022	Cleared 10/18/2022
VRLFEW92	11/21/2022	22.4	11/21/2022	Adjusted Valve	4.9	12/2/2022	Cleared 11/21/2022
VRLEW93A	8/1/2022	15.7	8/1/2022	Adjusted Valve	15.8	8/11/2022	Well abandoned on 11/29/2022
VR12GT03	11/2/2022	13.7	11/2/2022	Adjusted Valve	14	11/21/2022	Cleared 11/21/2022
VR12GT03	12/20/2022	7.9	12/20/2022	Adjusted Valve	6.2	1/4/2023	Cleared 1/4/2023
VR12GT03	1/17/2023	12.6	1/17/2023	Adjusted Valve	9.8	TBD	Remained in exceedance at end of reporting period
VR12GT05	10/24/2022	15.7	10/24/2022	Adjusted Valve	15.1	11/2/2022	Oxygen HOV 15%, cleared 11/21/2022
VREW2108	8/4/2022	16.3	8/4/2022	Adjusted Valve	15.8	8/22/2022	Cleared 8/24/2022
VREW2113	8/1/2022	7.6	8/1/2022	Adjusted Valve	15.2	8/11/2022	Cleared 8/19/2022
VREW2113	9/14/2022	13.2	9/14/2022	Adjusted Valve	14.3	9/21/2022	Cleared 9/21/2022
VREW2120	9/13/2022	8.8	9/13/2022	Adjusted Valve	8.8	9/13/2022	Cleared 11/1/2022
VREW2203	12/2/2022	7.7	12/2/2022	Adjusted Valve	7.4	12/13/2022	Cleared 12/13/2022
VREW2203	12/20/2022	7.8	12/20/2022	Adjusted Valve	9.9	1/4/2023	Cleared 1/4/2023

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

*Exceedance remains at end of reporting period. Compliance will be achieved by the 120-day compliance dates specified above.

Table 7. Wells with Temperature Exceedance Vasco Road Landfill, Livermore, California (August 1, 2022 through January 31, 2023)

Well ID	Date	Initial Temperature [°F]	Adjusted Temperature [°F]	5-Day Corrective Action Date	Corrective Action	15-Day Follow- Up Temperature [°F]	15-Day Follow-Up Date	Comments	Additional Corrective Action
VEW2204B	10/6/2022	139.4	139.2	10/6/2022	Adjusted Valve	139.7	10/31/2022	Cleared 11/2/22	RCA
VREW2103	8/4/2022	133.6	133.7	8/4/2022	Adjusted Valve	125.4	8/24/2022	Cleared 8/24/22, HOV request submitted	RCA
VREW2104	10/6/2022	134.1	133.9	10/6/2022	Adjusted Valve	130.7	10/25/2022	Cleared 10/25/22, HOV request submitted	RCA
VREW2104	11/22/2022	140.9	140.9	11/22/2022	Adjusted Valve	139.0	12/2/2022	Remained in exceedance at end of reporting period, HOV request submitted	RCA, CAA, 75-day
VREW2106	11/10/2022	131.7	130.8	11/10/2022	Adjusted Valve	128.7	11/22/2022	Cleared 11/10/22, HOV request submitted	N/A
VREW2107	11/10/2022	137.0	61.0	11/10/2022	Adjusted Valve	129.9	11/22/2022	Cleared 11/10/22, HOV request submitted	N/A

Note: All required corrective action and remonitoring was completed in accordance with Rule 8-34 and NSPS/NESHAP timelines. *Exceedance not corrected within 15 days. Compliance will be achieved by the 60 or 120-day compliance dates specified above.

RCA = Root Cause Analysis, CAA = Corrective Action Analysis, 75-day = 75-Day Notification or request for additional time. HOV = Higher Operating Value.

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:

02/24/2023

Signature of Responsible Official

Date

Josh Mills

Name of Responsible Official

Appendix B – Existing GCCS Layout



Appendix C – LFGTE Facility Downtime Logs



Vasco Monthly SSM Report

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Туре	Cause	Reason	Maintenance
1	7/31/22 23:16	8/1/22 0:15	0:59	44774	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	8/4/22 7:24	8/4/22 8:31	1:07	44777	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	8/4/22 23:30	8/5/22 0:20	0:50	44778	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
2	8/6/22 5:53	8/12/22 17:20	155:27	44779	Mike Rogers	Unplanned	Ameresco	Generator	Replace, and Restart
1	8/9/22 22:58	8/10/22 0:15	1:17	44783	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	8/12/22 9:33	8/12/22 13:48	4:15	44785	Mike Rogers	Unplanned	Ameresco	Other	Replace, and Restart
2	8/15/22 10:53	8/15/22 13:52	2:59	44788	Mike Rogers	Unplanned	Ameresco	Generator	Reconfigure, and Restart
1	8/17/22 7:42	8/17/22 17:29	9:47	44790	Mike Rogers	Planned	Ameresco	Engine	Reconfigure, Replace, and Restart
2	8/17/22 19:54	8/17/22 22:51	2:57	44791	Mike Rogers	Unplanned	Electrical Utility	Line / Substation Maintenance	Restart Only
1	8/17/22 19:54	8/17/22 22:48	2:54	44791	Mike Rogers	Unplanned	Electrical Utility	Line / Substation Maintenance	Restart Only
1	8/18/22 7:54	8/18/22 15:47	7:53	44791	Mike Rogers	Proactive	Ameresco	Engine	Replace, and Restart
1	8/21/22 1:01	8/21/22 2:05	1:04	44794	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	8/21/22 2:11	8/21/22 2:24	0:13	44794	Mike Rogers	Unplanned	Landfill / Digester	Oxygen Levels	Restart Only
2	8/22/22 10:37	8/22/22 11:13	0:36	44795	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	8/22/22 10:37	8/22/22 11:04	0:27	44795	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	8/29/22 10:50	8/29/22 11:01	0:11	44802	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	8/29/22 18:14	8/30/22 0:04	5:50	44803	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only

Lead Operator : Mike Rogers

Month : August 2022



Vasco Monthly SSM Report

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Туре	Cause	Reason	Maintenance
1	9/2/22 23:14	9/3/22 0:22	1:08	44807	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	9/4/22 1:36	9/4/22 2:17	0:41	44808	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	9/8/22 14:10	9/8/22 15:19	1:09	44813	Mike Rogers	Unplanned	Electrical Utility	Extreme Weather	Reconfigure, and Restart
1	9/10/22 3:48	9/10/22 7:06	3:18	44814	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	9/13/22 10:29	9/13/22 11:40	1:11	44817	Michael Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	9/14/22 10:34	9/14/22 10:49	0:15	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
2	9/14/22 10:40	9/14/22 13:27	2:47	44818	Mike Rogers	Proactive	Ameresco	Blower Skid	Replace, and Restart
1	9/14/22 10:50	9/14/22 11:03	0:13	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:04	9/14/22 11:06	0:02	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:07	9/14/22 11:09	0:02	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:10	9/14/22 11:12	0:02	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:14	9/14/22 11:27	0:13	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:28	9/14/22 11:29	0:01	44818	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 11:31	9/14/22 13:35	2:04	44818	Mike Rogers	Proactive	Ameresco	Blower Skid	Replace, and Restart
1	9/14/22 13:38	9/14/22 13:50	0:12	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 13:51	9/14/22 13:54	0:03	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 14:26	9/14/22 14:36	0:10	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 14:37	9/14/22 14:49	0:12	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 15:00	9/14/22 15:18	0:18	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/14/22 16:16	9/14/22 16:32	0:16	44819	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
2	9/15/22 9:34	9/15/22 10:17	0:43	44819	Mike Rogers	Unplanned	Landfill / Digester	Oxygen Levels	Restart Only
1	9/15/22 9:35	9/15/22 10:30	0:55	44819	Mike Rogers	Unplanned	Landfill / Digester	Oxygen Levels	Restart Only
1	9/16/22 9:47	9/16/22 9:59	0:12	44820	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	9/16/22 10:15	9/16/22 10:29	0:14	44820	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	9/16/22 10:52	9/16/22 11:06	0:14	44820	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	9/16/22 11:33	9/16/22 12:37	1:04	44820	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart
1	9/16/22 13:19	9/16/22 13:27	0:08	44821	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	9/19/22 9:11	9/19/22 9:21	0:10	44823	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/19/22 9:42	9/20/22 10:28	24:46	44823	Mike Rogers	Proactive	Ameresco	Engine	Repair, and Restart
1	9/20/22 11:18	9/20/22 12:23	1:05	44824	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
1	9/20/22 12:56	9/20/22 13:07	0:11	44825	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart
1	9/20/22 13:42	9/20/22 14:20	0:38	44825	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart
1	9/20/22 14:42	9/20/22 15:17	0:35	44825	Mike Rogers	Proactive	Ameresco	Engine	Restart Only
2	9/27/22 13:21	9/27/22 14:57	1:36	44832	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	9/27/22 13:21	9/27/22 14:42	1:21	44832	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	9/29/22 11:38	9/29/22 12:57	1:19	44833	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	9/29/22 11:38	9/29/22 12:57	1:19	44833	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	9/29/22 14:47	9/29/22 16:12	1:25	44834	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	9/29/22 14:50	9/29/22 15:45	0:55	44834	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	9/30/22 23:28	10/1/22 0:42	1:14	44835	Mike Rogers	Unplanned	Electrical Utility	Power Surge	Restart Only
2	9/30/22 23:28			44835	Mike Rogers	Unplanned	Ameresco	Generator	

Lead Operator : Mike Rogers Month : September 2022



Vasco Monthly SSM Report

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Туре	Cause	Reason	Maintenance
1	9/30/22 23:28	10/1/22 0:42	1:14	44835	Mike Rogers	Unplanned	Ameresco	Electrical	Restart Only
2	9/30/22 23:28	10/6/22 19:04	139:36	44835	Mike Rogers	Unplanned	Ameresco	Generator	Replace, and Restart
1	10/3/22 8:05	10/3/22 11:10	3:05	44837	Michael Rogers	Unplanned	Ameresco	Engine	Restart Only
1	10/6/22 9:02	10/6/22 17:02	8:00	44840	Mike Rogers	Proactive	Ameresco	Other	Restart Only
2	10/6/22 19:33	10/6/22 20:00	0:27	44841	Mike Rogers	Proactive	Ameresco	Electrical	Restart Only
2	10/7/22 9:19	10/7/22 12:52	3:33	44841	Mike Rogers	Proactive	Ameresco	Generator	Reconfigure, and Restart
2	10/12/22 7:39	10/24/22 12:56	293:17	44846	Mike Rogers	Proactive	Ameresco	Generator	Restart Only
1	10/16/22 6:31	10/17/22 11:37	29:06	44850	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	10/17/22 11:38	10/17/22 11:40	0:02	44851	Mike Rogers	Unplanned	Ameresco	Generator	Reconfigure, and Restart
1	10/22/22 9:27	10/22/22 12:30	3:03	44856	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	10/23/22 7:20	10/23/22 9:59	2:39	44857	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	10/23/22 10:00	10/23/22 10:02	0:02	44857	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
1	10/24/22 10:30	10/24/22 12:50	2:20	44858	Mike Rogers	Unplanned	Landfill / Digester	Oxygen Levels	Restart Only
2	10/24/22 12:59	10/24/22 13:08	0:09	44859	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
2	10/24/22 13:10	10/24/22 13:23	0:13	44859	Mike Rogers	Unplanned	Ameresco	Engine	Reconfigure, and Restart
2	10/25/22 12:24	10/25/22 17:48	5:24	44860	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart
1	10/25/22 12:24	10/25/22 17:48	5:24	44860	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart

Lead Operator : Mike Rogers Month : October 2022


Vasco Monthly SSM Report

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Туре	Cause	Reason	Maintenance
1	11/16/22 7:37	11/17/22 12:03	28:26	44881	Mike Rogers	Planned	Ameresco	Engine	Replace, and Restart
1	11/18/22 10:26	11/18/22 13:21	2:55	44883	Mike Rogers	Proactive	Ameresco	Engine	Reconfigure, and Restart
1	11/21/22 12:57	11/22/22 23:31	34:34	44887	Mike Rogers	Unplanned	Ameresco	Engine	Repair, and Restart
2	11/23/22 8:56	11/23/22 10:35	1:39	44888	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
1	11/23/22 8:56	11/23/22 14:31	5:35	44888	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
2	11/23/22 13:29	11/23/22 14:24	0:55	44889	Michael Rogers	Unplanned	Ameresco	Other	Restart Only
1	11/23/22 14:32	11/23/22 15:07	0:35	44889	Mike Rogers	Unplanned	Ameresco	Engine	Restart Only
2	11/30/22 10:22	11/30/22 17:27	7:05	44895	Mike Rogers	Planned	Ameresco	Engine	Replace, and Restart
2	11/30/22 18:18	11/30/22 19:08	0:50	44896	Mike Rogers	Unplanned	Ameresco	Engine	Repair, and Restart

Lead Operator : Mike Rogers Month : November 2022



Vasco Monthly SSM Report

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Туре	Cause	Reason	Maintenance
1	12/1/22 22:48	12/2/22 8:29	9:41	44897	Mike Rogers	Unplanned	Landfill / Digester	Oxygen Levels	Restart Only
1	12/13/22 10:07	12/13/22 14:04	3:57	44908	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	12/13/22 10:08	12/13/22 14:16	4:08	44908	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	12/13/22 14:19	12/13/22 14:31	0:12	44909	Mike Rogers	Unplanned	Ameresco	Other	Reconfigure, and Restart
2	12/14/22 8:56	12/14/22 15:23	6:27	44909	Mike Rogers	Proactive	Ameresco	Engine	Repair, and Restart
1	12/16/22 11:22	12/16/22 11:46	0:24	44911	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	12/16/22 11:22	12/16/22 11:46	0:24	44911	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
1	12/18/22 14:53	12/18/22 17:16	2:23	44914	Mike Rogers	Unplanned	Ameresco	Engine	Repair, and Restart
1	12/28/22 9:43	12/28/22 10:59	1:16	44923	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	12/28/22 9:43	12/28/22 11:03	1:20	44923	Mike Rogers	Unplanned	Landfill / Digester	Landfill Vacuum / Gas Limited	Restart Only
2	12/31/22 14:21			44927					

Lead Operator : Mike Rogers Month : December 2022

				Monthly SSM F					
Maintenance	Reason	Cause	Туре	Operator	Eng Hours	Duration (HH:MM)	End Time	Start Time	Eng
Restart Only	Engine	Ameresco	Unplanned	Mike Rogers	44927	83:22	1/4/23 1:43	12/31/22 14:21	2
Restart Only	TSA / H2S / Siloxane Removal	Ameresco	Unplanned	Mike Rogers	44927	68:03	1/4/23 1:38	1/1/23 5:35	1
Restart Only	Engine	Ameresco	Unplanned	Mike Rogers	44930	6:02	1/4/23 9:42	1/4/23 3:40	2
Replace, and Rest	Engine	Ameresco	Unplanned	Joshua Crouse	44931	0:22	1/5/23 9:58	1/5/23 9:36	2
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44937	0:11	1/11/23 8:45	1/11/23 8:34	2
Restart Only	Extreme Weather	Electrical Utility	Unplanned	Mike Rogers	44942	12:11	1/16/23 16:24	1/16/23 4:13	1
Restart Only	Extreme Weather	Electrical Utility	Unplanned	Mike Rogers	44942	12:04	1/16/23 16:17	1/16/23 4:13	2
Restart Only	Engine	Ameresco	Unplanned	Mike Rogers	44947	1:31	1/18/23 16:47	1/18/23 15:16	1
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	1:01	1/19/23 17:11	1/19/23 16:10	1
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	0:17	1/19/23 16:27	1/19/23 16:10	2
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	0:23	1/19/23 17:55	1/19/23 17:32	1
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	0:19	1/19/23 17:51	1/19/23 17:32	2
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	13:30	1/20/23 8:03	1/19/23 18:33	2
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44947	14:33	1/20/23 9:06	1/19/23 18:33	1
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44953	2:37	1/27/23 11:24	1/27/23 8:47	1
Restart Only	Landfill Vacuum / Gas Limited	Landfill / Digester	Unplanned	Mike Rogers	44953	2:24	1/27/23 11:11	1/27/23 8:47	2





Lead Operator : Mike Rogers

Appendix D – Surface Emission and GCCS Component Leak Monitoring Results

SCS FIELD SERVICES

November 20, 2022 File No. 07221004.01

Ms. Antonia Gunner Republic Services – Vasco Road Landfill 4001 N. Vasco Road Livermore, California 94551

Subject: Vasco Road Landfill - Livermore, California

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring for Third Quarter 2022.

Dear Ms. Gunner:

SCS Field Services (SCS-FS) is pleased to provide the Republic Services, with the enclosed report summarizing the surface emissions monitoring services provided at the Vasco Road Landfill (Site) during the third quarter 2022. This report includes the results of surface scan, component emissions and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS-FS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Art Jones (209) 345-2062, Michael Calmes at (209) 573-3364 or Whitney Stackhouse at (209) 338-7990 if you have any questions or comments.

Sincerely,

Whitney Stackhouse Project Manager SCS Field Services

Encl.

cc: Art Jones, SCS Field Services

Michael Calmes Project Manager SCS Field Services



Vasco Road Landfill

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

Third Quarter 2022

Presented to:



Ms. Antonia Gunner Republic Services – Vasco Road 4001 N. Vasco Road Livermore, California 94551

SCS FIELD SERVICES

File No. 07221004.01 | November 20, 2022

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

Vasco Road Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring Third Quarter 2022

INTRODUCTION

This letter provides results of the July 12, 13, 22 and August 11, 2022, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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 Vasco Road Landfill was performed on 25-foot pathways in accordance with the LMR.

On, July 12, 13, 22 and August 11, 2022, SCS performed third quarter 2022 surface emissions monitoring testing as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that four (4) location exceeded the 500 ppmv maximum concentration during our monitoring (Table 1 in Attachment 3). The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that the location had returned to below regulatory compliance limits following system adjustments and remediation (installation of new bentonite plugs and cover soil compaction) 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 grid areas. The Vasco Road Landfill surface area was therefore divided into 233 grids, as shown on Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, in accordance with the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place prior to the monitoring event.

During the monitoring event, there were no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results, no follow up monitoring is required at this time. These results are discussed in a subsequent section of this report.

In addition, quarterly monitoring of the pressurized piping or components of the Gas Collection and Control System (GCCS) that are under positive pressure must be performed quarterly. 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 this reading was observed, the location was reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report.

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

BACKGROUND

The Vasco Road 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 Vasco Road property contains a system to control the combustible gases generated in the landfill.

SURFACE EMISSIONS MONITORING

On July 12, 13, 22 and August 11, 2022 the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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

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

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

SURFACE EMISSIONS MONITORING PROCEDURES

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

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

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

TESTING RESULTS

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

On July 12, 13, 22 and August 11, 2022, SCS performed third quarter 2022 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that four (4) location exceeded the 500 ppmv maximum concentration. The required first 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on July 22 and August 11, 2022, respectively, indicated that the location had returned to compliance following system adjustments and remediation (borehole repairs using bentonite and cover soil compaction) 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, no integrated exceedances (the calculated average of the instantaneous monitoring results) of the 25 ppmv requirement on July 12, 13, 22 and August 11, 2022, were observed, therefore no further testing was required. Results of the monitoring are shown in Attachment 4 (Table 2). Calibration logs for the monitoring equipment are provided in Attachment 5.

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

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On July 13, 2022, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and power generation facility (reported separately). Monitoring was performed with the detector inlet held one-half of an inch from pressurized piping and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 2.30 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS were in compliance at the time of our testing.

PROJECT SCHEDULE

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

STANDARD PROVISIONS

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

Attachment 1

Landfill Grid



Attachment 2

Surface Pathway



Third Quarter 2022 Initial LMR Surface Emissions Monitoring Pathway Vasco Road Landfill, Livermore, California Attachment 3

Instantaneous and Component Emissions Monitoring Results

Third Quarter 2022

Table 1. Instantaneous Surface and ComponentEmissions Monitoring ResultsVasco Road Landfill, Livermore, California

Instantaneous Data Report for July 12, 13, 22 and August 11, 2022

Location (Surface)	Initial Monitoring Results (ppmv) 7/12/2022	First 10-Day Follow Up Monitoring Results (ppmv) 7/22/2022	Second 10- Day Follow Up Monitoring Results (ppmv) NA	30-Day Follow Up Monitoring Results (ppmv) 8/11/2022	Latitude	Longitude
EP2104	1,000	355	NA	7.8	37.75916303	-121.727062
EP2105	2,500	200	NA	8.9	37.75903000	-121.726521
EP2109	1,500	2	NA	49.8	37.75868199	-121.727126
EP2201	500	3	NA	4.8	37.76054202	-121.724042
VRLEW148	295	NA	NA	NA	37.76127367	-121.728168

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	7/13/2022	2.3

No other exceedances of the 200 or 500 ppmv threshold were observed during the third quarter 2022 monitoring.



Third Quarter 2022 Initial Instantaneous Emissions Monitoring Location Greater Than 200 ppm and 500 ppmv Vasco Road Landfill, Livermore, California Attachment 4

Integrated Monitoring Results

Point Name	Record Date	FID Concentration (ppm)	Comments
VR 001	7/12/2022 09:23	6.16	
VR 002	7/12/2022 09:30	3.88	
VR 003	7/12/2022 09:38	7.51	
VR 004	7/12/2022 09:50	2.95	
VR 005	7/13/2022 10:22	1.72	
VR 006	7/12/2022 10:01	3.04	
VR 007	7/13/2022 10:09	3.37	
VR 008	7/12/2022 10:12	2.28	
VR 009	7/13/2022 09:58	2.38	
VR 010	7/12/2022 12:32	2.66	
VR 011	7/12/2022 14:13	4.08	
VR 012	7/12/2022 12:44	2.97	
VR 013	7/13/2022 09:43	2.52	
VR 014	7/13/2022 09:43	0.91	
VR 015			Active Grid
VR 016	7/12/2022 12:59	3.91	
VR 017	7/13/2022 09:29	1.28	
VR 018			Active Grid
VR 019	7/12/2022 13:42	4.60	
VR 020	7/13/2022 12:55	1.37	
VR 021	7/13/2022 09:15	2.02	
VR 022			Active Grid
VR 023			Active Grid
VR 024			
VR 025			Active Grid
VR 026			Active Grid
VR 027			Active Grid
VR 028	7/13/2022 13:15	1.21	
VR 029			Active Grid
VR 030			Active Grid
VR 031			Active Grid
VR 032			Active Grid
VR 033	7/12/2022 13:03	0.89	
VR 034			Active Grid
VR 035			Active Grid
VR 036			Active Grid
VR 037	7/12/2022 08:35	2.94	
VR 038			Active Grid
VR 039			Active Grid
VR 040			Active Grid
VR 041			Active Grid
VR 042			Active Grid
VR 043	7/12/2022 08:47	2.28	
VR 044	7/12/2022 08:38	3.57	
VR 045	7/12/2022 11:25	1.41	

2

VR 046			Active Grid
VR 047			Active Grid
VR 048			Active Grid
VR 049			Active Grid
VR 050			Active Grid
VR 051	7/13/2022 12:25	1.16	Active ond
VR 052	7/13/2022 12:25	1.46	
VR 053	7/12/2022 10:02	2.35	
VR 054	7/12/2022 12:28	1.81	
VR 055	7/12/2022 12:26	1.97	
VR 056	7/13/2022 13:15	1.21	
VR 057	7/12/2022 09:47	1.40	
VR 058			Active Grid
VR 059			Active Grid
VR 060			Active Grid
VR 061	7/12/2022 10:25	1.44	
VR 062	7/12/2022 11:41	1.54	
VR 063	7/12/2022 11:25	1.41	
VR 064	7/12/2022 11:16	1.38	
VR 065	7/12/2022 11:22	1.41	
VR 066			Active Grid
VR 067			Active Grid
VR 068			Active Grid
VR 069	7/13/2022 12:16	1.29	
VR 070	7/12/2022 10:33	1.50	
VR 071	7/12/2022 10:45	1.61	
VR 072	7/12/2022 10:37	1.54	
VR 073	7/12/2022 10:36	1.63	
VR 074			Active Grid
VR 075			Active Grid
VR 076			Active Grid
VR 077	7/13/2022 12:08	1.50	
VR 078			Recycle Area
VR 079	7/12/2022 13:42	0.85	
VR 080	7/12/2022 13:40	0.90	
VR 081	7/12/2022 13:35	0.88	
VR 082	7/12/2022 13:45	0.88	
VR 083			Active Grid
VR 084			Active Grid
VR 085			Active Grid
VR 085	7/13/2022 12:00	1.72	
VR 087	7/12/2022 12:44	0.73	
VR 088	7/12/2022 12:47	0.97	
VR 089	7/12/2022 12:56	0.93	
VR 090	7/12/2022 12:54	0.98	
VR 091	7/12/2022 11:18	1.15	
VR 092	7/12/2022 11:32	1.37	



		m, Livernore,	Cumornia
VR 093	7/13/2022 15:18	2.40	
VR 094			Active Grid
VR 095			Active Grid
VR 096	7/13/2022 11:51	2.45	
VR 097	7/12/2022 08:35	0.31	
VR 098	7/12/2022 10:50	0.92	
VR 099	7/12/2022 11:00	1.06	
VR 100	7/12/2022 10:43	1.02	
VR 101	7/12/2022 10:49	1.20	
VR 102			Active Grid
VR 103			Active Grid
VR 104			Active Grid
VR 105	7/12/2022 12:08	3.47	
VR 106	7/12/2022 12:03	1.49	
VR 107	7/12/2022 12:04	1.48	
VR 108	7/12/2022 11:15	3.94	
VR 109	7/12/2022 11:10	3.91	
VR 110	7/12/2022 11:05	3.90	
VR 111	7/13/2022 13:03	2.54	
VR 112	7/13/2022 13:06	3.78	
VR 113			Active Grid
VR 114			Active Grid
VR 115	7/12/2022 13:07	2.97	
VR 116	7/12/2022 13:07	1.24	
VR 117	7/12/2022 13:09	1.22	
VR 118	7/12/2022 11:24	4.04	
VR 119	7/12/2022 11:28	4.05	
VR 120	7/12/2022 11:33	3.90	
VR 121	7/13/2022 13:43	1.48	
VR 122	7/13/2022 13:36	1.85	
VR 123			Active Grid
VR 124			Active Grid
VR 125			Active Grid
VR 126	7/12/2022 13:58	2.04	
VR 127	7/12/2022 14:01	1.10	
VR 128	7/12/2022 14:21	1.05	
VR 129	7/12/2022 13:25	3.90	
VR 130	7/12/2022 13:25	3.90	
VR 131	7/12/2022 13:23	3.90	
VR 132	7/13/2022 13:05	1.70	
VR 133	7/13/2022 13:05	2.11	
VR 134	7/13/2022 13:23	2.69	
VR 135	7/13/2022 13:45	2.25	
VR 136			Active Grid
VR 137			Active Grid
VR 138			Active Grid
VR 139	7/12/2022 16:41	1.70	
UN 100	.,,	1.70	

SCS DataServices - Secure Environmental Data

	Nodu Edital		••••••
VR 140	7/12/2022 16:40	1.74	
VR 141	7/12/2022 16:40	1.69	
VR 142	7/12/2022 13:33	1.68	
VR 143	7/12/2022 13:42	1.68	
VR 144	7/12/2022 13:36	1.65	
VR 145	7/12/2022 14:51	2.14	
VR 146	7/12/2022 14:56	3.14	
VR 147	7/13/2022 08:30	2.56	
VR 148	7/13/2022 08:30	1.62	
VR 149			Active Grid
VR 150			Active Grid
VR 151	7/12/2022 15:24	2.19	
VR 152	7/12/2022 15:45	1.82	
VR 153	7/12/2022 15:53	1.65	
VR 154	7/12/2022 15:33	1.69	
VR 155	7/13/2022 09:15	0.94	
VR 156	7/13/2022 09:40	1.16	
VR 157	7/13/2022 09:40	1.18	
VR 158	7/13/2022 13:56	1.14	
VR 159	7/13/2022 14:00	1.53	
VR 160	7/13/2022 09:00	1.89	
VR 161	7/13/2022 08:58	3.53	
VR 162			Active Grid
VR 163			Active Grid
VR 164			Active Grid
VR 165	7/13/2022 09:37	0.67	
VR 166	7/13/2022 09:41	0.62	
VR 167	7/13/2022 10:30	0.92	
VR 168	7/13/2022 10:32	1.01	
VR 169	7/13/2022 09:40	0.84	
VR 170	7/13/2022 10:23	1.49	
VR 171	7/13/2022 10:20	1.52	
VR 172	7/13/2022 12:40	1.35	
VR 173	7/13/2022 12:47	1.37	
VR 174	7/13/2022 09:18	4.38	
VR 175	7/13/2022 09:17	2.87	
VR 176			Active Grid
VR 177			Active Grid
VR 178	7/13/2022 11:22	1.31	
VR 179	7/13/2022 11:12	1.04	
VR 180	7/13/2022 11:37	1.32	
VR 181	7/13/2022 11:29	1.37	
VR 182	7/13/2022 12:11	1.17	
VR 183	7/13/2022 11:03	1.73	
VR 184	7/13/2022 11:00	1.72	
VR 185	7/13/2022 12:00	1.50	
VR 186	7/13/2022 12:13	1.47	



	Ruau Lanui	ill, Livermore,	California
VR 187	7/13/2022 10:05	3.11	
VR 188	7/13/2022 10:58	3.13	
VR 189			Active Grid
VR 190			Active Grid
VR 191			Active Grid
VR 192	7/13/2022 12:39	2.33	
VR 193	7/13/2022 13:02	3.18	
VR 194	7/13/2022 12:50	1.30	
VR 195	7/13/2022 13:28	0.80	
VR 196	7/13/2022 13:09	0.94	
VR 197	7/13/2022 13:05	0.90	
VR 198	7/13/2022 11:33	1.82	
VR 199	7/13/2022 11:36	1.82	
VR 200	7/13/2022 11:38	1.63	
VR 201	7/13/2022 11:09	1.10	
VR 202	7/13/2022 11:27	6.79	
VR 203	7/13/2022 11:32	2.20	
VR 204	7/13/2022 13:58	2.07	
VR 205	7/13/2022 14:31	1.03	
VR 206	7/13/2022 14:29	0.57	
VR 207	7/13/2022 15:05	2.01	
VR 208	7/13/2022 12:17	1.87	
VR 209	7/13/2022 12:09	1.86	
VR 210	7/13/2022 10:16	0.53	
VR 211	7/13/2022 10:21	0.50	
VR 212	7/13/2022 11:46	1.77	
VR 213	7/13/2022 11:47	1.78	
VR 214			Over Grown Vegetation
VR 215			Over Grown Vegetation
VR 216	7/13/2022 12:43	1.86	
VR 217	7/13/2022 12:48	1.84	
VR 218	7/13/2022 12:44	1.83	
VR 219	7/13/2022 12:54	1.83	
VR 220	7/13/2022 12:54	1.83	
VR 221	7/13/2022 12:45	1.83	
VR 222			Over Grown Vegetation
VR 223			Over Grown Vegetation
VR 224	7/13/2022 12:04	1.71	
VR 225	7/13/2022 12:02	1.86	
VR 226			Over Grown Vegetation
VR 227	7/13/2022 09:26	1.03	
VR 228	7/13/2022 09:19	1.17	
VR 229			Office Area/Parking Lot
VR 230			Office Area/Parking Lot
VR 231			Over Grown Vegetation
VR 232			Office Area/Parking Lot
VR 233			Office Area/Parking Lot
		-	

SCS DataServices - Secure Environmental Data

Attachment 5

Calibration Logs

		SURFA	CE EMISSIONS MON TION AND REPER		
	<u> </u>	CALIBRA	TION AND PERTINE	ITORING	No. of Concession, Name of Conce
Da	(.12-	- 22	THE PERINE	NT DATA	
	s): RELIGIO	Ochoc	Site Name:	10 Caro	×.
1	a Jun	Uchoc	Instrument:	Vasco	
MHER	OBSERVATIONS		a sinellt:	TVA 2020	
	<u>`</u> ~			6	
Vind Sp	need: MP	H Direction:	E		
	Air / A			Barometric 29 - 87 Pressure:	
Temerat	ure: °F	Genera	al Weather		"Hg
CO IL SUTIC	IN INFORMATION	C	onditions: Partil Clou	501	
Pre-mitori	ng Calibration Precision C	lheck			
procedaco	ilibrate the instrument.	Make a total of three meas fference between the instru 10% of the calibration gas			
and callote	the average algebraic di	fference between the instr	urements by alternating zero	228	
precisionius	, be less than or equal to	10% of the calibration gas	value	air and the calibration gas.	Record the
Instrumase	ial Number:	Make a total of three meas fference between the instru 10% of the calibration gas	- 1.27.L.	gua us a percentage	The calibration
Trial	Zero Air Reading		Cal		
1	Certo All Reading			Gas Concentration:	500ppm
2	8	500	ICal Gas ConcCa	I Gas Reading Resou	
F	6	500			onse Time (second
		Average Difference:	C	2	<u> </u>
		and age ofference			1
calibrationPrecis	sion= Average Difference	e/Cal Gas Conc. 🗙 100%	*Perform recalibration if average di	ifference is -	
Callore		Year Gas Conc. X 100%		ance is greater than 10	
		= 100%	6 0		
1		ist	/500 x 100)%	
- inc		= 100	%		
Span Sensitivity:					1
Trial 1: Cou	nts Observed for the Spa	n= 152928	Trial 3:		
1			-	-	
Courren	ers Observed for the Zero	0= 3250	- 20351 VEG 1	for the Span= 1560	97
Trial 7:	ts Observed for the Spar	= 147712	Counters Observed for	or the Zero=3/1-7 C	
Trial 2: Coun		= 147212	Counters Observed for	or the Zero=3035	
Trial 2: Coun	its Observed for the Spar		Counters Observed for	or the Zero=30-35	
Trial 2: Coun	rs Observed for the Zero		Counters Observed f.	or the Zero=3035	
Trial 2: Counte Post Monitoring Cali	rs Observed for the Zero		Counters Observed f	or the Zero=30-35	
Trial 2: Counte Post Monitoring Cali Zero Air	irs Observed for the Zero	= 3045 Cal Gas	Counters Observed f	or the Zero=30-35	
Trial 2: Counte Post Monitoring Cali Zero Air Reading:	ibration Check	Cal Gas Reading: 50		or the Zero=3035	
Trial 2: Counte Post Monitoring Cali Zero Air Reading:	irs Observed for the Zero	Cal Gas Reading: 50	DO ppm	or the Zero=30-35	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON	ibration Check	Cal Gas Reading: 50		or the Zero=3035	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON	ibration Check ppm ICENTRATIONS CHECK	Cal Gas Reading: 50	ppm	or the Zero=30-35	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc	irs Observed for the Zero ibration Check ppm ICENTRATIONS CHECK cription: escription:	Cal Gas Reading: 50 S Flare G-146	ppm Reading:	3 and	
Trial 2: Count Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc Downwind Location Desc	ibration Check ibration Check ppm ICENTRATIONS CHECK cription: escription:	Cal Gas Reading: 50 S Flare G-146	ppm Reading:	3 ppm	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc Downwind Location Desc Downwind Location Desc Downwind Location Desc Downwind Location Desc	ibration Check ibration Check ICENTRATIONS CHECK Cription: escription:	$\frac{3045}{\text{Cal Gas}}$ $\frac{\text{Cal Gas}}{\text{Reading:}} 50$ $\frac{\text{Flare}}{6-146}$ $\frac{6-146}{6}$	Reading: 2	3 ppm	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc Downwind Location Desc Notes: Wind excee meteo	ibration Check ibration Check ppm ICENTRATIONS CHECK Cription: escription: speed averages were ob ded 20 miles per hour. I prological conditions we	$\frac{3045}{\text{Cal Gas}}$ $\frac{Cal Gas}{\text{Reading:}} \leq 0$ S $\frac{F are}{G-14/G}$ Deserved to remain below the altern No rainfall had occurred within the remain below the	Reading: 2	3 ppm ppm ppm	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc Downwind Location Desc Notes: Wind excee meteo	ibration Check ibration Check ppm ICENTRATIONS CHECK Cription: escription: speed averages were ob ded 20 miles per hour. I prological conditions we	$\frac{3045}{\text{Cal Gas}}$ $\frac{Cal Gas}{\text{Reading:}} \leq 0$ S $\frac{F are}{G-14/G}$ Deserved to remain below the altern No rainfall had occurred within the remain below the	Reading: 2	3 ppm ppm ppm	
Trial 2: Counter Post Monitoring Cali Zero Air Reading: BACKGROUND CON Upwind Location Desc Downwind Location Desc Notes: Wind excee meteo	ibration Check ibration Check ppm ICENTRATIONS CHECK Cription: escription: speed averages were ob ded 20 miles per hour. I prological conditions we	Cal Gas Reading: 50 S Flare G-146	Reading: 2	3 ppm ppm ppm	

- 1			SURFACE EMISSI	ONS MONI	TORING	
			CALIBRATION AN	D PERTINE	NT DATA	2
C	Date:	7-12-20		Site Name:	Vasco	
le le	Inspector(s)	Ricardo	Yeper	Instrument	TVA 2020	
V	WEATHER OBS	SERVATIONS				
	Wind Speed:	↓ ∧	Wind Direction:		Barometric Pressure: <u>2</u>	1.87 "Hg
	Air Temperature:	54 °F	General Weathe Conditions	PARTUY	rau	
c	CALIBRATION I	NFORMATION				
P	Pre-monitoring (Calibration Precision Check				
a	and calculate the	rate the instrument. Make o e average algebraic differen e less than or equal to 10% o	ce between the instrument	reading and the	g zero air and the cal calibration gas as a p	ibration gas. Record the readings percentage. The calibration
Ir	nstrument Seria	Number: 5424	0		Cal Gas Concentra	ation:500ppm
, Ē	rial 1	Zero Air Reading	Cal Gas Reading	Cal Gas	ConcCal Gas Reading	g Response Time (seconds)
)+	1 2	8	504	70		2
F	3	õ	500		5	
			= 100%	1.3	/500 × 100%	
			= 99,7	%		
Sp	oan Sensitivity:		= 99,7	%		
P	rial 1:	ints Observed for the Span=	174224	Trial 3:	unts Observed for the	Span= <u>132196</u>
Tri	rial 1: Cou Coun	ints Observed for the Span= ters Observed for the Zero=	129220	Trial 3: Cou	unts Observed for the ters Observed for the	7 / -
Tri	r <u>ial 1:</u> Cou Coun		129220	Trial 3: Cou		7 / -
Tri	r <u>ial 1:</u> Cou Coun r <u>ial 2:</u> Cou	ters Observed for the Zero=	129220	Trial 3: Cou		7 / -
Tri	r <u>ial 1:</u> Cou Coun Tial 2: Count Count	ters Observed for the Zero= Ints Observed for the Span=	129220 3644 138200	Trial 3: Cou		7 / -
Tri Tri Po. Zer	r <u>ial 1:</u> Cou Coun Tial 2: Count Count	ters Observed for the Zero= ints Observed for the Span= ters Observed for the Zero=	129220 3644 138200	Trial 3: Cou		7 / -
Tri Tri Po. Zer Re:	r <u>ial 1:</u> Coun rial 2: Coun Count Co	ters Observed for the Zero= ints Observed for the Span= ters Observed for the Zero= alibration Check	129220 3644 138200 2557 Cal Gas Reading:	Trial 3: Cou	ters Observed for the	7 / -
Tri Tri Po Re: BA	r <u>ial 1:</u> Coun rial 2: Coun Count Co	ters Observed for the Zero= ints Observed for the Span= ters Observed for the Zero= alibration Check O-5ppm ONCENTRATIONS CHECKS	129220 3644 138200 2557 Cal Gas Reading:	Trial 3: Cou	ters Observed for the	7 / -
Tri Tri Po. Zer Re: BA	rial 1: Coun rial 2: Coun Count Count Set Monitoring Co erro Air Pading:	ters Observed for the Zero= ints Observed for the Span= ters Observed for the Zero= alibration Check O-5ppm ONCENTRATIONS CHECKS	129220 3644 138200 2557 Cal Gas Reading:	Trial 3: Cou	ters Observed for the	zero= 3509

		SURFACE EMISSI			
Date:	7-12-22		Site Name:	LASCO	
Inspector(s):	1 AGSI-IAN	b	Instrument:	TVA 2020	
WEATHER OBSE				14	
	$^{\sim}$	Wind E		Barometric 0 (A Q	7
Wind Speed,	МРН	Direction:		Pressure: 24.7	Hg
Air Temperature: _	く M _{°F}	General Weather Conditions	11	-LOUDY	
CALIBRATION IN	FORMATION				
Pre-monitoring Ca	libration Precision Check				
	less than or equal to 10% of	ce between the instrument i of the calibration gas value		calibration gas as a percei Cal Gas Concentration	
rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds
1		FOO	C	2	1
3	6	500	C)	
alibration Precisio	on= Average Difference/Ca	= 100%-	*Perform recalibration) n if average difference is greater tha /500 x 100%	n 10
	on= Average Difference/Ca	Gas Conc. X 100%	*Perform recalibration		n 10
aan Sensitivity:		I Gas Conc. X 100% = 100%- = 1010	% Trial <u>3:</u>	/500 x 100%	
pan Sensitivity: ial 1: Coun	ts Observed for the Span=	I Gas Conc. X 100% = 100%- = 100 <u>180512</u>	ک % <u>Trial 3:</u> Cour	/500 x 100%	173603
aan Sensitivity: ial 1: Counte Counte		I Gas Conc. X 100% = 100%- = 100 <u>180512</u>	ک % <u>Trial 3:</u> Cour	/500 x 100%	173603
aan Sensitivity: ial 1: Counte Counte	ts Observed for the Span=	I Gas Conc. X 100% = 10%	ک % <u>Trial 3:</u> Cour	/500 x 100%	173603
aan Sensitivity: ial 1: Count Counte ial 2: Coun	ts Observed for the Span= ers Observed for the Zero=	I Gas Conc. X 100% = 10%	ک % <u>Trial 3:</u> Cour	/500 x 100%	173603
aan Sensitivity: ial 1: Count Counte ial 2: Coun	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 10%	ک % <u>Trial 3:</u> Cour	/500 x 100%	173603
aan Sensitivity: ial 1: Counte ial 2: Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 10%	∕° <u>Trial 3:</u> Count Count	/500 x 100%	173603
aan Sensitivity: ial 1: Counte Counte ial 2: Counte St Monitoring Cal ro Air ading:	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check	I Gas Conc. X 100% $= 100%$ $= 100%$ $= 100%$ 180512 4962 4962 4946 Cal Gas Reading:	∕° <u>Trial 3:</u> Count Count	/500 x 100% hts Observed for the Span ers Observed for the Zero	173608
aan Sensitivity: ial 1: Counte Counte ial 2: Counte St Monitoring Cal ro Air ading:	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check MCENTRATIONS CHECKS	I Gas Conc. X 100% $= 100%$ $= 100%$ $= 100%$ 180512 4962 4962 4946 Cal Gas Reading:	o % Trial 3: Count Count	/500 x 100% hts Observed for the Span ers Observed for the Zero	173608
aan Sensitivity: ial 1: Counte ial 2: Counte st Monitoring Cal ro Air ading:	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check 	I Gas Conc. X 100% = 100%- = 10T 180512 4962 177748 49846 Cal Gas Reading:	0 % Trial 3: Count Count	/500 x 100% hts Observed for the Span ers Observed for the Zeros	- <u>173608</u> - <u>4823</u>

- King - Scholard - Scholard Carles Care Care Care - Scholard - Scholard -

	SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA				
Date:	7-12-22 Don Gib		Site Name:	Vasco	
Inspector(s)	Don Gib	Sour	Instrument;	TVA 2020	
WEATHER C	BSERVATIONS				
Wind Spe	ed: <u>17</u> мрн	Wind Direction: <u>E</u>	_	Barometric Pressure: 29	"Hg
	Air 59	General Weath	Par La	ycloudy	
Temperatu		Conditio		7 Conacy	
	N INFORMATION				
	g Calibration Precision Chec				
		ke a total of three measurem rence between the instrumer			
		% of the calibration gas valu		, j	5
Instrument Se	rial Number: 122	3		Cal Gas Concentration	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas (ConcCal Gas Reading	Response Time (se
1	- 1201	SOL			3
2	- Oge	(1		
2 3 Calibration Pre	cision= Average Difference/		,	on if average difference is greater the] an 10
3	-0.1	Average Difference /Cal Gas Conc. X 100% = 1009	6 _	n if average difference is greater the /500 x 100%	3an 10
3 Calibration Pre	cision= Average Difference/	Average Difference. 'Cal Gas Conc. X 100%	6 _		3an 10
3 Calibration Pre Span Sensitivity Trial 1	cision= Average Difference/	Average Difference: 'Cal Gas Conc. X 100% = 1009 = 99.8	6- % Trial 3:	/500 x 100%	1/17 5
3 Calibration Pre Span Sensitivity Trial 1:	cision= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 1009 = 99.8 In= <u>142060</u>	6 %	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2:	cision= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 100% = 99.% m = 142.060 m = 2.50.3 1/1.2.1660	6 %	/500 x 100%	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2:	cision= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 100% = 99.% m = 142.060 m = 2.50.3 1/1.2.1660	6 %	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2: C	cision= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 100% = 99.% m = 142060 m = 2503 m = 142180 m = 142180	6 %	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2: Co Co	cision= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 100% = 99.% m = 142.060 m = 142.060 m = 142.180	6 %	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pres Span Sensitivity Trial 1: Co Trial 2: Co Post Monitoring	cision= Average Difference/ Counts Observed for the Spa unters Observed for the Zer ounts Observed for the Spa	Average Difference: $Cal Gas Conc. \times 100\%$ = 100% = 99.% m = 142060 m = 142060 m = 142060 m = 142060 m = 142060 m = 142060 m = 142060	6 % Coun 	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2: Co Co	cision= Average Difference/ Counts Observed for the Spa unters Observed for the Zer ounts Observed for the Spa	Average Difference: Cal Gas Conc. X 100% = 100% = 99.% m = 142.060 m = 142.060 m = 142.180	6 %	/500 x 100% Ints Observed for the Spar	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2: Co Post Monitoring Zero Air Reading:	cision= Average Difference/ cision= Average Difference/ counts Observed for the Spa unters Observed for the Zer ounts Observed for the Spa unters Observed for the Zer g Calibration Check	Average Difference: Cal Gas Conc. X 100% = 1009 = 99.8 In= <u>142060</u> TO= <u>2503</u> n= <u>142.180</u> o= <u>2536</u> Cal Gas Reading:	6 % Coun 	/500 x 100% Ints Observed for the Spar ters Observed for the Zero	= 14370
3 Calibration Pre Span Sensitivity Trial 1: Co Trial 2: Co Post Monitoring Zero Air Reading:	cision= Average Difference/ cision= Average Difference/ counts Observed for the Spa unters Observed for the Zer ounts Observed for the Zer ounters Observed for the Zer calibration Check Concentrations Check	Average Difference: Cal Gas Conc. X 100% = 1009 = 99.8 In= <u>142060</u> TO= <u>2503</u> n= <u>142.180</u> o= <u>2536</u> Cal Gas Reading:	6 % Coun 	/500 x 100% Ints Observed for the Spar ters Observed for the Zero	= 14370
3 Calibration Press Span Sensitivity Trial 1: Co Trial 2: Co Post Monitoring Zero Air Reading: BACKGROUND Upwind Location	cision= Average Difference/ cision= Average Difference/ counts Observed for the Spa unters Observed for the Zer ounts Observed for the Zer ounters Observed for the Zer calibration Check Concentrations Check	Average Difference: Average Difference: Cal Gas Conc. X 100% = 1009 = 99.8 n = 142060 ro = 2503 n = 142.180 o = 2536 Cal Gas Reading:	6 % Coun 	/500 x 100% Ints Observed for the Spar ters Observed for the Zero	= <u>14370</u> = <u>2486</u>

$\langle \rangle$		A	SURFACE EMISS			
		7-17-72	CALIBRATION AN		LAICO	
	Date:	A los An	0	Site Name:		
	Inspector(s):	Ruber Ri		Instrument:	TVA 2020	
	WEATHER OF	BSERVATIONS			m	λ
	Wind Spee	d: МРН	Wind Direction:		Pressure: 44.0	1 "Нg
	A Temperatur	e: <u>54</u> °F	General Weathe Conditions	PAPTICI	Barometric Pressure: <u>19</u> .87 _WM	
	CALIBRATION	INFORMATION				
	Pre-monitoring	g Calibration Precision Check	:			
	and calculate t	he average algebraic differe	e a total of three measureme nce between the instrument 6 of the calibration gas value.	reading and the		
	Instrument Seri	ial Number: 236	<u>4</u>		Cal Gas Concentration:	500ppm
	Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds)
- ()	1	0	502		3	1
	3	6	502		2	l (
			Average Difference:	L	, 3 n if average difference is greater than	10
	Calibration Prec	ision= Average Difference/C	al Gas Conc. X 100% = 100%-	2,3	/500 x 100%	
			= 99.5		/300 x 100//	
	Coos Coositiuitu		= 1455	70		а.
	Span Sensitivity: Trial 1:		1-1-51	Trial 3:		1005211
	Co	ounts Observed for the Span	= 178 156		nts Observed for the Span=	180524
	Cou Trial 2:	nters Observed for the Zero	= 4678	Count	ers Observed for the Zero=	5932
		ounts Observed for the Span	=_180620			
	Cou	nters Observed for the Zero	= 4491			
	Post Monitoring	Calibration Check				
(Zero Air Reading:	1.9 ppm	Cal Gas Reading:	515	ppm	
	BACKGROUND	CONCENTRATIONS CHECK	<s< td=""><td></td><td>_</td><td></td></s<>		_	
	Upwind Location	Description:	Flare G.146		Reading: 20	ppm
	Downwind Locati	on Description:	6.146		Reading:	ppm
	e	exceeded 20 miles per hour meteorological conditions w	observed to remain below th No rainfall had occurred wi rere within the requested alt	ithin the previous ernatives of the I	s 24 hours of the monitoring MR requirements on the al	g event. Therefore, site
		a second s	The second s			20

2			DNS MONITORING	
		CALIBRATION AND) PERTINENT DATA	
Date:	7-12-	26	Site Name: Vasc	0
nspector(s);	Emmanie	el Paz	Instrument: TVA 2020	
WEATHER OF	SERVATIONS			
	1.12	Wind	Barometric	61
Wind Speed	d. 12 мрн	Direction:	Pressure:	LA_8t "Hg
A Temperature	ir <u>59</u> "F	General Weather Conditions:	PARTLY CLOUDY	
CALIBRATION	INFORMATION			
Pre-monitoring	Calibration Precision Check			
and calculate ti	he average algebraic differer be less than or equal to 10%		cal Gas Concen	
rial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal Gas Read	ing Response Time (seconds
1	1 0	501	1	1
2	0	563	3	1
3	6	500	0	1
alibration Prec	ision= Average Difference/Ca	al Gas Conc. X 100%	Perform recalibration if average difference is g	greater than 10
alibration Prec	ision= Average Difference/Ca	al Gas Conc. X 100% = 100%	1.3 /500 × 100%	greater than 10
alibration Prec	ision= Average Difference/Ca	al Gas Conc. X 100%	1.3 /500 × 100%	greater than 10
alibration Prec		al Gas Conc. X 100% = 100%- = 99.7 9	1.3 /500 x 100%	greater than 10
pan Sensitivity: rial <u>1:</u>		al Gas Conc. X 100% = 100% - = 99.7%	1.3 /500 × 100%	5
pan Sensitivity: rial <u>1:</u> Cc		al Gas Conc. X 100% = 100%- = 99.7^{9} = <u>141786</u>	1.3 /500 x 100% %	ne Span= <u>145488</u>
<mark>rial 1:</mark> Cou Cou	punts Observed for the Span-	al Gas Conc. X 100% = 100% - = 99.7 = <u>147786</u> = <u>3772</u>	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
pan Sensitivity: rial 1: Cou rial 2: Co	ounts Observed for the Span nters Observed for the Zero-	al Gas Conc. X 100% = 100% = 99.7% = 147786 = 143864 = 143864	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
<mark>ban Sensitivity:</mark> rial 1: Cou <u>Cou</u> rial 2: Cou Cou	punts Observed for the Span- nters Observed for the Zero- punts Observed for the Span-	al Gas Conc. X 100% = 100% = 99.7% = <u>141706</u> = <u>143864</u>	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
<mark>ban Sensitivity:</mark> rial 1: Cou <u>Cou</u> rial 2: Cou Cou	ounts Observed for the Span nters Observed for the Zero ounts Observed for the Span nters Observed for the Zero-	al Gas Conc. X 100% = 100% = 99.7% = <u>141706</u> = <u>143864</u>	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
pan Sensitivity: rial 1: Cou rial 2: Cou cost Monitoring ero Air eading:	ounts Observed for the Spans nters Observed for the Zeros ounts Observed for the Spans nters Observed for the Zeros Calibration Check	al Gas Conc. X 100% = 100% - = 99.7 9 = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>3772</u> = <u>143864</u> = <u>3671</u> Cal Gas Reading: S	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
pan Sensitivity: rial 1: Cou rial 2: Cou cost Monitoring ero Air eading:	ounts Observed for the Spanson nters Observed for the Zeroson ounts Observed for the Spanson nters Observed for the Zeroson Calibration Check	al Gas Conc. X 100% = 100%- = 99.7 9 = 1417966 = 3772 = 143864 = 3671 Cal Gas Reading: = Flare	1.3 /500 x 100% % Trial 3: Counts Observed for th	ne Span≈ <u>14€488</u>
oan Sensitivity: rial 1: Cou rial 2: Cou cou cou cou cou cou cou cou cou cou c	ounts Observed for the Spanson nters Observed for the Zeroson ounts Observed for the Spanson nters Observed for the Zeroson Calibration Check	al Gas Conc. X 100% = 100% - = 99.7 9 = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>$1477a6$</u> = <u>3772</u> = <u>143864</u> = <u>3671</u> Cal Gas Reading: S	1.3 /500 x 100% % Trial 3: Counts Observed for th Counters Observed for t	ne Span= <u>145488</u> he Zero= <u>3630</u>

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)			SURFACE EMISSI	ONS MONIT	ORING	
		-1.1	CALIBRATION AN	D PERTINEN	ΤΟΑΤΑ	
	Date	2010		Site Name:	Vysco	
	Inspector(s):	Emmanuel	Paz	Instrument:	TVA 2020	
	WEATHER OBS	ERVATIONS			*	
	Wind Speed:	MPH	Wind Direction:	-	Barometric Pressure: <u>19</u>	"Hg
	Air Temperature:	9 -F	General Weather Conditions	Sunny		
	CALIBRATION I	NFORMATION		ł		
	Pre-monitoring C	Calibration Precision Check				
1	and calculate the	rate the instrument. Make a e average algebraic differenc e less than or equal to 10% oj	e between the instrument i	nts by alternating reading and the co	zero air and the calibration alibration gas as a percent	n gas. Record the readings age. The calibration
	nstrument Serial	Number: 1215			Cal Gas Concentration:	500ppm
Ţ	rial	Zero Air Reading	Cal Gas Reading	Cal Gas Co	ncCal Gas Reading	Response Time (seconds)
) -	2	0	502			
' F	3	0	500	<u>0</u>		4
			= 100%- = 999	^ %	/500 x 100%	
Sn	an Sensitivity:		(()			
	ial 1:	nts Observed for the Span=	137148	Trial 3: Count	s Observed for the Span=	139/32
Tri	Counte al 2:	ers Observed for the Zero=	2835	Counter	s Observed for the Zero=	2805
		its Observed for the Span=	136968			
\vdash	Counte	ers Observed for the Zero=	28/1			
Pos	it Monitoring Ca	libration Check				
	o Air Iding:	- 0 , ppm	Cal Gas Reading:	487	pm	
BA	CKGROUND CO	NCENTRATIONS CHECKS	Ν			
Upv	vind Location De	scription:	Flare	Re	eading: <u>13</u> p	mqr
Dov	vnwind Location	Description:	6146	Re	eading: <u>70</u> p	ppm
Not	ехс	nd speed averages were obs eeded 20 miles per hour. N teorological conditions were	o rainfall had occurred wit	hin the previous 2	4 hours of the monitoring	event. Therefore, site ove mentioned date

where the second				
היב אדג ליצו אב אלא ווזי בלי מביאים.	- BUCHION BRUCH	5 5-150 5 - SHOUL 15-1-	in the second	1. The -
and the second sec		* A * 3 KH & F \$ **KT 11 *2 KH * * * * * * * * * * * * * * * * * *	d R S C	

		SURFACE EMIS			
		CALIBRATION A	ND PERTINE	NT DATA	
Date	1-13-22		Site Name:	Laxo	
Inspector(s)	Diego R	omero	Instrument:	TVA 2020	
WEATHER (DBSERVATIONS			×	
Wind Spe	ed: MPH	Wind Direction: 욷		Barometric Pressure: 29	"Hg
Temperatu	Air re:(°F	General Weat Conditio		Ľ	
CALIBRATIO	N INFORMATION		1	-	
Pre-monitorir	ng Calibration Precision Check				
and calculate	librate the instrument Make the average algebraic differe t be less than or equal to 10% rial Number: 5以19	nce between the instrume 6 of the calibration gas valu	nt reading and the	g zero air and the calibrati calibration gas as a percer Cal Gas Concentration:	ntage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	I Cal Gas C	oncCal Gas Reading	Response Time (seconds)
1	U ů	501	1	one, car das neading 1	Hesponse nine (seconds)
2	0	500	0		3
3	0	503	2		3
Calibration Pre	cision= Average Difference/C		. 7	if average difference is greater that	n 10
Calibration Pre	cision= Average Difference/C	al Gas Conc. X 100% = 1009	<u>~13</u>	if average difference is greater that /500 x 100%	n 10
		al Gas Conc. X 100% = 1009	<u>~13</u>		n 10
Span Sensitivity Trial 1:	ž.	al Gas Conc. X 100% = 1009 = 99, C	%- <u>\</u> %	/500 x 100%	
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Date:	7/13/22		Site Name:	Vasco	
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Ai Temperature		General Weath Conditior	ns: <u>Cloudy</u>	=Shany	
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Pre-monitoring	Calibration Precision Check				
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3	0	562		2	3
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Calibration Precis	sion= Average Difference/Cal G	ias Conc. X 100% = 100%	(n if average difference is greater than ////////////////////////////////////	10
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	N 17 27	CALIBRATION AN	ID PERTINEN		•
Date	14500	-	Site Name:	Casco	
Inspector(s):	Don Gib	sen	Instrument:	TVA 2020	
WEATHER OF	BSERVATIONS			2	
Wind Speed	d: мрн	Wind Direction: 2	_	Barometric Pressure: 29	"Hg
A Temperature		General Weathe Conditions	er SUMN	4	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
and calculate th	brate the instrument. Make a he average algebraic differenc be less than or equal to 10% oj al Number:	е between the instrument	reading and the o	a zero air and the calibratio calibration gas as a percent Cal Gas Concentration:	n gas. Record the readings tage. The calibration 500ppm
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	ision= Average Difference/Cal	= 100%- = 99.5	%	/500 x 100%	
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ost Monitoring (Calibration Check				
ero Air eading:		Cal Gas Reading:	502	opm	
ACKGROUND C	CONCENTRATIONS CHECKS	$\wedge i$			
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ownwind Locatic	on Description:	3146	F	Reading: <u>CO</u>	opm
e	Vind speed averages were obs xceeded 20 miles per hour. N neteorological conditions were	o rainfall had occurred wi	thin the previous	24 hours of the monitoring	gevent. Therefore, site

		SURFACE EMISSI			
Date	7-12-77			Vosco	N.
Inspector(s)	Kashadi	Januar	Site Name:		
	BSERVATIONS	Varren	Instrument:	TVA 2020	
WEATHER OF	BJENAM (IDIA2				
Wind Spee	d: MPH	Wind Direction:	ingen Marine Marine	Barometric Pressure: <u>29</u>	"Hg
A Temperature	ir e:*F	General Weathe Conditions	Sunn	7	
CALIBRATION	INFORMATION		1		
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and calculate to	brate the instrument. Make of he average algebraic different be less than or equal to 10% of al Number:	ce between the instrument i of the calibration gas value, 	nts by alternatin reading and the	g zero air and the calibratio calibration gas as a percent Cal Gas Concentration:	n gas. Record the readings tage. The calibration 500ppm
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oan Sensitivity:					
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	unts Observed for the Span=	145872			
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st Monitoring (Calibration Check				
ro Air	n li	Cal Gas	007		
ading: –	-0,4 ppm	Reading: -	201	ppm	
CKGROUND	ONCENTRATIONS CHECKS	$\cap I$			
wind Location (Description:	Flare		Reading: <u>23</u>	pm
wnwind Locatic	on Description:	G146		Reading: <u>2.0</u>	opm
e	Vind speed averages were ob xceeded 20 miles per hour. I neteorological conditions wer	No rainfall had occurred wit	hin the previous	24 hours of the monitoring	event. Therefore, site

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1		SURFACE EMISS CALIBRATION A			
Date:	7-22-		Site Name	Vasco	
Inspector(s)	7-22-1 Lou		Instrument:	TVA 2020	
WEATHER OBS	ERVATIONS				
Wind Speed.	9 мрн	Wind Direction: 6/51		Barometric Pressure: 29	
Air	20	General Weath			"Hg
Temperature:	<u>S'/</u> "F	Condition	SUNN	4	
CALIBRATION I	VFORMATION			/	
Pre-monitoring C	alibration Precision Che	ck			
nstrument Serial	less than of equal to 10	rence between the instrument % of the calibration gas value		Cal Gas Concentration.	500ppm
rial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (second
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3	-0.1	500	0		3
libration Precisic	on= Average Difference/			if average difference is greater than 10	
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an Sensitivity:		'Cal Gas Conc. X 100% = 100%-	/ % Trial 3:	/500 x 100%	73972
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an Sensitivity: al 1: Counte Counte	ts Observed for the Span	Cal Gas Conc. X 100% = 100%- = 99.8 n= <u>169772</u>	/ % <u>Trial 3:</u> Count	/500 x 100%	
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an Sensitivity: al 1: Counte Counte al 2: Counter Counter t Monitoring Calil Air ding:	ts Observed for the Span rs Observed for the Zero s Observed for the Span rs Observed for the Zero bration Check	Cal Gas Conc. X 100% = 100%- = 99.8° m= 169772 p= 5859 m= 171596 p= 5835° Cal Gas Reading:	/ % <u>Trial 3:</u> Counte <u>Counte</u>	/500 x 100% s Observed for the Span= rs Observed for the Zero=	5832
an Sensitivity: al 1: Counter al 2: Counter Counter Counter Counter Air Air Air Counter Co	ts Observed for the Span rs Observed for the Zero s Observed for the Span rs Observed for the Zero bration Check D-3_ppm ICENTRATIONS CHECK	Cal Gas Conc. X 100% = 100%- = 99.8° n= 169772 D= 5859 n= 171796 D= 5835° Cal Gas Reading:	/ % <u>Trial 3:</u> Counte <u>Counte</u>	/500 x 100% s Observed for the Span= rs Observed for the Zero=	5832

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Date	&-11-27 Diego Rome		Site Name:	Vasco	
Inspector(s):	Viego Kome	10	Instrument:	TVA 2020	
WEATHER O	BSERVATIONS	0	2 ¹	<u>×</u>	
Wind Spee	ed: MPH	Wind Sirection:		Barometric Pressure: <u>30.0</u>	'5 "Hg
, Temperatur	Air re: <u>63</u> °F	General Weat Conditic		F.	
CALIBRATIO	N INFORMATION		J		
Pre-monitorin	g Calibration Precision Check	c .			
and calculate i precision must Instrument Ser	the average algebraic differe be less than or equal to 10% ial Number:	nce between the instrumen 6 of the calibration gas valu 2 3	nt reading and the c ie.	calibration gas as a percen Cal Gas Concentration:	tage. The colibrat
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Co	oncCal Gas Reading]	Response Time
1	-0.1	505		5	1
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	ision= Average Difference/Ca	Average Difference:	. ?	Z if average difference is greater than /500 x 100%	1 2 10
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Weather Data



Third Quarter 2022 LMR Surface Emissions Monitoring Weather Data July 12, 2022 Vasco Road Landfill, Livermore, California

July 13, 2022



Third Quarter 2022 LMR Surface Emissions Monitoring Weather Data July 13, 2022 Vasco Road Landfill, Livermore, California

July 22, 2022



Third Quarter 2022 LMR Surface Emissions Monitoring Weather Data July 22, 2022 Vasco Road Landfill, Livermore, California





Third Quarter 2022 LMR Surface Emissions Monitoring Weather Data August 11, 2022 Vasco Road Landfill, Livermore, California

SCS FIELD SERVICES

january 5, 2022 File No. 07221004.01

Ms. Antonia Gunner Republic Services – Vasco Road Landfill 4001 N. Vasco Road Livermore, California 94551

Subject: Vasco Road Landfill - Livermore, California

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring for Fourth Quarter 2022.

Dear Ms. Gunner:

SCS Field Services (SCS-FS) is pleased to provide the Republic Services, with the enclosed report summarizing the surface emissions monitoring services provided at the Vasco Road Landfill (Site) during the fourth quarter 2022. This report includes the results of surface scan, component emissions and blower/flare station emissions monitoring for the Site for this monitoring period.

SCS-FS appreciates the opportunity to be of assistance to Republic Services on this project. As you review the enclosed information, please contact Art Jones (209) 345-2062 or Whitney Stackhouse at (209) 338-7990 if you have any questions or comments.

Sincerely,

Whitney Stackhouse Project Manager SCS Field Services

au

Arthur E Jones Jr Regional Manager SCS Field Services

Encl.

cc: Tony Svorinich, SCS Field Services



Vasco Road Landfill

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

Fourth Quarter 2022

Presented to:



Ms. Antonia Gunner Republic Services – Vasco Road 4001 N. Vasco Road Livermore, California 94551

SCS FIELD SERVICES

File No. 07221004.01 | January 5, 2022

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

Vasco Road Landfill

Landfill Methane Rule (LMR) and New Source Performance Standards (NSPS) Surface Emissions Monitoring Fourth Quarter 2022

INTRODUCTION

This letter provides results of the October 12, 14, 17, 18, 21 and November 11, 2022, LMR and NSPS landfill surface emissions monitoring (SEM) performed by SCS Field Services (SCS) at the subject site. All work was performed in accordance with our approved Work Scope dated December 23, 2020, and the LMR requirements.

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 Vasco Road Landfill was performed on 25-foot pathways in accordance with the LMR.

On, October 12, 14, 17, 18, 21 and November 11, 2022, SCS performed fourth quarter 2022 surface emissions monitoring testing as required by the Bay Area Air Quality Management District (BAAQMD). Instantaneous surface emissions monitoring results indicated that three (3) location exceeded the 500 ppmv maximum concentration during our monitoring (Table 1 in Attachment 3). The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring indicated that the location had returned to below regulatory compliance limits following system adjustments and remediation (installation of new bentonite plugs and cover soil compaction) 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 grid areas. The Vasco Road Landfill surface area was therefore divided into 233 grids, as shown on Figure 1 in Attachment 1. During this monitoring event, several grids were not monitored, in accordance with the regulations, due to ongoing active landfilling activities, unsafe conditions, or there was no waste in place prior to the monitoring event.

During the monitoring event, there were no grid areas observed to exceed the 25 ppmv LMR integrated average threshold (Table 2 in Attachment 4). Based on these monitoring results, no follow up monitoring is required at this time. These results are discussed in a subsequent section of this report.

In addition, quarterly monitoring of the pressurized piping or components of the Gas Collection and Control System (GCCS) that are under positive pressure must be performed quarterly. 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, no location was observed to exceed the 200 ppmv, reporting threshold. When there reading are observed, the locations will be reported to site personnel for tracking and/or remediation and will be reported in the next submittal of the annual LMR report.

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

BACKGROUND

The Vasco Road 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 Vasco Road property contains a system to control the combustible gases generated in the landfill.

SURFACE EMISSIONS MONITORING

On October 12, 14, 17, 18, 21 and November 11, 2022, the instantaneous and integrated SEM was performed over the surface of the subject site. The intent of the monitoring was to identify any specific locations or areas of the landfill surface with organic compound concentrations exceeding the LMR threshold limit values of 500 ppmv measured as methane for instantaneous monitoring, or an average methane concentration of 25 ppmv for the integrated monitoring in the 50,000 square foot grids as required under the LMR. During this event, SCS performed the monitoring on a 25-foot pathway in accordance with the rules as required.

EMISSIONS TESTING INSTRUMENTATION/CALIBRATION

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

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

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

SURFACE EMISSIONS MONITORING PROCEDURES

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

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

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

TESTING RESULTS

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

On October 12, 14, 17, 18, 2022, SCS performed fourth quarter 2022 instantaneous emissions monitoring testing as required by the BAAQMD. During this monitoring, surface emissions results indicated that three (3) location exceeded the 500 ppmv maximum concentration. The required 10-day (LMR/NSPS) and 30-day (NSPS) follow-up monitoring performed on October 21 and November 11, 2022, respectively, indicated that the locations had returned to compliance following system adjustments and remediation (borehole repairs using bentonite and cover soil compaction performed on October 18, 2022) performed by SCS and site personnel. Based on these monitoring results no additional follow up testing was required. Results of the monitoring are shown in Attachments 2 and 3 (Table 1).

Additionally, no integrated exceedances (the calculated average of the instantaneous monitoring results) of the 25 ppmv requirement on October 12, 14, 17, 18, 2022, were observed, therefore no further testing was required. Results of the monitoring are shown in Attachment 4 (Table 2). Calibration logs for the monitoring equipment are provided in Attachment 5.

During this monitoring event, several grids were not monitored, in accordance with the LMR, due to active landfilling activities, unsafe conditions or no waste in place. SCS will continue to monitor all accessible locations during the first quarter 2023.

PRESSURIZED PIPE AND COMPONENT LEAK MONITORING

On October 14, 2022, quarterly leak monitoring was performed in accordance with the LMR. SCS performed LFG pressurized pipe and component leak monitoring at the BFS and power generation facility (reported separately). Monitoring was performed with the detector inlet held one-half of an inch from pressurized piping and associated components. No locations exceeding the 500 ppmv threshold were observed during our monitoring event. The maximum reading, which was 1.70 ppmv, was well below the maximum threshold (see Table 1 for component results). Therefore, all pressurized piping and components located at the LFG BFS were in compliance at the time of our testing.

PROJECT SCHEDULE

According to the LMR and NSPS, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the first quarter 2023 (January through March) surface emissions testing event is scheduled to be performed by the end of March 2023 in accordance with the Republic SOP unless an alternative timeline is requested by site personnel.

STANDARD PROVISIONS

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

Landfill Grid

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Surface Pathway



Fourth Quarter 2022 Initial LMR Surface Emissions Monitoring Pathway Vasco Road Landfill, Livermore, California

Instantaneous and Component Emissions Monitoring Results



Fourth Quarter 2022 Initial Instantaneous Emissions Monitoring Location Greater Than 500 ppmv Vasco Road Landfill, Livermore, California

Fourth Quarter 2022

Table 1. Instantaneous Surface and ComponentEmissions Monitoring ResultsVasco Road Landfill, Livermore, California

Instantaneous Data Report for October 12, 14, 17, 18, 21 and November 11, 2022

Location (Surface)	Initial Monitoring Results (ppmv) 10/12/2022	First 10- Day Follow Up Monitoring Results (ppmv) 10/17/2022	30-Day Follow Up Monitoring Results (ppmv) 11/11/2022	Latitude	Longitude
EW161	7,900	6	3	37.760750°	-121.728800°
(Grid) 147 RR	550	40	10	37.747717°	-121.717250°
EW19	26,000	2	1	37.751533°	-121.723833°

Pressurized Pipe and Component Results

Route	Date	Concentration (ppmv)
FLARE STATION	10/14/2022	1.70

No other exceedances of the 200 or 500 ppmv threshold were observed during the fourth quarter 2022 monitoring.

Integrated Monitoring Results

Point Name	Record Date	FID Concentration (ppm)	Comments
VR 001	10/17/2022 12:09	0.62	
VR 002	10/17/2022 12:17	0.76	
VR 003	10/18/2022 10:06	1.24	
VR 004	10/17/2022 12:32	1.40	
VR 005	10/17/2022 14:33	1.06	
VR 006	10/17/2022 13:34	2.83	
VR 007	10/17/2022 14:11	2.85	
VR 008	10/17/2022 13:39	1.87	
VR 009	10/17/2022 13:43	4.45	
VR 010	10/17/2022 13:51	1.69	
VR 011	10/17/2022 13:11	2.55	
VR 012	10/17/2022 14:05	1.75	
VR 013	10/17/2022 13:48	6.24	
VR 014	10/17/2022 13:46	6.52	
VR 015			Active
VR 016	10/17/2022 14:15	1.58	
VR 017	10/17/2022 13:24	6.32	
VR 018			Active
VR 019	10/17/2022 14:25	1.82	
VR 020	10/17/2022 12:26	5.89	
VR 021	10/17/2022 12:22	5.77	
VR 022			Active
VR 023			Active
VR 024			Active
VR 025			Active
VR 026			Active
VR 027			Active
VR 028			Active
VR 029			Active
VR 030			Active
VR 031			Active
VR 032			Active
VR 033			Active
VR 034			Active
VR 035			Active
VR 036			Active
VR 037	10/12/2022 10:17	0.79	
VR 038			Active
VR 039			Active
VR 040			Active
VR 041			Active
VR 042			Active



Point Name	Record Date	FID Concentration (ppm)	Comments
VR 043	10/12/2022 11:01	0.55	
VR 044	10/12/2022 11:10	0.47	
VR 045	10/12/2022 10:48	0.62	
VR 046			Active
VR 047			Active
VR 048			Active
VR 049			Active
VR 050			Active
VR 051			Active
VR 052			Active
VR 053			Active
VR 054	10/12/2022 12:06	1.21	
VR 055	10/12/2022 12:06	1.14	
VR 056	10/12/2022 12:42	1.39	
VR 057	10/12/2022 09:42	1.01	
VR 058			Active
VR 059			Active
VR 060			Active
VR 061			Active
VR 062	10/14/2022 09:47	1.62	
VR 063	10/14/2022 09:45	1.62	
VR 064	10/14/2022 09:50	1.60	
VR 065	10/14/2022 09:28	1.79	
VR 066			Active
VR 067			Active
VR 068			Active
VR 069			Active
VR 070	10/14/2022 10:53	1.20	
VR 071	10/14/2022 10:59	1.12	
VR 072	10/14/2022 10:54	1.13	
VR 073	10/14/2022 11:08	1.15	
VR 074			Active
VR 075			Active
VR 076			Active
VR 077			Active
VR 078			Active
VR 079	10/12/2022 08:48	0.82	
VR 080	10/12/2022 09:17	0.69	
VR 081	10/12/2022 09:13	0.71	
VR 082	10/12/2022 09:25	0.72	
VR 083			Active
VR 084			Active

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Point Name	Record Date	FID Concentration (ppm)	Comments
VR 085			Active
VR 086			Active
VR 087	10/12/2022 12:59	1.74	
VR 088	10/12/2022 12:25	1.47	
VR 089	10/12/2022 12:07	1.32	
VR 090	10/12/2022 11:54	1.39	
VR 091	10/14/2022 10:35	1.49	
VR 092	10/14/2022 10:35	6.15	
VR 093	10/18/2022 10:20	0.91	
VR 094			Active
VR 095			Active
VR 096			Active
VR 097	10/14/2022 09:01	0.88	
VR 098	10/14/2022 09:20	1.36	
VR 099	10/14/2022 10:18	0.95	
VR 100	10/14/2022 10:12	1.27	
VR 101	10/14/2022 10:13	1.27	
VR 102			Active
VR 103			Active
VR 104			Active
VR 105			Active
VR 106	10/12/2022 11:33	0.79	
VR 107	10/12/2022 11:38	0.73	
VR 108	10/12/2022 12:01	0.88	
VR 109	10/12/2022 11:40	0.80	
VR 110	10/12/2022 11:39	0.73	
VR 111	10/12/2022 11:48	1.10	
VR 112	10/12/2022 11:44	2.24	
VR 113			Active
VR 114			Active
VR 115			Active
VR 116	10/12/2022 09:26	0.96	
VR 117	10/12/2022 09:25	0.93	
VR 118	10/12/2022 09:18	0.98	
VR 119	10/12/2022 09:25	0.94	
VR 120	10/12/2022 09:25	1.03	
VR 121	10/12/2022 09:21	1.47	
VR 122	10/12/2022 09:15	2.01	
VR 123			Active
VR 124			Active
VR 125			Active
VR 126	10/12/2022 09:47	1.06	



Point Name	Record Date	FID Concentration (ppm)	Comments
VR 127	10/12/2022 10:12	1.22	
VR 128	10/12/2022 10:03	1.08	
VR 129	10/12/2022 10:06	1.36	
VR 130	10/12/2022 10:11	1.33	
VR 131	10/12/2022 10:14	1.35	
VR 132	10/12/2022 09:58	1.39	
VR 133	10/12/2022 09:56	1.54	
VR 134	10/18/2022 10:26	0.94	
VR 135	10/18/2022 10:36	0.90	
VR 136			Active
VR 137			Active
VR 138			Active
VR 139	10/14/2022 08:53	0.68	
VR 140	10/14/2022 09:23	0.52	
VR 141	10/14/2022 09:17	0.52	
VR 142	10/14/2022 09:12	0.55	
VR 143	10/14/2022 09:16	0.54	
VR 144	10/14/2022 09:13	0.60	
VR 145	10/14/2022 09:10	0.85	
VR 146	10/12/2022 12:48	1.14	
VR 147	10/12/2022 12:46	4.01	
VR 148	10/12/2022 13:04	2.12	
VR 149			Active
VR 150			Active
VR 151	10/18/2022 11:47	1.88	
VR 152	10/14/2022 09:29	0.57	
VR 153	10/17/2022 10:13	5.75	
VR 154	10/17/2022 10:27	5.71	
VR 155	10/17/2022 10:26	5.70	
VR 156	10/17/2022 10:28	5.70	
VR 157	10/17/2022 10:46	5.70	
VR 158	10/17/2022 10:31	5.75	
VR 159	10/17/2022 10:28	5.86	
VR 160	10/17/2022 10:20	5.83	
VR 161	10/17/2022 10:04	5.73	
VR 162			Active
VR 163			Active
VR 164			Active
VR 165	10/18/2022 11:37	1.58	
VR 166	10/14/2022 09:48	0.36	
VR 167	10/17/2022 10:22	1.31	
VR 168	10/17/2022 10:25	1.19	



Point Name	Record Date	FID Concentration (ppm)	Comments
VR 169	10/17/2022 10:23	1.06	
VR 170	10/17/2022 10:17	0.98	
VR 171	10/17/2022 10:28	0.99	
VR 172	10/17/2022 10:19	1.16	
VR 173	10/17/2022 10:14	2.53	
VR 174	10/17/2022 10:29	3.92	
VR 175	10/17/2022 10:44	2.12	
VR 176			Active
VR 177			Active
VR 178	10/18/2022 11:28	1.50	
VR 179	10/14/2022 10:16	0.95	
VR 180	10/18/2022 10:55	1.36	
VR 181	10/18/2022 11:00	0.84	
VR 182	10/18/2022 11:03	1.24	
VR 183	10/18/2022 11:32	1.55	
VR 184	10/18/2022 11:21	1.56	
VR 185	10/18/2022 11:01	1.46	
VR 186	10/18/2022 11:28	1.97	
VR 187	10/18/2022 10:55	3.04	
VR 188	10/18/2022 09:55	2.02	
VR 189			Active
VR 190			Active
VR 191			Active
VR 192	10/18/2022 11:59	4.88	
VR 193	10/18/2022 11:19	2.06	
VR 194	10/14/2022 10:53	2.89	
VR 195	10/18/2022 12:18	2.82	
VR 196	10/18/2022 12:33	1.63	
VR 197	10/17/2022 12:07	1.39	
VR 198	10/17/2022 11:12	1.12	
VR 199	10/17/2022 11:46	1.14	
VR 200	10/17/2022 11:31	1.33	
VR 201	10/17/2022 11:34	1.65	
VR 202	10/17/2022 12:25	4.23	
VR 203	10/17/2022 14:44	0.74	
VR 204	10/14/2022 11:36	1.56	
VR 205	10/17/2022 13:24	2.19	
VR 206	10/17/2022 13:31	2.27	
VR 207	10/17/2022 13:16	2.08	
VR 208	10/17/2022 13:32	2.09	
VR 209	10/17/2022 13:46	2.12	
VR 210	10/17/2022 13:36	1.73	



Point Name	Record Date	FID Concentration (ppm)	Comments
VR 211	10/17/2022 13:13	1.85	
VR 212	10/17/2022 13:20	2.83	
VR 213			Structre/Paved Parking Area
VR 214	10/18/2022 12:54	1.48	
VR 215	10/18/2022 14:14	1.32	
VR 216	10/18/2022 14:23	1.08	
VR 217	10/18/2022 14:27	1.10	
VR 218	10/18/2022 14:22	0.86	
VR 219	10/18/2022 14:24	0.78	
VR 220	10/18/2022 14:21	0.86	
VR 221	10/18/2022 14:31	0.82	
VR 222	10/18/2022 14:13	1.09	
VR 223	10/18/2022 13:39	0.98	
VR 224	10/18/2022 13:34	0.55	
VR 225			Structre/Paved Parking Area
VR 226	10/18/2022 15:45	0.59	
VR 227			Structre/Paved Parking Area
VR 228			Structre/Paved Parking Area
VR 229			Structre/Paved Parking Area
VR 230			Structre/Paved Parking Area
VR 231			Structre/Paved Parking Area
VR 232			Structre/Paved Parking Area
VR 233			Structre/Paved Parking Area

SCS DataServices - Secure Environmental Data

Calibration Logs

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Date:	10/12/22		Site Name:	Vasco	
Inspector(s):	10/12/22 R.Warren	n	Instrument:	TVA 2020	
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A Temperature		General We Condi	tions: <u>4(014)</u>	-	
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
and calculate the precision must in the second seco	brate the instrument, Make a he average algebraic difference be less than or equal to 10% o	ce between the instrum	nent reading and the	calibration gas as a percen	tage. The calibration
Instrument Seri	al Number:	-1		Cal Gas Concentration:	500ppm
Trial 1	Zero Air Reading		Cal Gas C	oncCal Gas Reading	Response Time (seco
2	-0 -1	yag			2
3	010	100)	2
Calibration Preci	sion= Average Difference/Cal		*Perform recalibration), 6 If average difference is greater than	10
Calibration Preci	sion= Average Difference/Cal	Gas Conc. X 100%	*Perform recalibration	/500 × 100%	10
	sion= Average Difference/Cal	Gas Conc. X 100%			10
Span Sensitivity: Trial 1:		Gas Conc. X 100% = 10 = 99.	*Perform recalibration	/500 x 100%	
Span Sensitivity: Trial 1: Co	unts Observed for the Span=	Gas Conc. X 100% = 10 = 99.	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2:	unts Observed for the Span= nters Observed for the Zero=	Gas Conc. X 100% = 10 = 99, <u>IU 3446</u> <u>U 4144</u>	*Perform recalibration	/500 x 100%	138784
Span Sensitivity: Trial 1: Co Cour Trial 2:	unts Observed for the Span=	Gas Conc. X 100% = 10 = 99, UJ 3446 UJ 3446 UJ 144 UH 144	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2: Co	unts Observed for the Span= nters Observed for the Zero=	Gas Conc. X 100% = 10 = 99, <u>IU 3446</u> <u>U 4144</u>	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2: Co	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero=	Gas Conc. X 100% = 10 = 99, UJ 3446 UJ 3446 UJ 144 UH 144	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: <u>Trial 1:</u> Co <u>Cour</u> <u>Trial 2:</u> Cour Post Monitoring C Post Monitoring C	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Gas Conc. X 100% = 10 = 99, UJ 3446 UJ 3446 UJ 144 UH 144	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: <u>Trial 1:</u> Co <u>Cour</u> <u>Trial 2:</u> Cour Post Monitoring C Post Monitoring C	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero=	Gas Conc. X 100% = 10 = 99. UJ 3446 UJ 3446 UJ 44 UJ 4	*Perform recalibration	/500 x 100% its Observed for the Span=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2: Cour Cour Post Monitoring C Zero Air Reading:	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Gas Conc. X 100% = 10 = 99, <u>143466 4144</u> <u>141052</u> <u>4144</u> <u>141052</u> <u>4149</u> <u>141053</u>	*Perform recalibration	/500 x 100% its Observed for the Span= ers Observed for the Zero=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2: Cour Cour Post Monitoring C Zero Air Reading:	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Gas Conc. X 100% = 10 = 99, <u>143466 4144</u> <u>141052</u> <u>4144</u> <u>141052</u> <u>4149</u> <u>141053</u>	*Perform recalibration 00%- 0 . 6 % Trial 3: Courter Counter 5	/500 x 100% its Observed for the Span= ers Observed for the Zero=	138784
Span Sensitivity: Trial 1: Co Cour Trial 2: Cour Post Monitoring C Zero Air Reading: BACKGROUND C	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check Calibration Check Concentrations Checks Description:	Gas Conc. X 100% = 10 = 99,	*Perform recalibration	/500 x 100% Its Observed for the Span= ers Observed for the Zero=	138784 4144

			and the second se		and the second se
		SURFACE EMISS			
	7.1	CALIBRATION AN	ID PERTINEN	Τ ΔΑΤΑ	
Date: 10	12/22		Site Name:	Vasco	
Inspector(s):	Gibson		Instrument:	TVA 2020	
WEATHER OBSERVATION	ONS			1	
Wind Speed: 5	Мрн	Wind Direction: NE		Barometric Pressure: 30.0	"Hg
Air Temperature:5	°F	General Weathe Conditions	" Cloudy	lwindy	
CALIBRATION INFORM	ATION		-	-	
Pre-monitoring Calibratio	n Precision Check				
Procedure: Calibrate the i and calculate the average precision must be less tha Instrument Serial Number	e algebraic difference of n or equal to 10% of t	between the instrument	reading and the co	zero air and the calibratio Ilibration gas as a percent Cal Gas Concentration:	6
			1 1010		
1 Zer	o Air Reading	Cal Gas Reading	Cal Gas Co	ncCal Gas Reading	Response Time (seconds
- 2	0	yeaa	1		l l
3	0	103	1		2
alibration Precision= Aver			0.6	500 x 100%	
		= 99.5	%		
pan Sensitivity:					
rial 1: Counts Obser	rved for the Span= \int	26228	Trial 3: Counts	Observed for the Span=	140042
Counters Obser	rved for the Zero= 3	608	Counter	o Observed for the Zero=	3594
in 1.7.		132280			
Counters Obser	ved for the Zero=	3582		12	
st Monitoring Calibration	Check				
ro Air		Cal Gas			
ading: 0	ppm		13 pr	im	
CKGROUND CONCENTR					
wind Location Description		crvid Le	Re	ading 2.1	pm
vnwind Location Descript	ion	Flare	Be	ading: 2.5_p	pm
exceeded 20) miles per hour. No i	rainfall had occurred wit	hin the previous 24	sted 10 miles per hour an 4 hours of the monitoring R requirements on the ab	d no instantaneous speeds event. Therefore, site

1		SURFACE EMISS			×	
Date	10/12/22		Site Name:	Vasuo	2	
Inspector(s)	Bryan	Ochou	Instrument:	TVA 2020		
WEATHER OB	SERVATIONS			2		1
Wind Speed	МРН	Wind Direction: \mathcal{VE}		Barometric Pressure: 30. 6	− 5 "Hg	
Air Temperature:		General Weath Condition	ns: Partly	Cloudy		
CALIBRATION I	INFORMATION		\mathcal{I}			
Pre-monitoring (Calibration Precision Check					
and calculate the	e average algebraic differen e less than or equal to 10% c	ce between the instrumen	t reading and the	calibration gas as a perce		
rial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (seconds)	
1 2	0	500				
3	ő	498				
	ion= Average Difference/Cal	= 100%	-	/500 x 100%		
		=	%			
an Sensitivity:						
ial 1: Cou	nts Observed for the Span=	182452	Trial 3: Cour	nts Observed for the Span	190400 \$ 5290	
	ers Observed for the Zero=	5390	Count	ers Observed for the Zero	\$ 5290	
<u>al 2:</u> Cour	nts Observed for the Span=	193456	-			
Count	ers Observed for the Zero=	5411				
it Monitoring Ca	libration Check					
o Air Iding:	. Ø, lppm	Cal Gas Reading:	_502	ppm		
CKGROUND CC	DNCENTRATIONS CHECKS					
vind Location De	escription:	firid 6 -larc	- E	Reading: 7.4	1	
vnwind Location	Description:	-larc		Reading: 2.7	ppm	
es: Wi	nd speed averages were ob: ceeded 20 miles per hour. N	served to remain below th	ie alternative requ	uested 10 miles per hour a	and no instantaneous speeds	

1		SURFACE EMISS			
1		CALIONATIVITA			
Date:	10/12/22		Site Name:	Vusus	
Inspector(s);	_ Ruben	Roosta	Instrument:	TVA 2020	
WEATHER O	BSERVATIONS			1-	
	a 5	Wind		Barometric	
Wind Spee	ed: 62 MPH	Direction: NE		Pressure: <u>30. 0</u>	5 "Hg
Temperatu		General Weath	er ri.d.		
		Condition	ns: Cloudy	-0	
CALIBRATIO	N INFORMATION				
Pre-monitorin	g Calibration Precision Check				
Procedure: Ca	librate the instrument Make	a total of three measureme	ents by alternatin	g zero air and the calibrati	on gas Record the readings
precision must	the average algebraic differe • be less than or equal to 10%	nce between the instrument of the calibration gas value	t reading and the e.	calibration gas as a percei	ntage. The calibration
Instrument Ser	ial Number 17	-11		Cal Gas Concentration	500ppm
Trial	Zero Air Reading	Cal Gas Reading	I Cal Gas (ConcCal Gas Reading	Response Time (seconds
1	-01	503		tone car das nedunis [incoportise time (seconds
2	-0.1	502			
	0	718			1
Calibration Prec	cision= Average Difference/Co			n if average difference is greater tha	n 10
Calibration Prec	cision= Average Difference/Co			n if average difference is greater tha /500 x 100%	n 10
		al Gas Conc. X 100%			n 10
pa n Sensitivit y		al Gas Conc. X 100%	%		n 10
pan Sensitivity		al Gas Conc. X 100% = 100% =	% Trial 3:		
<mark>pan Sensitivity</mark> i rial 1: Cou		al Gas Conc. X 100% = 100% = = <u>134024</u>	% <u>Trial 3:</u> Cou	/500 x 100%	134030
ipan Sensitivity irial 1: Cou rial 2:	: punts Observed for the Span-	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u>	% <u>Trial 3:</u> Cou	/500 x 100% nts Observed for the Span-	134030
<mark>pan Sensitivity</mark> rial 1: Cou <u>rial 2:</u> Cc	: punts Observed for the Span Inters Observed for the Zero- punts Observed for the Span-	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>135320</u>	% <u>Trial 3:</u> Cou	/500 x 100% nts Observed for the Span-	134030
pan Sensitivity rial 1: Cou rial 2: Cou Cou	cunts Observed for the Span Inters Observed for the Zero Punts Observed for the Span Inters Observed for the Zero	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>135320</u>	% <u>Trial 3:</u> Cou	/500 x 100% nts Observed for the Span-	134030
pan Sensitivity rial 1: Cou rial 2: Cou Dost Monitoring	: punts Observed for the Span Inters Observed for the Zero- punts Observed for the Span-	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>135320</u>	% <u>Trial 3:</u> Cou	/500 x 100% nts Observed for the Span-	134030
ipan Sensitivity irial 1: Cou rial 2: Cou Dost Monitoring	counts Observed for the Spans Inters Observed for the Zeros Dounts Observed for the Spans Inters Observed for the Zeros Calibration Check	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>135326</u> = <u>4169</u> Cal Gas	% Trial 3: Count	/500 x 100% hts Observed for the Span- ers Observed for the Zero-	134030
pan Sensitivity rial 1: Cou rial 2: Cou cost Monitoring ero Air eading:	cunts Observed for the Spans Inters Observed for the Zeros Dunts Observed for the Spans Inters Observed for the Zeros Calibration Check	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>13532</u> = <u>4169</u> Cal Gas Reading:	% <u>Trial 3:</u> Cou	/500 x 100% nts Observed for the Span-	134030
pan Sensitivity rial 1: Cou rial 2: Cou cost Monitoring ero Air eading:	counts Observed for the Spans Inters Observed for the Zeros Dounts Observed for the Spans Inters Observed for the Zeros Calibration Check	al Gas Conc. X 100% = 100% = = 134024 = 4219 = 135320 = 135320 Cal Gas Reading: S	% Trial 3: Count	/500 x 100% hts Observed for the Span- ers Observed for the Zero-	134030
pan Sensitivity rial 1: Cou rial 2: Cou cost Monitoring ero Air eading:	concentrations check	al Gas Conc. X 100% = 100% = = 134024 = 4219 = 135320 = 135320 Cal Gas Reading: S	% Trial 3: Count Count	/500 x 100% hts Observed for the Spansers Observed for the Zeros ppm Reading: Z.4	= <u>134030</u> = 4147
ipan Sensitivity itial 1: Cou rial 2: Cou cou cost Monitoring ero Air eading: ACKGROUND (pwind Location	concentrations check	al Gas Conc. X 100% = 100% = = <u>134024</u> = <u>4219</u> = <u>13532</u> = <u>4169</u> Cal Gas Reading:	% Trial 3: Count Count	/500 x 100% hts Observed for the Span- ers Observed for the Zero-	= <u>134030</u> = 4147
pan Sensitivity rial 1: Cou rial 2: Cou rial 2: Cou cou cou cou cou cou cou cou cou cou c	counts Observed for the Spans inters Observed for the Zeros punts Observed for the Spans inters Observed for the Zeros Calibration Check Concentrations Check Description: on Description:	al Gas Conc. X 100% = 100% = = = 134024 = 4219 = 135320 = 4169 Cal Gas Reading: S <u>Grid 6</u> <u>Marc</u>	% Trial 3: Count Count	$\sqrt{500 \times 100\%}$ hts Observed for the Spansers Observed for the Zeroes ppm Reading: 7.4 Reading: 2.2	<u>ррт</u>
pan Sensitivity rial 1: Cou rial 2: Cou cou cou cou cou cou cou cou cou cou c	concentrations check	al Gas Conc. X 100% = 100% = = 134024 = 4219 = 13532ω = 4169 Cal Gas Reading: S <u>Grid 6</u> <u>Clorz</u> bserved to remain below the No rainfall had occurred we	% Trial 3: Count Count	$7500 \times 100\%$ This Observed for the Span- ters Observed for the Zeroe ppm Reading: 2.4 Reading: 2.2 uested 10 miles per hour a 24 hours of the monitoring	ppm ppm and no instantaneous speed. present. Therefore, site

		SURFACE EMIS			
Date:	10/12/22		Site Name:	Vasuo	
Inspector(s)	10/12/22 Alfredo (Jomez	Instrument:	TVA 2020	
WEATHER (DBSERVATIONS			1	
Wind Spe	eed: <u>5</u> MPH	Wind Direction: NE		Barometric Pressure: <u>30.0</u>	5 "Hg
	Air ıre: <u>53</u> °F	General Weatl Conditio	ns: Cloudy	-	
CALIBRATIO	N INFORMATION				
Pre-monitorir	ng Calibration Precision Check				
nd calculate precision mus	alibrate the instrument. Make the average algebraic differer t be less than or equal to 10% rial Number: 23	ce between the instrumer of the calibration gas valu	nt reading and the	calibration gas as a percent	tage. The calibration
rial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds)
2	-0.2	500			
3	-6.1	500			
iibration Pre	cision= Average Difference/Ca		6	/500 × 100%	
		a	%		
an Sensitivity	/:				
al 1: C	Counts Observed for the Span=	191180	Trial 3: Cour	nts Observed for the Span=	191236
	unters Observed for the Zero=	4366	Count	ers Observed for the Zero=	4295
	ounts Observed for the Span=	192576			
al 2: Ci			32		
C	unters Observed for the Zero=	4264			
Cou	unters Observed for the Zero= ; Calibration Check	4264			
Cou Cou it Monitoring o Air		Cal Gas			27
Co Cou t Monitoring			5-04	ppm	
Cou Cou at Monitoring O Air ding:	Calibration Check	Cal Gas Reading:		ppm	•/
Cou it Monitoring o Air ding: CKGROUND	Calibration Check	Cal Gas Reading:		ppm Reading: 2.1	ppm
Cou The Monitoring The Air ding: CKGROUND vind Location	Calibration Check	Cal Gas Reading:		ppm Reading: 2, 7 Reading: 2, 2	ppm

		SURFACE EMISSI			
	1.1	CALIBRATION AN	D PERTINEI	NT DATA	
Date:	10/2/22	-0-8	Site Name:	Vased	
Inspector(s):	Ruben R.		Instrument	TVA 2020	
WEATHER OF	SERVATIONS				
	e	Wind		Barometric	
Wind Spee	д: МРН	Direction:	-	Pressure: 700	"Hg
A Temperature	S L	General Weather Conditions:	2 4 7 8	>	
CALIBRATION	INFORMATION		~	~	
Pre-monitoring	Calibration Precision Check				
Instrument Seri	-1	6		Cal Gas Concentration:	500ppm
Trial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (secor
2	0.0	500		0	2
	0 < 0			0	3
	sion= Average Difference/Ca	= 100%-	0	/500 × 100%	
		= / 00	%	-	
Span Sensitivity: Trial 1:					
	unts Observed for the Span=	145572	frial 3: Cour	nts Observed for the Span=	144292
	ters Observed for the Zero=	5396	Count	ers Observed for the Zero=	5382
<u>Trial 2:</u> Cou	unts Observed for the Span=	144940			0
Coun	ters Observed for the Zero=	5380			
Post Monitoring C	alibration Check				
Zero Air		Cal Gas			
Reading: -	-0.1 ppm	Reading:	507	ppm	
BACKGROUND C	ONCENTRATIONS CHECKS				
Jpwind Location [Description:	covid Co		Reading: 2.9	pm
ownwind Locatio	n Description:	Flore		Reading: 22_p	pm
	/ind speed averages were ob cceeded 20 miles per hour. I	No rainfall had occurred with	nin the previous		event. Therefore, site

		CALIBRATION AN	IONS MONI		
	11/1/22	CALIDITATION AT			
Date:	10/14/20		Site Name:	Vasco	
Inspector(s);	Rashad . W		Instrument;	TVA 2020	
WEATHER OBS	SERVATIONS				
Wind Speed:	Ц МРН	Wind Direction:		Barometric Pressure: 29.8	Č
			-	Pressure:	o "Hg
Air Temperature:		General Weath Condition	-1 (1	_	
CALIBRATION I	NFORMATION				
Pre-monitoring C	Calibration Precision Check				
and calculate the	rate the instrument Make a e average algebraic differenc e less than or equal to 10% oj	e between the instrument	reading and the	g zero air and the calibrati calibration gas as a percei	on gas Record the reading ntage. The calibration
Instrument Serial	Number: 122	2		Cal Gas Concentration	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (second
1	0	500		4	D
2	-0,1	500		4	6
Calibration Precisi	on= Average Difference/Cal	Average Difference	2	3 if average difference is greater that /500 x 100%] n 10
		Average Difference: Gas Conc. X 100%	3]] 10
Span Sensitivity:		Average Difference Gas Conc. X 100% = 100%-	3 % Trial 3:	/500 x 100%	
<u>Span Sensitivity:</u> Trial 1: Cour	on= Average Difference/Cal	Average Difference: Gas Conc. X 100% = 100%- = 999.9	3 % Trial 3: Coun	/500 x 100% ts Observed for the Span=	145464
Span Sensitivity: Trial 1: Court Counte	on= Average Difference/Cal nts Observed for the Span=_ ers Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 9999 199928 3791	3 % Trial 3: Coun	/500 x 100%	145464
<u>Span Sensitivity:</u> Trial 1: Court Counte Trial 2: Court	on= Average Difference/Cal on ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span=	Average Difference: Gas Conc. X 100% = 100%- = 99,9 149928 3791 145088	3 % Trial 3: Coun	/500 x 100% ts Observed for the Span=	145464
Span Sensitivity: Trial 1: Court Counte Trial 2: Courte Counte	on= Average Difference/Cal nts Observed for the Span= ers Observed for the Zero= nts Observed for the Span= ers Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 9999 199928 3791	3 % Trial 3: Coun	/500 x 100% ts Observed for the Span=	145464
Span Sensitivity: Trial 1: Counte Trial 2: Counte Post Monitoring Cai	on= Average Difference/Cal nts Observed for the Span= ers Observed for the Zero= nts Observed for the Span= ers Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 9999 [199928 3797 [195088] 3797	3 % Trial 3: Coun	/500 x 100% ts Observed for the Span=	145464
Span Sensitivity: Trial 1: Count Count Trial 2: Count Counte Post Monitoring Cai Zero Air	on= Average Difference/Cal nts Observed for the Span= ers Observed for the Zero= nts Observed for the Span= ers Observed for the Zero=	Average Difference: Gas Conc. X 100% = 100%- = 9, 9, 4 	3 % Trial 3: Counte	/500 x 100% ts Observed for the Span= ars Observed for the Zero=	145464
Span Sensitivity: Trial 1: Counter Trial 2: Counter	on= Average Difference/Cal ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= ers Observed for the Zero= libration Check	Average Difference: Gas Conc. X 100% = 100%- = 9999 [199928 3797 [195088] 3797	3 % Trial 3: Counte	/500 x 100% ts Observed for the Span=	145464
Span Sensitivity: Trial 1: Counte C	on= Average Difference/Cal the observed for the Span= ers Observed for the Zero= the observed for the Span= ers Observed for the Zero= libration Check ppm NCENTRATIONS CHECKS	Average Difference: Gas Conc. X 100% = 100%- = 9, 9, 4 	3 % Trial 3: Counte	/500 x 100% ts Observed for the Span= ars Observed for the Zero=	145464
Span Sensitivity: Trial 1: Counter Trial 2: Counter	on= Average Difference/Cal of the observed for the Span= ers Observed for the Zero= the observed for the Zero= the observed for the Zero= libration Check ppm NCENTRATIONS CHECKS escription	Average Difference: Gas Conc. X 100% = 100%- = 9, 9, 4 	3 % Trial 3: Counte 503	/500 x 100% ts Observed for the Span= rrs Observed for the Zero=	<u>145464</u> <u>37-71</u>

and the same of the second sec				- anni i e qui e incirco i
the second	for the classes have been added to be the second second	and the second s	and successive the second second	and a second
STES. BUSIESSILLASIO				21. 4.
Park, Bucklopk - Here Ido	8 - C - C - C - C - C - C - C - C - C -	(のい) たいてい いいしい	1 13 - 1 -	- AL DI KI
	a second		1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

		SURFACE EMIS			
	Alut	CALIBRATION A	IND VERTINEN		
Date	10/19/22		Site Name:	vallo	
Inspector(s):	Bryan. Och	ca	Instrument:	TVA 2020	
WEATHER OBSE	RVATIONS				
Wind Speed;	5 MPH	Wind Direction: NE	>	Barometric Pressure: 29	5 ′′′′нg
Air Temperature:	53 °F	General Weath Condition	ner s: <loydy< td=""><td>ļ.</td><td></td></loydy<>	ļ.	
CALIBRATION IN	FORMATION				
Pre-monitoring Ca	libration Precision Check				
and calculate the a	ate the instrument Make of average algebraic different d	ce between the instrumen	t reading and the c	calibration gas as a percer Calibration gas concentration	ntage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Co	oncCal Gas Reading	Response Time (secon
1 2	-9.1	200	0		
3		<u> </u>	1		+ +
	n= Average Difference/Cal	Average Difference Gas Conc. X 100% = 100%	,	if average difference is greater than /500 x 100%] 1 10
	n= Average Difference/Cal	Gas Conc. X 100%	,		10
Calibration Precision	n= Average Difference/Cal	Gas Conc. X 100% = 100%	%		10
Calibration Precision Span Sensitivity: Trial 1:	n= Average Difference/Cal	Gas Conc. X 100% = 100%	% <u>Trial 3:</u>		1741 7
Calibration Precisio Span Sensitivity: Trial 1: Counter		Gas Conc. X 100% = 100% = 998 180256	% Trial 3: Count	/500 x 100% ts Observed for the Span=	17663
Calibration Precisio Span Sensitivity: Trial 1: Counter Trial 2:	s Observed for the Span= s Observed for the Zero=	Gas Conc. X 100% = 100% = 99% <u>180256</u> <u>4905</u>	% Trial 3: Count	/500 x 100%	17663
Calibration Precision Span Sensitivity: <u>Trial 1:</u> Counter <u>Trial 2:</u> Counts	s Observed for the Span≃ rs Observed for the Zero= s Observed for the Span=	Gas Conc. X 100% = 100% = 99% 180256 4905 183868	% Trial 3: Count	/500 x 100% ts Observed for the Span=	17663
Calibration Precision Span Sensitivity: Trial 1: Counter Trial 2: Counter	s Observed for the Span= s Observed for the Zero= s Observed for the Span= s Observed for the Zero=	Gas Conc. X 100% = 100% = 99% <u>180256</u> <u>4905</u>	% Trial 3: Count	/500 x 100% ts Observed for the Span=	17663
Calibration Precision Span Sensitivity: <u>Trial 1:</u> Counter <u>Trial 2:</u> Counts	s Observed for the Span= s Observed for the Zero= s Observed for the Span= s Observed for the Zero=	Gas Conc. X 100% = 100% = 99% 180256 4905 183868	% Trial 3: Count	/500 x 100% ts Observed for the Span=	17663
Calibration Precision Span Sensitivity: Trial 1: Counter Trial 2: Counter Post Monitoring Calif ero Air	s Observed for the Span= s Observed for the Zero= s Observed for the Span= s Observed for the Zero= bration Check	Gas Conc. X 100% = 100% = 99% = 99% 180256 99% 183868 90% 290% Cal Gas	۲ <u>rial 3:</u> Counte	/500 x 100% ts Observed for the Span= ars Observed for the Zero=	17663
Calibration Precision Span Sensitivity: Trial 1: Counter Trial 2: Counter Coun	s Observed for the Span= s Observed for the Zero= s Observed for the Span= s Observed for the Zero= bration Check	Gas Conc. X 100% = 100% = 99 \$ 180256 49 05 183868 49 43 49 43 Cal Gas Reading:	۲ <u>rial 3:</u> Counte	/500 x 100% ts Observed for the Span=	17663
Calibration Precision Span Sensitivity: Trial 1: Counter Trial 2: Counter Post Monitoring Calibred Gero Air Leading: Counter C	s Observed for the Span= s Observed for the Zero= s Observed for the Span= s Observed for the Zero= bration Check ppm ICENTRATIONS CHECKS	Gas Conc. X 100% = 100% = 99 \$ 180256 49 05 183868 49 43 49 43 Cal Gas Reading:	۲ <u>rial 3:</u> Counte	/500 x 100% ts Observed for the Span= ars Observed for the Zero=	17663
Calibration Precision Span Sensitivity: Trial 1: Counter Trial 2: Counter Coun	s Observed for the Span= s Observed for the Zero= s Observed for the Span= <u>s Observed for the Zero=</u> bration Check ppm ICENTRATIONS CHECKS cription	Gas Conc. X 100% = 100% = 99 \$ 180256 49 05 183868 4943 Cal Gas Reading:	۲ <u>rial 3:</u> Count Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero=	17663 4941

		SURFACE EMISS			
	10/11/		voz 1 61¥11¥€1		
Date:	10/14/22		Site Name;	Vasco	
Inspector(s)	A. Gomez		Instrument	TVA 2020	
WEATHER O	BSERVATIONS			а .	
Wind Spee	d: MPH	Wind Direction:		Barometric Pressure: 29.4	Hg
ہ Temperatur	Air e: <u>52</u> °F	General Weathe Condition	Llond)	L	
CALIBRATION	INFORMATION				
Pre-monitoring	g Calibration Precision Check				
and calculate t	ibrate the instrument, Make a he average algebraic differenc be less than or equal to 10% o al Number:	e between the instrument f the calibration gas value.	reading and the	calibration gas as a percer Cal Gas Concentration:	ntage The calibration
Trial	Zero Air Reading	Cal Gas Reading		ConcCal Gas Reading	Response Time (s
12		502	2	4	ζ
3	- <u>S</u> .	501	0		
Calibration Prec	ision= Average Difference/Cal		,	i if average difference is greater than	n 10
Calibration Prec	ision= Average Difference/Cal		,	n if average difference is greater than /500 x 100%	 n 10
	ision= Average Difference/Cal	Gas Conc. X 100%	,		 10
pan Sensitivity: rial 1:		Gas Conc. X 100% = 100%- = IIII = IIII	<mark>ا</mark> % Trial 3:	/500 x 100%	
pan Sensitivity: rial 1: Co	unts Observed for the Span=	Gas Conc. X 100% = 100%- = 99,8 189746	ل % <u>Trial 3:</u> Coun	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co Cour rial 2:	unts Observed for the Span=_ nters Observed for the Zero=	Gas Conc. X 100% = 100%- = 99,8 189746 2941	ل % <u>Trial 3:</u> Coun	/500 x 100%	190888
pan Sensitivity: rial 1: Co Cour rial 2:	unts Observed for the Span=	Gas Conc. X 100% = 100%- = 99,8 189746	ل % <u>Trial 3:</u> Coun	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co Cour rial 2: Co	unts Observed for the Span=_ nters Observed for the Zero=	Gas Conc. X 100% = 100%- = 99,8 189746 2941	ل % <u>Trial 3:</u> Coun	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co <u>Cour</u> rial 2: Co Cour	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span=	Gas Conc. X 100% = 100%- = 99,8 189746 2941 19142	ل % <u>Trial 3:</u> Coun	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co <u>Cour</u> rial 2: Co Cour	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Gas Conc. X 100% = 100%- = 99,8 189746 2941 191492 4040	ل % <u>Trial 3:</u> Coun	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co <u>Cour</u> rial 2: Co Cour Dost Monitoring C	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero=	Gas Conc. X 100% = 100%- = 99,8 189746 2941 19142	ل <u>Trial 3:</u> Counte	/500 x 100% hts Observed for the Span=	190888
pan Sensitivity: rial 1: Co Cour rial 2: Co cour Sost Monitoring C erro Air eading:	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check	Gas Conc. X 100% = 100%- = 998 189786 2941 191492 4040 Cal Gas	ل <u>Trial 3:</u> Counte	/500 x 100% hts Observed for the Span= ers Observed for the Zero=	190888
pan Sensitivity: rial 1: Co Cour rial 2: Cour cour cour cour cour cour cour cour c	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check 1.2 ppm CONCENTRATIONS CHECKS	Gas Conc. X 100% = 100%- = 998 189786 2941 191492 4040 Cal Gas	ا % Trial 3: Counte	/500 x 100% hts Observed for the Span= ers Observed for the Zero=	190888
pan Sensitivity: rial 1: Co Cour rial 2: Co cour Sost Monitoring C erro Air eading:	unts Observed for the Span= nters Observed for the Zero= unts Observed for the Span= nters Observed for the Zero= Calibration Check 1.2_ ppm CONCENTRATIONS CHECKS Description:	Gas Conc. X 100% = 100%- = 998 189746 2941 191492 4040 Cal Gas Reading:	ا % Trial 3: Counte	/500 x 100% hts Observed for the Span= ers Observed for the Zero=	190888 5101
		SURFACE EMIS			
------------------------------------	--	--------------------------	--------------------	---	------------------------
	. 1 . 1	CALIBRATION A	ND PERTINE	NT DATA	
Date:	10/14/22 Emmanuel		Site Name:	Vasco	
Inspector(s)	Emmanuel	Paz	Instrument:	TVA 2020	
WEATHER (BSERVATIONS			8	
Wind Spe	ed: <u> </u>	Wind Direction:ALE	-	Barometric Pressure: 29.86	• "Hg
1	Air	General Weat	her		
Temperatu	re: <u> </u>	Conditio	ins: Cloudy	_	
CALIBRATIO	N INFORMATION				
Pre-monitorir	g Calibration Precision Check				
and calculate	librate the instrument. Make the average algebraic differen be less than or equal to 10% riðl Number:	ce between the instrumer	nt reading and the	calibration gas as a perce Cal Gas Concentration	ntage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (secon
1	0	501		1	4
2	0	499 499		1	4
		= 108	~ %	/500 x 100%	
Span Sensitivity		19,0			
Trial 1:		12 5 10 -	Trial 3:		
C	ounts Observed for the Span=	138192	Coun	ts Observed for the Span	
Cou Trial 2:	nters Observed for the Zero=	4229	Counte	rs Observed for the Zero-	4188
	ounts Observed for the Span=	141064	_		
Cou	nters Observed for the Zero=	4174			
	Calibration Check				
Post Monitoring					
Post Monitoring Zero Air		Cal Gas			
	mqq0	Cal Gas Reading:	500	opm	
Zero Air Reading:	ppm CONCENTRATIONS CHECKS	Reading:	500	opm	
Zero Air Reading: BACKGROUND	CONCENTRATIONS CHECKS	Reading:		eading: 2.5	ppm
Zero Air Reading:	CONCENTRATIONS CHECKS	Reading:	F		ppm

	CALIBRATION AN	IONS MONI		
I INTUINT	CALIDRATION AN			
Date:	L	Site Name:	Vasco	
Inspector(s) Don', G		Instrument:	TVA 2020	
WEATHER OBSERVATIONS			1	
Wind Speed: 4 MPH	Wind H Direction: NE		Barometric 29,	"Нд
Air	General Weathe	er .		
Temperature:) L °F	Conditions	Llondu	4	
CALIBRATION INFORMATION				
Pre-monitoring Calibration Precision (Check			
Procedure: Calibrate the instrument. and calculate the average algebraic d precision must be less than or equal to Instrument Serial Number:	lifference between the instrument	reading and the o	a zero air and the calibrati calibration gas as a percer Cal Gas Concentration:	ntage. The calibration
Trial Zero Air Readin	ng Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (seconds
$\begin{array}{c c} 1 \\ 2 \\ \hline \end{array}$	200	0		
3	499	+		2
1	= 100%-	117	/500 x 100%	
	Cat			
	= 99,8	%		
Span Sensitivity: Trial 1:		%	,500 X 100/0	
Trial 1:		% <u>Trial 3:</u> Coun	ts Observed for the Span-	136528
Trial 1: Counts Observed for the Counters Observed for the	Span= 130172	Coun		
Trial 1: Counts Observed for the Counters Observed for the Trial 2:	Span= 130172 Zero= 3602	Coun	ts Observed for the Span=	
Trial 1: Counts Observed for the Counters Observed for the Trial 2: Counts Observed for the S	Span= <u>130172</u> Zero= <u>3602</u> Span= <u>134584</u>	Coun	ts Observed for the Span=	
Trial 1: Counts Observed for the Counters Observed for the Trial 2:	Span= <u>130172</u> Zero= <u>3602</u> Span= <u>134584</u>	Coun	ts Observed for the Span=	
Trial 1: Counts Observed for the Counters Observed for the Trial 2: Counts Observed for the S	Span= <u>130172</u> Zero= <u>3602</u> Span= <u>134584</u>	Coun	ts Observed for the Span=	
Trial 1: Counts Observed for the Counters Observed for the Trial 2: Counts Observed for the S Counters Observed for the S Post Monitoring Calibration Check Zero Air	Span= <u>130172</u> Zero= <u>3602</u> Span= <u>134584</u>	Counte	ts Observed for the Span=	
Trial 1: Counts Observed for the S Counters Observed for the Trial 2: Counts Observed for the S Counters Observed for the S Post Monitoring Calibration Check	Span= <u>130172</u> Zero= <u>3602</u> Span= <u>134584</u> Zero= 3764	Counte	ts Observed for the Span=	
Trial 1: Counts Observed for the Counters Observed for the Counters Observed for the Counts Observed for the Counters Obse	Span= <u>130172</u> <u>Zero= 3602</u> Span= <u>134584</u> <u>Zero= 3269</u> Cal Gas Reading:	Counte	ts Observed for the Span= rs Observed for the Zero=	
Trial 1: Counters Observed for the 1 Counters Observed for the 2 Post Monitoring Calibration Check Zero Air Reading:	Span= <u>130172</u> <u>Zero= 3602</u> Span= <u>134584</u> <u>Zero= 3269</u> Cal Gas Reading:	Counte	ts Observed for the Span= rs Observed for the Zero=	
Trial 1: Counts Observed for the 1 Counters Observed for the 2 Trial 2: Counts Observed for the 2 Counters Observed for the 2 Counters Observed for the 2 Post Monitoring Calibration Check Zero Air Reading: Counters Open	Span= <u>136172</u> <u>Zero= 3602</u> Span= <u>134584</u> <u>Zero= 3269</u> Cal Gas Reading: TECKS	Counte F	ts Observed for the Span= rs Observed for the Zero= opm	3872

here and h	interested alternatives of the LINK requirement	103
NES STATIST	WARDER STERMARD STRATESTICS THE LANDER DATA TO THE	4

		SURFACE EMIS			
1	0.500	CALIBRATION A	ND PERTINE	NT DATA	
Date:	10/17/22		Site Name:	Vasco	
Inspector(10/17/22 si Ruba Ri	05-	Instrument	TVA 2020	
WEATHER	ROBSERVATIONS				
		Wind			
Wind S	peed: <u>2</u> MPH	Direction: S	_	Pressure: 30.0	" Нg
1	Air	General Weat	her		
Tempera	ature: <u>63</u> °F	Conditio	ns: <u>Suny</u>	_	
CALIBRAT	ION INFORMATION				
Pre-monito	ring Calibration Precision Che	eck			
Procedure	Calibrate the instrument Ma	ake a total of three measurem	nents hy alternatio	a zero air and the celibrat	on and Pacord the reading
and calcula	te the average algebraic diffe	erence between the instrumer	nt reading and the	calibration gas as a perce	on gas Record the readings ntage. The calibration
precision m	ust be less than or equal to 1	0% of the calibration gas valu	ie.	- /	
Instrument	Serial Number:	to 2364		Cal Gas Concentration	500ppm
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (second
1	-0.2	503	3		3
2	-0,1	561			3
Calibration P	recision= Average Difference			n if average difference is greater tha	n 10
Calibration P	recision= Average Difference	/Cal Gas Conc. X 100% = 100%	6- <u>1.6</u>	n if average difference is greater tha /500 x 100%	n 10
		/Cal Gas Conc. X 100%	6- <u>1.6</u>		n 10
Span Sensitivi		/Cal Gas Conc. X 100% = 100%	6- <u>1.6</u> 6%		_] n 10
		/Cal Gas Conc. X 100% = 100% = 99.0	6- <u>1.6</u> 6% <u>Trial 3:</u>		
Span Sensitivi Frial 1: C	ity	/Cal Gas Conc. X 100% = 100% = 99.0 an= <u>153092</u>	6- <u>1.6</u> G% <u>Trial 3:</u> Cour	/500 x 100%	162932
Span Sensitivi Trial 1: C	ity: Counts Observed for the Spa	/Cal Gas Conc. X 100% = 100% = 99. (an= <u>153042</u> ro= <u>4243</u>	6- <u>1.6</u> G% <u>Trial 3:</u> Cour	/500 x 100%	162932
Span Sensitivi Trial 1: C Trial 2:	ity: Counts Observed for the Spa Counters Observed for the Zea	/Cal Gas Conc. X 100% = 100% = 99. (an= 153092 ro= 4243 an= 152960	6- <u>1.6</u> G% <u>Trial 3:</u> Cour	/500 x 100%	162932
Span Sensitivi Trial 1: Crial 2:	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa ounters Observed for the Zea	/Cal Gas Conc. X 100% = 100% = 99. (an= 153092 ro= 4243 an= 152960	6- <u>1.6</u> G% <u>Trial 3:</u> Cour	/500 x 100%	162932
Span Sensitivi Trial 1: Crial 2:	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa	/Cal Gas Conc. X 100% = 100% = 99. (an= 153092 ro= 4243 an= 152960	6- <u>1.6</u> G% <u>Trial 3:</u> Cour	/500 x 100%	162932
Span Sensitivi Trial 1: Crial 2:	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa ounters Observed for the Zea ng Calibration Check	/Cal Gas Conc. X 100% = 100% = $q^{2}Q$. (an= 153042 ro= 4243 an= 152460 ro= 4112	6- <u>1.6</u> 6% <u>Trial 3:</u> Court Counte	/500 x 100%	162932
Span Sensitivi Trial 1: Crial 2: Crial 2: Crial 2:	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa ounters Observed for the Zea	/Cal Gas Conc. X 100% = 100% = 99. (an= 153092 ro= 4243 an= 152960	6- <u>1.6</u> 6% Trial 3: Court Counte	/500 x 100% hts Observed for the Span- ers Observed for the Zero-	162932
Span Sensitivi Trial 1: C Trial 2: Ost Monitorir ero Air eading:	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa ounters Observed for the Zea ng Calibration Check	$\sqrt{Cal Gas Conc. X 100\%}$ = 100% = 9^{2} . an= <u>153042</u> ro= <u>4243</u> an= <u>152960</u> ro= <u>4112</u> Cal Gas Reading:	6- <u>1.6</u> 6% Trial 3: Court Counte	/500 x 100%	162932
Span Sensitivi Trial 1: C Trial 2: Cost Monitorir ero Air eading: ACKGROUNI	ity: Counts Observed for the Spa Counters Observed for the Zer Counts Observed for the Spa ounters Observed for the Zer ng Calibration Check	/Cal Gas Conc. X 100% = 100% = $q^{2}Q$. (an= 153042 ro= 4243 an= 152460 ro= 4112 Cal Gas Reading: CKS	6- <u>1.6</u> 6% <u>Trial 3:</u> Counte Counte	/500 x 100% hts Observed for the Spans ers Observed for the Zeros	162932
Span Sensitivi Trial 1: C Trial 2: Cost Monitorir ero Air eading: ACKGROUNI	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa ounters Observed for the Zea ng Calibration Check	/Cal Gas Conc. X 100% = 100% = $q^{2}Q$. (an= 153042 ro= 4243 an= 152460 ro= 4112 Cal Gas Reading: CKS	6- <u>1.6</u> 6% <u>Trial 3:</u> Counte Counte	/500 x 100% Its Observed for the Spans ers Observed for the Zeros ppm Reading: Z	- 162932 - 415&
Span Sensitivi Trial 1: C Trial 2: Ost Monitorin ero Air eading: ACKGROUNI	ity: Counts Observed for the Spa Counters Observed for the Zer Counts Observed for the Spa ounters Observed for the Zer ng Calibration Check	$\sqrt{Cal Gas Conc. X 100\%}$ = 100% = 9^{2} . an= <u>153042</u> ro= <u>4243</u> an= <u>152960</u> ro= <u>4112</u> Cal Gas Reading:	6- <u>1.6</u> 6% <u>Trial 3:</u> Counte <u>5 21</u>	/500 x 100% hts Observed for the Spans ers Observed for the Zeros	- 162932 - 415%
Span Sensitivi Trial 1: C Trial 2: Ost Monitorin ero Air eading: ACKGROUNI	ity: Counts Observed for the Spa Counters Observed for the Zea Counts Observed for the Spa Ounters Observed for the Zea ounters Observed for the Zea on Calibration Check D.L. ppm D CONCENTRATIONS CHEC on Description ation Description	/Cal Gas Conc. X 100% = 100% = 99.0 an= 153042 ro= 4243 an= 152960 ro= 4112 Cal Gas Reading: CKS Gridb Place	6- <u>1.6</u> 6% <u>Trial 3:</u> Counte <u>Counte</u>	ppm Reading: 2.2	<u>іб2932</u> 415 원
Span Sensitivi Trial 1: C Trial 2: Cost Monitorin ero Air eading: ACKGROUNI pwind Location pwind Location	ity: Counts Observed for the Spa Counters Observed for the Zer Counts Observed for the Spa ounters Observed for the Zer ng Calibration Check D.L ppm D CONCENTRATIONS CHEC on Description ation Description Wind speed averages were exceeded 20 miles per hou	/Cal Gas Conc. X 100% = 100% = 99.0 an= 153092 ro= 4243 an= 152960 ro= 4112 Cal Gas Reading: CKS <u>Gridb</u> <u>Place</u> e observed to remain below the function of the second se	6- <u>1.6</u> G% Trial 3: Courte Counte SZL	$\sqrt{500 \times 100\%}$ Ints Observed for the Span- ers Observed for the Zero- ppm Reading: Z.Z Beading: Z.Z Justed 10 miles per hour a 24 hours of the monitorin	ppm ppm nd no instantaneous speeds g event. Therefore, site
Span Sensitivi Trial 1: C Trial 2: Cost Monitorin ero Air eading: ACKGROUNI pwind Location pwind Location	ity: Counts Observed for the Spa Counters Observed for the Zer Counts Observed for the Spa ounters Observed for the Zer ng Calibration Check D.L ppm D CONCENTRATIONS CHEC on Description ation Description Wind speed averages were exceeded 20 miles per hou	/Cal Gas Conc. X 100% = 100% = $q q q \cdot q$ an= 153042 ro= 4243 an= 152960 ro= 4112 Cal Gas Reading: CKS <u>Gridb</u> <u>Place</u> e observed to remain below t	6- <u>1.6</u> G% Trial 3: Courte Counte SZL	$\sqrt{500 \times 100\%}$ Ints Observed for the Span- ers Observed for the Zero- ppm Reading: Z.Z Beading: Z.Z Justed 10 miles per hour a 24 hours of the monitorin	ppm ppm nd no instantaneous speed

			CALIBRATION A	ND PERTINIEN	ΙΤ ΠΑΤΑ	
Data	10	11-12-2	CALIDIA IIUI A			
Date:	_16	Suger		Site Name:	Vasco	
Inspec	tor(s):	Von Gibb	son	Instrument:	TVA 2020	
WEAT	HER OBSERV	ATIONS			200	
Wir	nd Speed:	2МРН	Wind Direction:		Barometric Pressure: <u>30.0</u>	ጚ "Hg
	Air	6.3 ₅	General Weath			
lemp	perature:	۶- ۴	Conditio	ns: Sunny	-	
CALIBR	RATION INFO	RMATION				
Pre-moi	nitoring Calibr	ration Precision Check	8			
and calc precision	culate the ave	rage algebraic difference than or equal to 10% o	total of three measurem te between the instrumen f the calibration gas value	t reading and the o	zero air and the calibratio alibration gas as a percen	tage. The calibration
					Cal Gas Concentration:	500ppm
Trial 1		Zero Air Reading	Cal Gas Reading	Cal Gas C	oncCal Gas Reading	Response Time (second
2		O	499			4
3		D	497 Average Difference:	3	3	4
)		C Average Difference/Cal	Average Difference:	0	if average difference is greater than] 10
)			Average Difference:	*Perform recalibration	if average difference is greater than /500 x 100%] 10
)			Average Difference: Gas Conc. X 100% = 100%	*Perform recalibration		4
Calibratio Span Sens	on Precision= /		Average Difference Gas Conc. X 100%	*Perform recalibration		<u>4</u> 10
Calibratio	on Precision= /		Average Difference Gas Conc. X 100%	*Perform recalibration		<u> </u> 10 34984
Calibratio Span Sens	on Precision= / sitivity: Counts O	Average Difference/Cal	Average Difference Gas Conc. X 100% = 100% = 99.4	*Perform recalibration	/500 x 100%	134984
Calibratio Span Sens	on Precision= / sitivity: Counts O Counters O	Average Difference/Cal bserved for the Span=	Average Difference: Gas Conc. X 100% = 100% = 99.4 129740	*Perform recalibration	/500 x 100%	2
Calibratic Span Sens <u>Trial 1:</u>	on Precision= / sitivity: Counts O Counters O Counts Ot	Average Difference/Cal bserved for the Span= bserved for the Zero=	Average Difference: Gas Conc. X 100% = 100% = 99.4 129740 3585	*Perform recalibration	/500 x 100%	134984
Calibratic Span Sens Trial 1: Trial 2:	on Precision= / sitivity: Counts O Counters O Counts Ot	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Span=	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133560</u>	*Perform recalibration	/500 x 100%	134984
Calibratio Span Sens Trial 1: Trial 2: Post Monit	on Precision= / sitivity: Counts O Counters O Counts Ol Counters O	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Span=	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133500</u> <u>3564</u>	*Perform recalibration	/500 x 100%	134984
Calibratic Span Sens Trial 1: Trial 2:	on Precision= / sitivity: Counts O Counters O Counts Ol Counters O	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Span=	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133560</u>	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	/500 x 100%	134984
Calibratio Span Sens Trial 1: Trial 2: Post Monit Zero Air Reading:	on Precision= / sitivity: Counts O Counters O Counters O Counters O counters O	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Zero= tion Check	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133500</u> <u>3564</u> Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero=	134984
Calibratio Span Sens Trial 1: Trial 2: Post Monit Zero Air Reading: BACKGROU	on Precision= / sitivity: Counts O Counters O Counters O Counters O counters O	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Zero= tion Check ppm NTRATIONS CHECKS	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133500</u> <u>3564</u> Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero= pm	134984
Calibratio Span Sens Trial 1: Trial 2: Post Monit Zero Air Reading: BACKGROU Upwind Loc	on Precision= / sitivity: Counts O Counters O Counters O Counters O toring Calibrat	Average Difference/Cal bserved for the Span= bserved for the Zero= bserved for the Span= bserved for the Zero= tion Check ppm NTRATIONS CHECKS tion:	Average Difference: Gas Conc. X 100% = 100% = 99.4 <u>129740</u> <u>3585</u> <u>133500</u> <u>3564</u> Cal Gas	*Perform recalibration *Perform recalibration % Trial 3: Counte Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero= pm eading:	134984

CALIBRATION AND PERTINENT DATA Date: Ip/In/In/In/In/In/In/In/In/In/In/In/In/In/				SIONS MONI		
Impectangle: Reading: Instrument: IVX 200 WeATHER OBSERVATIONS Wind Direction: NE Barometric Air Air Air Barometric Pressure: 3.0.0 "rig Air Air CallBRATION INFORMATION Barometric Pressure: 3.0.0 "rig Pre-monitoring Calibration Precision Check Pressure: CallBRATION INFORMATION CallBRATION INFORMATION Pre-monitoring Calibration Precision Check Pressure: CallBRATION INFORMATION CallBRATION INFORMATION Pre-monitoring Calibration Precision CallBRATION INFORMATION CallBRATION INFORMATION Supervision: Support Instrument Scriat Number: Iff 19 Call Gas Reading Call Gas Reading Hesponse Time (second 2) Instrument Scriat Number: Iff 19 Call Gas Reading Issocrate and the collivation of support fileneous gastarias its Triat Zoro Air Reading Call Gas Conc. X 100% = 100% 0.3 /s500 x 100% = Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100% 0.3 /s500 x 100% _g80.944 _g80.944 _g80.944 _g80.944 _g80.944	1	2 00.0	CALIBRATION A	ND PERTINE	NT DATA	5
WEATHER OBSERVATIONS Wind Speed:	Date:	10/11/22		Site Name:	Vasco	
WEATHER OBSERVATIONS Wind Speed:	Inspector(s):	R. Warre	n	Instrument:		
Wind Speed:	WEATHER OB	SERVATIONS				
Wind Speed: MPH Direction: NE Pressure: 300 "Hg Air Temperature: 40 "F General Weathur Conditions: Class r CallBRATION INFORMATION Proceeding: CallBrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readination and calculate the average deglement difference devemes the instrument reading and the calibration gas as a percentage. The calibration and calculate the average deglement difference devemes the instrument reading and the calibration gas as a percentage. The calibration and calculate the average deglement difference devemes the instrument reading and the calibration gas as a percentage. The calibration and calculate the average deglement difference devemes the instruments. Solppin Instrument Serief Number: E419 Cal Gas Reading Cel Gas Conc. Cal Gas Reading; Response Time (second 2) 1 200 100 0 1 1 1 200 100 0 1 1 1 200 100 0 1 1 2 200 100 0 1 1 2 200 100% 0 1 1 2 200 100% 0 1 1 <		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
Air	Wind Speed	З мрн				` "Ha
Temperature: Yes Conditions: STARTON INFORMATION Pre-monitoring Calibration Infection Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Procedure: Calibration Precision Check Calibration Precision Check Procedure: Calibration Precision Check Calibration Precision Check Soupport Instrument: Serial Number: Yes Calibration Calibration gas value. Instrument: Serial Number: Yes Calibration Precision Precision Check Average Difference: 0.3 1 2 2 0 1 2 2 3 0 2 0 2 4 0 1 2 2 2 4 0 1 2 2 2 2 4 4 3 1 2 2 2 2 2 3 0 2 0 2 1 2 2 2 2 2 2 <t< td=""><td>Δί</td><td>r</td><td></td><td></td><td></td><td>2 115</td></t<>	Δί	r				2 115
Pre-monitoring Calibration Precision Check Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the colibration gas. Record the reading and calibration gas as a percentage. The calibration gas and calibration gas as a percentage. The calibration gas ratue. Instrument Serial Number: L'419 Cel Gas Concentration: S00ppm S00ppm Trial Cel Gas Concentration: S00ppm Cel Gas Concentration: S00ppm Trial Cel Gas Concentration: S00ppm Cel Gas Concentration: Cel Gas Concentrati		Lin			_	
Proceedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the reading and calibration gas as a percentage. The calibration gas value. Instrument serial Number:	CALIBRATION	INFORMATION				
Proceedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the reading and calibration gas as a percentage. The calibration gas value. Instrument serial Number:	Pre-monitoring	Calibration Provision Charl				
and ackulate the diverge objective difference between the instrument reading and the calibration gas as a percentage. The calibration precision must be less than or equal to 10% of the calibration gas value. instrument Serial Number: Image: I	1					
precision must be less than or equal to 10% of the calibration gas value. instrument Serial Number: <u>Y</u> 4 <u>Y</u> and <u>Y</u>	Procedure: Calib and calculate th	prate the instrument. Make e average algebraic differe	e a total of three measurem nce between the instrumen	ents by alternating	zero air and the calibratio	on gas. Record the readi
Trial Zero Air Reading Cal Gas Reading I Cal Gas Concercai Gas Reading Response Time (secondation) 2 2 2 2 2 2 2 3 200 2 2 2 2 2 2 4 4 4 1 <	precision must b	e less than or equal to 10%	6 of the calibration gas value	reading and the c	compración gas as a percer	nage. The calibration
Image: Call Gas Reading Call Gas Reading [Cal Gas ConcCal Gas Reading] Response Time (secondary constraints) 1 Cold Gas Reading [Cal Gas ConcCal Gas Reading] Response Time (secondary constraints) 2 Cold Gas Reading Image Difference: Image Difference: Image Difference: 3 Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Difference: Image Difference: Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Difference: Image Difference: Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Difference: Image Difference: Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Difference: Image Difference: Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Difference: Image Difference: Call bration Precision= Average Difference/Cal Gas Conc. X 100% Image Difference: Image Differe	Instrument Seria	Number: 74	19		Cal Gas Concentration	500000
1 0 500 0 1 1 2 0 1 1 1 1 3 0 1 1 1 1 Average Difference: 0.3 *** *** *** *** Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100% - 0.3 /500 x 100% = 94.94 % Span Sensitivity: Trial 1: Counts Observed for the Span= 18/294 Counts Observed for the Span= 18/0 14/0 Counters Observed for the Zero= 4/46.3 Trial 2: Counts Observed for the Zero= 4/42.4 Counters Observed for the Zero= 4/46.3 Counters Observed for the Zero= 4/42.4 Counters Observed for the Zero= 4/46.3 Post Monitoring Calibration Check Cal Gas 5/05 ppm AcKGROUND CONCENTRATIONS CHECKS Ppm Reading: 2.1 ppm Monitoring Calibration: Mod Reading: 2.4 ppm ownwind Location Description: Mod Reading: 2.4 ppm ownwind Location Description: Mod Reading: 2.4	Trial	Zero Air Roading	Cal Car Deadline	10-10-5		
2 2	1			1		Kesponse [ime (seco
Average Difference: 		Q.Q	499	1		1
"Perform recalibration if average difference is greater than 10 Calibration Precision= Average Difference/Cal Gas Conc. X 100% = 100%- 0.3	1	•				
Span Sensitivity: Trial 1: Counts Observed for the Span= 181294 Counters Observed for the Zero= 4429 Counters Observed for the Zero= 4463 Counters Observed for the Zero= 4463 Counters Observed for the Zero= 4963 Post Monitoring Calibration Check Cal Gas Cero Air Cal Gas Counters Observed for the Zero= 505 ppm Reading: ppm SACKGROUND CONCENTRATIONS CHECKS Reading: 2.1 ppm Invind Location Description: Full Reading: 2.4 ppm Invind Location Description: Full Reading: 2.4 ppm Invind Speed averages were observed to remain below the alte	Calibration Precis	ion= Average Difference/C	al Gas Conc. X 100%		n average unterence is greater than	10
Trial 1: Counts Observed for the Span= 181296 Trial 3: Counts Observed for the Span= 180140 Counters Observed for the Zero= 4424 Counters Observed for the Span= 180140 Trial 2: Counts Observed for the Span= 180845 Counters Observed for the Zero= 4463 Counters Observed for the Span= 180845 Counters Observed for the Zero= 4463 Post Monitoring Calibration Check Cal Gas 505 ppm Reading: 0 ppm Reading: ppm BACKGROUND CONCENTRATIONS CHECKS Image: 2.1 ppm Invind Location Description: Image: 2.4 ppm	Calibration Precis	ion= Average Difference/C	= 100%	2		10
Counts Observed for the Span= 151296 Counts Observed for the Span= 180140 Counters Observed for the Zero= 4929 Counters Observed for the Zero= 4963 Trial 2: Counts Observed for the Span= 180845 Counters Observed for the Zero= 4963 Counters Observed for the Span= 180845 Counters Observed for the Zero= 4963 Post Monitoring Calibration Check Cal Gas 505 ppm Reading:	Calibration Precis	ion= Average Difference/C	= 100%	0. ³		10
Counters Observed for the Zero= 4929 Counters Observed for the Zero= 4963 Counters Observed for the Span=180845 Counters Observed for the Zero= 4963 Counters Observed for the Span=180845 Counters Observed for the Zero= 4924 Post Monitoring Calibration Check Cal Gas 505 ppm Reading: ppm Reading: ppm SACKGROUND CONCENTRATIONS CHECKS Reading: ppm Ipwind Location Description: Nov Reading: ppm otes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speet exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore site		ion= Average Difference/C	= 100%	0. ³		10
Trial 2: Counters Observed for the Span = 160845 Counters Observed for the Zero = 4924 Post Monitoring Calibration Check Zero Air Reading:	Span Sensitivity: Trial 1:		= 100% = 99.94	- 0.う % Trial 3:	/500 x 100%	ITA ULA
Counts Observed for the Span= 160845 Counters Observed for the Zero= 4924 Post Monitoring Calibration Check Zero Air Cal Gas Reading:	Span Sensitivity: <u>Trial 1:</u> Cou	nts Observed for the Span	= 100% = 99.94 = <u>181296</u>	- 0.う % Trial 3:	/500 x 100%	180 140
Post Monitoring Calibration Check Tero Air Reading:ppm Cali Gas Reading:ppm BACKGROUND CONCENTRATIONS CHECKS Ipwind Location Description:KIL Pownwind Location Description:Reading:ppm rownwind Location Description:Reading:ppm rownwind Location Description:Reading:ppm rotes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speed exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore site	Span Sensitivity: <u>Trial 1:</u> Cou Count	nts Observed for the Span	= 100% = 99.94 = <u>181296</u>	- 0.3 % Trial 3: Count	/500 x 100% ts Observed for the Span=	180 140
Post Monitoring Calibration Check Tero Air Reading:ppm Cali Gas Reading:ppm BACKGROUND CONCENTRATIONS CHECKS Ipwind Location Description:KIL Pownwind Location Description:Reading:ppm rownwind Location Description:Reading:ppm rownwind Location Description:Reading:ppm rotes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speed exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore site	Span Sensitivity: Trial 1: Cou Count Trial 2:	nts Observed for the Span ters Observed for the Zero	= 100% = 99.94 = 181296 = 4929	- 0.3 % Trial 3: Count	/500 x 100% ts Observed for the Span=	180 140
Zero Air Cal Gas 505 Reading:	Span Sensitivity: Trial 1: Cou Count Trial 2: Cour	nts Observed for the Span ters Observed for the Zero nts Observed for the Span	= 100% = 99.94 = 181296 = 4929 = 180848	- 0.3 % Trial 3: Count	/500 x 100% ts Observed for the Span=	180 140
Reading: ppm	Span Sensitivity: Trial 1: Cou Count Trial 2: Count	nts Observed for the Span ers Observed for the Zero nts Observed for the Span ers Observed for the Zero-	= 100% = 99.94 = 181296 = 4929 = 180848	- 0.3 % Trial 3: Count	/500 x 100% ts Observed for the Span=	180 140
ACKGROUND CONCENTRATIONS CHECKS	Span Sensitivity: Trial 1: Cou Count Trial 2: Count	nts Observed for the Span ers Observed for the Zero nts Observed for the Span ers Observed for the Zero-	= 100% = 99.94 = 181296 = 4929 = 180848	- 0.3 % Trial 3: Count	/500 x 100% ts Observed for the Span=	180 140
Appwind Location Description: Grid G Reading: 2.4 ppm rownwind Location Description: Number Reading: 2.4 ppm rotes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speed exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site	Span Sensitivity: Trial 1: Count Trial 2: Count Count Post Monitoring Ca	nts Observed for the Span ters Observed for the Zero nts Observed for the Span ers Observed for the Zero dibration Check	= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas	- ٥.٦ % Trial 3: Counte	/500 x 100% ts Observed for the Span=	180 140
Notation Description: Notation Notation: Notation Notation Notation: Notation Notation Notation: Notation Notation Notation Notation Notation <td>Span Sensitivity: Trial 1: Count Trial 2: Count Count Post Monitoring Ca</td> <td>nts Observed for the Span ters Observed for the Zero nts Observed for the Span ers Observed for the Zero dibration Check</td> <td>= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas</td> <td>- 0.3 % Trial 3: Counte</td> <td>/500 x 100% ts Observed for the Span= rs Observed for the Zero=</td> <td>180 140</td>	Span Sensitivity: Trial 1: Count Trial 2: Count Count Post Monitoring Ca	nts Observed for the Span ters Observed for the Zero nts Observed for the Span ers Observed for the Zero dibration Check	= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas	- 0.3 % Trial 3: Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero=	180 140
Nowmwind Location Description: Notes: Reading: 2: 9 ppm otes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speed exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site	Span Sensitivity: Trial 1: Count Count Trial 2: Count	nts Observed for the Span ters Observed for the Zero nts Observed for the Span ers Observed for the Zero dibration Check	= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas Reading:	- 0.3 % Trial 3: Counte	/500 x 100% ts Observed for the Span= rs Observed for the Zero=	180 140
otes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous spee exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site	Span Sensitivity: Trial 1: Court Count Trial 2: Count	nts Observed for the Span ters Observed for the Zero nts Observed for the Span ers Observed for the Zero dibration Check	= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas Reading:	- <u>0.う</u> % <u>Trial 3:</u> Counte Counte	/500 x 100% ts Observed for the Span= irs Observed for the Zero=	180 140 4963
exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site	Span Sensitivity: Trial 1: Count Trial 2: Count Post Monitoring Ca Sero Air Reading: BACKGROUND CO Ipwind Location De	nts Observed for the Span ers Observed for the Zeros nts Observed for the Spans ers Observed for the Zeros dibration Check ppm DINCENTRATIONS CHECK escription:	= 100% = 99.94 = 181296 = 49296 = 180848 = 180848 = 4924 Cal Gas Reading: S Grid 6	- 0.5 % Trial 3: Counte Counte	/500 x 100% ts Observed for the Span= irs Observed for the Zero= ppm	150 140 4963
meteorological conditions were within the requested alternatives of the LMR requirements on the above most and date	Span Sensitivity: Trial 1: Count Count Trial 2: Count	nts Observed for the Span ters Observed for the Zeros nts Observed for the Span ers Observed for the Zeros dibration Check Dppm DNCENTRATIONS CHECK escription: Description:	= 100% = 99.94 = 181296 = 49296 = 180848 = 4924 Cal Gas Reading: s Exrid 6 Fruice	- 0.5 % Trial 3: Counte Counte	$\sqrt{500 \times 100\%}$ ts Observed for the Span= <u>irs Observed for the Zero=</u> ppm leading: <u>2.2</u> seading: <u>2.4</u>	150 140 4963 ppm
	Span Sensitivity: Trial 1: Count Count Trial 2: Count	nts Observed for the Span ters Observed for the Zeros nts Observed for the Spans ers Observed for the Zeros dibration Check Description: Description: nd speed averages were o	= 100% = 99.94 = 181296 = 4929 = 180845 = 4924 Cal Gas Reading: : : : : : : : : : : : : : : : : : :	- o.c % Trial 3: Counte Counte	$\sqrt{500 \times 100\%}$ ts Observed for the Span= <u>rs Observed for the Zero=</u> ppm leading: <u>2.2</u> eading: <u>2.9</u>	JSO J4O 4963

1		SURFACE EMISS			
1	12 10 2	LALIDIA IIONA	AD PENTINEI		
Date:	Dell-Le	La-	Site Name:	Vasco	
Inspector(s)	Diego	benero	Instrument:	TVA 2020	
WEATHER OF	BSERVATIONS				
Wind Speed	d E MPH	Wind Direction: <		Barometric	
			-	Pressure:	"Hg
A Temperature	1.0	General Weath Condition	s: SUN	14	
CALIBRATION	INFORMATION			/	
Pre-monitoring	Calibration Precision Chec	k			
Procedure Cali	brate the instrument Mak	e a total of three measureme	nts by alternating	g zero air and the calibrati	ion gas. Record the reading
and calculate th	he average algebraic differ	ence between the instrument % of the calibration gas value	reading and the	calibration gas as a perce	ntage. The calibration
	1. 6	Yn			
Instrument Seri	annumuer: 410			Cal Gas Concentration	500ppm
Trial 1	Zero Air Reading	Cal Gas Reading	Cal Gas C	ConcCal Gas Reading	Response Time (second
2	-0.1	100	4		4
-	OIL	477	- /		12/
3 Calibration Preci	sion= Average Difference/(17	n if average difference is greater tha	¥] n 10
		Cal Gas Conc. X 100% = 100%-	1.6	n if average difference is greater tha /500 x 100%	7
Calibration Preci		Cal Gas Conc. X 100%	1.6		/
		Cal Gas Conc. X 100% = 100%-	<u>1.6</u> %] n 10
Calibration Preci Span Sensitivity: Trial 1:		Cal Gas Conc. X 100% = 100% = 99.6	<u>1.6</u> % <u>Trial 3:</u> Cour	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: <u>Trial 1:</u> Co Cour	sion= Average Difference/(Cal Gas Conc. X 100% = 100% = 99.6	<u>1.6</u> % <u>Trial 3:</u> Cour	_/500 × 100%	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2:	sion= Average Difference/(unts Observed for the Spar	Cal Gas Conc. X 100% = 100%- = $qq.6$ m= $\frac{165}{36}$ m= $\frac{165}{36}$	<u>1.6</u> % <u>Trial 3:</u> Cour	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2: Cou	sion= Average Difference/(unts Observed for the Spar	Cal Gas Conc. X 100% = 100% = 99.6 n= 165136 n= 160004	<u>1.6</u> % <u>Trial 3:</u> Cour	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: <u>Trial 1:</u> Co <u>Cour</u> <u>Trial 2:</u> Cou	sion= Average Difference/(unts Observed for the Spar iters Observed for the Zero unts Observed for the Spar ters Observed for the Spar	Cal Gas Conc. X 100% = 100% = 99.6 n= 165136 n= 160004	<u>1.6</u> % <u>Trial 3:</u> Cour	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: <u>Trial 1:</u> Co <u>Cour</u> <u>Trial 2:</u> Cou Post Monitoring C	sion= Average Difference/(unts Observed for the Spar iters Observed for the Zero unts Observed for the Spar ters Observed for the Spar	Cal Gas Conc. X 100% = 100%- = 99.6 n= 165136 n= 160004 n= 160004 n= 5849	1.6 % Trial 3: Court Counte	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2: Cou Cour	sion= Average Difference/(unts Observed for the Spar iters Observed for the Zero unts Observed for the Spar ters Observed for the Spar	Cal Gas Conc. X 100% = 100% = 99.6 n= 165136 n= 160004	1.6 % Trial 3: Court Counter	_/500 × 100% nts Observed for the Span	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2: Cou Post Monitoring C Zero Air Reading:	sion= Average Difference/(unts Observed for the Spar iters Observed for the Zero unts Observed for the Zero calibration Check	Cal Gas Conc. X 100% = 100%- = 99.6 n = 165136 n = 160004 n = 160004 n = 5849 Cal Gas Reading:	1.6 % Trial 3: Court Counter	_/500 x 100% nts Observed for the Spans ers Observed for the Zeros	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2: Cou Post Monitoring C Zero Air Reading:	sion= Average Difference/0 unts Observed for the Spar aters Observed for the Zero unts Observed for the Zero calibration Check D. 2 ppm ONCENTRATIONS CHECK	Cal Gas Conc. X 100% = 100%- = 99.6 n = 165136 n = 160004 n = 160004 n = 5849 Cal Gas Reading:	1.6 % Trial 3: Courte Counte	_/500 x 100% nts Observed for the Spans ers Observed for the Zeros	158252
Calibration Preci Span Sensitivity: Trial 1: Co Cour Trial 2: Cou Post Monitoring C Zero Air Reading: BACKGROUND C	sion= Average Difference/(unts Observed for the Spar iters Observed for the Zero unts Observed for the Zero calibration Check Composed for the Zero calibration Check Composed for the Zero calibration Check	Cal Gas Conc. X 100% = 100%- = 99.6 n = 165186 n = 160004 n = 160004 n = 5849 Cal Gas Reading: KS	1.6 % Trial 3: Courte Counte	_/500 × 100% hts Observed for the Spans ers Observed for the Zeros	- <u>/58252</u> - <u>5792</u>

			CALIBRATION A	ND PERTINEN	IT DATA	
Date:	10-1	7-22				
Inspect			0	Site Name:	VUSCO	
1		nannel		Instrument:	TVA 2020	
WEAT	HER OBSERVATIO	INS				
Win	d Speed: 3	MPH	Wind Direction: NE		Barometric Pressure: 30.0	"Hg
	Air				Fressure	Hg
Temp	berature: 4a	°F	General Weath Conditior	ns: <u>Clear</u>	-	
CALIBR	ATION INFORMA	TION		·		
Pre-mor	nitoring Calibration	Precision Check				
1						
and calc	ulate the average of	algebraic differen	a total of three measureme ce between the instrumen	t reading and the co	zero air and the calibrati alibration gas as a percei	on gas_ Record the read ntage_ The calibration
precision	n must be less than	or equal to 10% c	f the calibration gas value	2.		
Instrume	ent Serial Number:	1223			Cal Gas Concentration:	500 pp m
Trial		Air Reading	Cal Gas Reading	1	ncCal Gas Reading	Response Time (secc
1		00	500)	
-			191-1	-		2
Calibratio	n Precision= Avera	ge Difference/Cal		0.2	f average difference is greater than 7500 × 100%	
		ge Difference/Cal	Gas Conc. X 100% = 100%	~ 1]
Calibratio	n Precision= Avera	ge Difference/Cal	Gas Conc. X 100%	~ 1]
	n Precision= Avera		Gas Conc. X 100% = 100%	~ 1]
Calibratio Span Sensi	n Precision= Avera	ge Difference/Cal	Gas Conc. X 100% = 100%]
Calibratio Span Sensi <u>Trial 1:</u>	n Precision= Avera	ed for the Span=	Gas Conc. X 100% = 100%	/ % Trial 3: Count:	′500 x 100%	147869
Calibratio Span Sensi	n Precision= Avera itivity: Counts Observ Counters Observ	ed for the Span=	Gas Conc. X 100% = 100%	/ % Trial 3: Count:	'500 x 100% s Observed for the Span=	147869
Calibratio Span Sensi <u>Trial 1:</u>	n Precision= Avera itivity: Counts Observ Counters Observ Counts Observe	ed for the Span= red for the Zero= ed for the Span=	Gas Conc. X 100% = 100% = QQ.9 148000 2534	/ % Trial 3: Count:	'500 x 100% s Observed for the Span=	147869
Calibratio Span Sensi Trial 1: Trial 2:	n Precision= Avera itivity: Counts Observ Counters Observ Counts Observ	ed for the Span= red for the Zero= ed for the Span= ed for the Zero=	Gas Conc. X 100% = 100% = QQ.9 148000 2534 2534 2147780	/ % Trial 3: Count:	'500 x 100% s Observed for the Span=	147869
Calibratio Span Sensi Trial 1: Trial 2:	n Precision= Avera itivity: Counts Observ Counters Observ Counts Observe	ed for the Span= red for the Zero= ed for the Span= ed for the Zero=	Gas Conc. X 100% = 100% = QQ.9 148000 2534 2534 2147780	/ % Trial 3: Count:	'500 x 100% s Observed for the Span=	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air	n Precision= Avera itivity: Counts Observ Counters Observ Counts Observ	ed for the Span= red for the Zero= ed for the Span= ed for the Zero=	Gas Conc. X 100% = 100% = QQ.A 148000 2534 \$147750 2534 \$147750 256	Trial 3: Counter	/500 x 100% s Observed for the Span= <u>s Observed for the Zero=</u>	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air Reading:	itivity: Counts Observ Counters Observ Counters Observ Counters Observ oring Calibration C	ed for the Span= red for the Zero= ed for the Span= ed for the Zero= theck	Gas Conc. X 100% = 100% = QQ.9 148000 2534 \$147750 256	Trial 3: Counter	'500 x 100% s Observed for the Span=	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air Reading:	n Precision= Avera itivity: Counts Observ Counters Observ Counters Observ Counters Observ oring Calibration C	ed for the Span= red for the Zero= ed for the Span= ed for the Zero= theck	Gas Conc. X 100% = 100% = QQ.M 148000 2534 2534 2534 2534 2534 2534 2534 Cal Gas Reading	Trial 3: Counter	/500 x 100% s Observed for the Span= <u>s Observed for the Zero=</u>	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air Reading: BACKGROU	itivity: Counts Observ Counters Observ Counters Observ Counters Observ oring Calibration C	ed for the Span= red for the Zero= ed for the Span= ed for the Zero= rheck ppm ATIONS CHECKS	Gas Conc. X 100% = 100% = QQ.9 148000 2534 \$147750 2534 \$147750 256 Cal Gas Reading: Carrid C	M Trial 3: Counter Counter 42.8 pr	/500 x 100% s Observed for the Span= <u>s Observed for the Zero=</u>	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air Reading: BACKGROU	In Precision= Avera	ed for the Span= red for the Zero= ed for the Span= ed for the Zero= theck ppm ATIONS CHECKS	Gas Conc. X 100% = 100% = QQ.M 148000 2534 2534 2534 2534 2534 2534 2534 Cal Gas Reading	% Trial 3: Counter Counter	/500 x 100% s Observed for the Span= s Observed for the Zero=	147869
Calibratio Span Sensi Trial 1: Trial 2: Post Monito Zero Air Reading: BACKGROU	itivity: Counts Observ Counters Observ Counters Observ Counters Observ Counters Observ Oring Calibration C	ed for the Span= red for the Zero= ed for the Span= ed for the Zero= theck ppm ATIONS CHECKS	Gas Conc. X 100% = 100% = QQ.9 148000 2534 \$147750 2534 \$147750 256 Cal Gas Reading: Carrid C	- 0,3 % Trial 3: Counter Counter 42.8 pp Re Re	$2^{500 \times 100\%}$ s Observed for the Span= s Observed for the Zero= com eading: 2.4 eading: 2.4] 10 <u>147869</u> 2519 ppm

		SURFACE EMIS			
ate:	10-17-22		Site Name:	Vasco	
nspector(s)	Bryan (Juhoa	Instrument:	TVA 2020	
NEATHER OBSI	ERVATIONS		- 3		
Wind Speed:	2МРН	Wind Direction: 5	= ,	Barometric	"Нд
Air Temperature: _	63_°F	General Weath Conditio		- 311	
ALIBRATION IN	FORMATION				
re-monitoring Ca	alibration Precision Check				
ecision must be strument Serial I	less than or equal to 10% o	f the calibration gas valu	е.	calibration gas as a percenta Cal Gas Concentration:	500ppm
al1	Zero Air Reading	Cal Gas Reading	Cal Gas C	ioncCal Gas Reading	Response Time (seconds)
2	-0.(499	-	1	3
	.0.1	4-14			- Y
bration Precisio	n= Average Difference/Cal	Gas Conc. X 100%	*Perform recalibration	i f average difference is greater than 10	
ibration Precisio	n= Average Difference/Cal	= 100%	1.2	/500 x 100%	
ibration Precisio	n= Average Difference/Cal		1.2		
n Sensitivity:	n= Average Difference/Cal	= 100%	%- <u>\-</u>		
n Sensitivity:	n= Average Difference/Cal	= 100% = 99.7	6- <u>1-3</u> % <u>Trial 3:</u>	/500 x 100%	140832
n Sensitivity: <u>I 1:</u> Count Counter		= 100% =99.7 131136	6- <u>\-</u> % % <u>Trial 3:</u> Coun	/500 x 100%	140852 3010
n Sensitivity: I <u>1:</u> Counte Counter	s Observed for the Span=	= 100% =99.7 131136 3044	6- <u>\-</u> % % <u>Trial 3:</u> Coun	/500 x 100% ts Observed for the Span=	
n Sensitivity: 11: Count Counter 2: Count	ts Observed for the Span=	= 100% =99.7 <u>131136</u> <u>2044</u> 140080	6- <u>\-</u> % % <u>Trial 3:</u> Coun	/500 x 100% ts Observed for the Span=	
n Sensitivity: 11: Count Counter 2: Count	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= rs Observed for the Zero=	= 100% =99.7 <u>131136</u> <u>2044</u> 140080	6- <u>\-</u> % % <u>Trial 3:</u> Coun	/500 x 100% ts Observed for the Span=	
n Sensitivity: <u>11:</u> Counter <u>2:</u> Counter Counter	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= rs Observed for the Zero=	= 100% =99.7 <u>131136</u> <u>2044</u> 140080	6 13 % Trial 3: Counte	/500 x 100% ts Observed for the Span=	
n Sensitivity: 11: Counter 2: Counter Monitoring Calil Air ing:	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= rs Observed for the Zero= bration Check	= 100% =99.7 131136 2044 140080 2022	6 13 % Trial 3: Counte	/500 x 100% ts Observed for the Span= ers Observed for the Zero=	
n Sensitivity: 11: Counter 2: Counter Monitoring Calil Air ing:	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= rs Observed for the Zero= bration Check ppm ICENTRATIONS CHECKS	= 100% =99.7 131136 2044 140080 2022	6 <u>13</u> % T <u>rial 3:</u> Counte	/500 x 100% ts Observed for the Span= ers Observed for the Zero=	3010
n Sensitivity: 11: Counter Counter Counter Monitoring Calil Air ing:	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= rs Observed for the Zero= bration Check Cription:	= 100% =99.7 131136 2044 140080 2022 Cal Gas Reading:	6 <u>13</u> % <u>Trial 3:</u> Counte <u>513</u>	/500 x 100% ts Observed for the Span= ers Observed for the Zero=	3010
n Sensitivity:	ts Observed for the Span= rs Observed for the Zero= s Observed for the Span= s Observed for the Zero= bration Check Cription: Description: d speed averages were obs	= 100% =99.7 131136 2044 140080 3022 Cal Gas Reading: Carrid 6 Flave erved to remain below th	6 <u>13</u> % Trial 3: Counte 513 p F R he alternative requ	/500 x 100% ts Observed for the Span= ers Observed for the Zero= opm	m m no instantaneous speeds

10

SCA Danishandhana - Padama	1217	Not in	10.1X	anger 1	The 1 in	a U	- App - Fi	See. 2	
	5	and the second	40	Accession 1	States a	25			5

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		SURFACE EMIS			
1	1.1.0).0	CALIDRATIONA			
Date:	10/17/22 60mer		Site Name:	Varco	
Inspector(s	s): K. Comez		Instrument:	TVA 2020	
WEATHER	OBSERVATIONS				
1	0	Wind		Barometric	
Wind Sp	peed: MPH	Direction: NE	<u> </u>	Pressure: 30.0	"Hg
	Air	General Weat	ner		
Tempera	ture: <u>49</u> .F	Conditio	ns: <u>Clear</u>	-	
CALIBRATI	ON INFORMATION				
Pre-monitor	ring Calibration Precision Check				
Procedure [.] (Calibrate the instrument Make	a total of three measurem	ante hu els	8	
ana calculat	Calibrate the instrument. Make e the average algebraic differen	nce between the instrumer	it reading and the a	zero air and the calibratio calibration gas as a percem	n gas, Record the readings tage, The calibration
precision mu	ist be less than or equal to 10%	of the calibration gas valu	е.	- /	
Instrument S	erial Number:			Cal Gas Concentration	500ppm
Trial	Zero Air Reading	Cal Gas Reading	I Cal Gas Co	onc -Cal Gas Reading	Response Time (seconds
1	0.0	200		0	
3	0.9	200		2	7_
alibration Pr	ecision= Average Difference/Ca	Average Difference: H Gas Conc. X 100%	*Perform recalibration	3 if average difference is greater than	10
alibration Pr	ecision= Average Difference/Ca		*Perform recalibration	if average difference is greater than	10
alibration Pr	ecision= Average Difference/Ca	l Gas Conc. X 100%	*Perform recalibration		10
		l Gas Conc. X 100%	*Perform recalibration	if average difference is greater than	10
oan Sensitivii		l Gas Conc. X 100%	*Perform recalibration	if average difference is greater than	10
oan Sensitivii ial 1:		el Gas Conc. X 100% = 100% =	*Perform recalibration 	if average difference is greater than	
oan Sensitivit ial 1:	γ: Counts Observed for the Span=	el Gas Conc. X 100% = 100% = <u>しこのうのの</u>	*Perform recalibration 	if average difference is greater than /500 x 100% s Observed for the Span=	121632
ban Sensitivii ial 1: Co ial 2:	y: Counts Observed for the Span= punters Observed for the Zero=	el Gas Conc. X 100% = 100% = 120700 3863	*Perform recalibration 	if average difference is greater than	
ban Sensitivii ial 1: Co ial 2:	γ: Counts Observed for the Span=	el Gas Conc. X 100% = 100% = 120700 3863 121272	*Perform recalibration 	if average difference is greater than /500 x 100% s Observed for the Span=	121632
Dan Sensitivii ial 1: Co ial 2:	y: Counts Observed for the Span= punters Observed for the Zero=	el Gas Conc. X 100% = 100% = 120700 3863	*Perform recalibration 	if average difference is greater than /500 x 100% s Observed for the Span=	121632
oan Sensitivii ial 1: Co ial 2: Co	y: Counts Observed for the Span= punters Observed for the Zero= Counts Observed for the Span=	el Gas Conc. X 100% = 100% = 120700 3863 121272	*Perform recalibration 	if average difference is greater than /500 x 100% s Observed for the Span=	121632
oan Sensitivii ial 1: Co ial 2: Co st Monitorin	y: Counts Observed for the Span= punters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero=	= 100% = 100% = 120700 3863 121272 3893	*Perform recalibration 	if average difference is greater than /500 x 100% s Observed for the Span=	121632
ban Sensitivii ial 1: Co ial 2: Co	y: Counts Observed for the Span= punters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero=	el Gas Conc. X 100% = 100% = 120700 3863 121272	*Perform recalibration *Perform recalibration % Trial 3: Count Counter	if average difference is greater than /500 x 100% s Observed for the Span=	121632
pan Sensitivii ial 1: Co ial 2: Co st Monitorin o Air ading:	Counts Observed for the Span= bunters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero= g Calibration Check	el Gas Conc. X 100% = 100% = <u>120700</u> <u>3863</u> <u>121272</u> <u>3893</u> Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Counter	/500 x 100% /500 x 100% s Observed for the Span= s Observed for the Zero=	121632
Dan Sensitivii ial 1: Co ial 2: Co st Monitorin o Air o Air ading: CKGROUND	Counts Observed for the Span= bunters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero= g Calibration Check ppm CONCENTRATIONS CHECKS	el Gas Conc. X 100% = 100% = 120700 3863 121272 3893 Cal Gas Reading:	*Perform recalibration *Perform recalibration % Trial 3: Count Counter	/500 x 100% /500 x 100% s Observed for the Span= s Observed for the Zero=	121632
Dan Sensitivii ial 1: Co ial 2: Co st Monitorin o Air o Air ading: CKGROUND	Counts Observed for the Span= bunters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero= g Calibration Check	el Gas Conc. X 100% = 100% = 120700 3863 121272 3893 Cal Gas Reading:	*Perform recalibration % Trial 3: Counter 5 64 p	if average difference is greater than /500 x 100% is Observed for the Span= rs Observed for the Zero=	121632
Dan Sensitivit ial 1: Co ial 2: Co st Monitorin o Air Dding: CKGROUND vind Location	Counts Observed for the Span= bunters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero= g Calibration Check ppm CONCENTRATIONS CHECKS	el Gas Conc. X 100% = 100% = <u>120700</u> <u>3863</u> <u>121272</u> <u>3893</u> Cal Gas Reading:	*Perform recalibration % Trial 3: Counter 5 64 p	pm	121632 3883
Dan Sensitivit ial 1: Co ial 2: Co st Monitorin o Air Dding: CKGROUND vind Location	Counts Observed for the Span= bunters Observed for the Zero= Counts Observed for the Span= unters Observed for the Zero= g Calibration Check ppm CONCENTRATIONS CHECKS	el Gas Conc. X 100% = 100% = 120700 3863 121272 3893 Cal Gas Reading: Cal Gas Reading: Cal Gas Cal Cal Gas Cal Gas Cal Cal Cal Cal Cal Cal Cal Cal Cal Cal	*Perform recalibration *Perform recalibration % Trial 3: Counter Counter 5 64 p Recommendation	pm eading: p esading: p ested 10 miles per hour and	pm pm

		SURFACE EMISS			
Date:	10-18-22	/	Site Name:	Uneros	
Inspector(s):	Don Gik	Bon	Instrument:	TVA 2020	
WEATHER OB	SERVATIONS			12	
Wind Speed	_4_мрн	Wind Direction:		Barometric Pressure: <u>30</u>	"Hg
Ai Temperature	2-5	General Weath Conditior	- 1	7	
CALIBRATION	INFORMATION		1		
Pre-monitoring	Calibration Precision Check				
Instrument Seria		-19		Cal Gas Concentration:	500ppm
Trial 1	Zero Air Reading	Cal Gas Reading	Cal Gas Co	oncCal Gas Reading	Response Time (se
	0				
2 3 Calibration Precis	o -O, (ion= Average Difference/Ca	S-O (S-O C Average Difference:	+Perform recalibration	if average difference is greater than	4
3	0 -6.(Average Difference:	0.6	if average difference is greater than /500 x 100%	4
3	0 -6.(Average Difference:	0.6		4
3 Calibration Precis	0 -6.(Average Difference:	0.6		4
3 Calibration Precis pan Sensitivity: rial 1:	0 -6.(Average Difference: I Gas Conc. X 100% = 100% = 99.5	- 0.6 % Trial 3:		10
3 Calibration Precis Span Sensitivity: Frial 1: Count	o - O . (ion= Average Difference/Ca	Average Difference: I Gas Conc. X 100% = 100% = 99.%	- 0.6 % Trial 3: Count	/500 x 100%	10
3 Calibration Precis Span Sensitivity: Frial 1: Count rial 2:	o -o、(ion= Average Difference/Ca nts Observed for the Span=	Average Difference: I Gas Conc. X 100% = 100% = 99.5 $\sqrt{87/96}$ So 58	- 0.6 % Trial 3: Count	/500 x 100% s Observed for the Span=	182956
3 Calibration Precis Span Sensitivity: Irial 1: Count rial 2: Count	o - O . (ion= Average Difference/Ca nts Observed for the Span= ers Observed for the Zero=	$\frac{5 - 0}{5 - 0}$ Average Difference: I Gas Conc. X 100% = 100% = 99.5 $\frac{187196}{5058}$ $\frac{184508}{505}$	- 0.6 % Trial 3: Count	/500 x 100% s Observed for the Span=	182956
3 Calibration Precis Span Sensitivity: Irial 1: Count rial 2: Count	o - 0 . (ion= Average Difference/Ca nts Observed for the Span= ters Observed for the Zero= nts Observed for the Span= ers Observed for the Zero=	$\frac{5 - 0}{5 - 0}$ Average Difference: I Gas Conc. X 100% = 100% = 99.5 $\frac{187196}{5058}$ $\frac{184508}{505}$	- 0.6 % Trial 3: Count	/500 x 100% s Observed for the Span=	182956
3 Calibration Precis Span Sensitivity: Trial 1: Count Trial 2: Count St Monitoring Ca	o - 0 . (ion= Average Difference/Ca nts Observed for the Span= ters Observed for the Zero= nts Observed for the Span= ers Observed for the Zero=	$\frac{5 - 0}{5 - 0}$ Average Difference: I Gas Conc. X 100% = 100% = 99.5 $\frac{187196}{5058}$ $\frac{184508}{505}$	- 0.6 % Trial 3: Count	/500 x 100% s Observed for the Span=	182956
3 Calibration Precis Span Sensitivity: Frial 1: Count rial 2: Count ost Monitoring Ca ero Air eading:	o - 6 . (ion= Average Difference/Ca nts Observed for the Span= ters Observed for the Zero= nts Observed for the Span= ers Observed for the Zero= libration Check O.Qppm	Average Difference: Average Difference: a Gas Conc. X 100% = 100% = 99.5 100% 5058 184508 5039 Cal Gas Reading:	507	/500 x 100% s Observed for the Span=	182956
3 Calibration Precis Span Sensitivity: Trial 1: Count Count rial 2: Count St Monitoring Ca Pro Air Pading:	o - 6 (ion= Average Difference/Ca nts Observed for the Span= ters Observed for the Zero= nts Observed for the Span= ers Observed for the Zero= libration Check	Average Difference: Average Difference: a Gas Conc. X 100% = 99.5 100% = 99.5 184508 5039 Cal Gas Reading:	507	/500 x 100% s Observed for the Span= rs Observed for the Zero=	182956
3 Calibration Precis Span Sensitivity: Trial 1: Count Trial 2: Count Soft Monitoring Cal Pro Air Pading:	ہے۔ ion= Average Difference/Ca nts Observed for the Span= ters Observed for the Zero= nts Observed for the Zero= ers Observed for the Zero= libration Check O.Q. ppm DINCENTRATIONS CHECKS	Average Difference: Average Difference: a Gas Conc. X 100% = 100% = 99.5 100% 5058 184508 5039 Cal Gas Reading:	507	/500 x 100% s Observed for the Span= rs Observed for the Zero= pm	182956

		SURFACE EMIS			
		CALIDNATIONA	IND PERTINE	NIDAIA	
Date	10-18-2	\mathcal{V}_{-}	Site Name:	Jasee	
Inspector(s)	Emmanar	e (Par	Instrument:	TVA 2020	
WEATHER OBSI	ERVATIONS				
	1	LAZ:	-		
Wind Speed.	Мрн	Wind Direction:	_	Barometric Pressure:	"Hg
Air	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	General Weat	her /		
Temperature:	<u>5</u> 7 °F	Conditio		67	
CALIBRATION IN	FORMATION			/	
Pre-monitoring C	alibration Precision Check				
10.00					
Procedure: Calibro	ate the instrument Make	a total of three measurem	ents by alternatin	g zero air and the calibrati	on gas, Record the reading
	average algebraic differen less than or equal to 10%			calibration gas as a percei	tage. The calibration
		of the constantion gas varu	E.		
Instrument Serial	Number: 340	4		Cal Gas Concentration:	500ppm
Trial	Zero Air Reading	Cal Gas Reading	ICal Gas (ConcCal Gas Reading	Response Time (second
1	-0.1	501	Tear dus a		Nesponse mile (second
2	roil	1501		Â	4
3	0	499		l	3
Calibration Precisic	on≕ Average Difference/Ca		1	m if average difference is greater tha	n 10
Calibration Precisio	on= Average Difference/Ca	ll Gas Conc. X 100% = 1009	6	n if average difference is greater tha _/500 x 100%	n 10
Calibration Precisio	on= Average Difference/Ca	l Gas Conc. X 100%	6		10
Calibration Precisio	on= Average Difference/Ca	ll Gas Conc. X 100% = 1009	6] n 10
Span Sensitivity: Trial 1:		Il Gas Conc. X 100% = 100% = 999.9	6 %	/500 x 100%	
Span Sensitivity: Trial 1:	on= Average Difference/Ca ts Observed for the Span=	Il Gas Conc. X 100% = 100% = 999.9	6 %		1 4 5 0.13
<u>Span Sensitivity:</u> Trial 1: Coun		I Gas Conc. X 100% = 1009 = 99.9 [35324	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Coun Counte Trial 2:	ts Observed for the Span= ers Observed for the Zero=	I Gas Conc. X 100% = 1009 = 99.9	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Coun Counte Trial 2:	ts Observed for the Span=	I Gas Conc. X 100% = 1009 = 99.9 [35324 [4445 [42788]	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Coun Counte Trial 2: Count	ts Observed for the Span= ers Observed for the Zero=	I Gas Conc. X 100% = 1009 = 99.9 [35324 [4445 [42788]	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Counte Trial 2: Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 1009 = 99.9	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Coun Counte Trial 2: Count	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 1009 = 99.9 [35324 [4445 [42788]	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Counte Trial 2: Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 1009 = 9999 <u>(35324</u> <u>4445</u> <u>[42288</u> <u>4351</u>	6 5% Cou	/500 x 100%	142812
Span Sensitivity: <u>Trial 1:</u> Counte <u>Counte</u> Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero=	I Gas Conc. X 100% = 1009 = 99.9 [35324 [4445 [42788]	6 5% Cou	/500 x 100%	142812
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check	I Gas Conc. X 100% = 1009 = 999.9 <u>[35324</u> <u>44445</u> <u>[42788</u> <u>4351</u> Cal Gas Reading:	6 5% Cou	/500 x 100% nts Observed for the Span- ers Observed for the Zero-	142812
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check	I Gas Conc. X 100% = 1009 = 999.9 <u>135324</u> <u>4445</u> <u>4445</u> <u>4445</u> <u>4351</u> Cal Gas Reading:	6 5% Cou	/500 x 100% nts Observed for the Span- ers Observed for the Zero-	142812
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check 2.7ppm NCENTRATIONS CHECKS	I Gas Conc. X 100% = 1009 = 999.9 <u>[35324</u> <u>44445</u> <u>[42788</u> <u>4351</u> Cal Gas Reading:	6- 5 23	/500 x 100% nts Observed for the Span- ers Observed for the Zero-	142812
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check D.H. ppm NCENTRATIONS CHECKS scription:	I Gas Conc. X 100% = 1009 = 999.9 <u>135324</u> <u>4445</u> <u>4445</u> <u>4445</u> <u>4351</u> Cal Gas Reading:	6- 1 Trial 3: Count Count 5 23	/500 x 100% nts Observed for the Spans ters Observed for the Zeros	142812 4302
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check $D.H_ppm$ NCENTRATIONS CHECKS scription: Description:	I Gas Conc. X 100% = 1009 = 999.9 [35324 4445 [42288 4351 Cal Gas Reading: Flare G 145	6- 1 1 1 1 1 1 1 1	_/500 x 100% nts Observed for the Spans ters Observed for the Zeros ppm Reading: 2.3 Reading: 2.0	ррт.
Span Sensitivity: Trial 1: Counte Counte Trial 2: Counte	ts Observed for the Span= ers Observed for the Zero= ts Observed for the Span= rs Observed for the Zero= ibration Check $D.H_ppm$ NCENTRATIONS CHECKS scription: Description:	I Gas Conc. X 100% = 1009 = 999.9 <u>135324</u> <u>4445</u> <u>4445</u> <u>4445</u> <u>4445</u> <u>4351</u> Cal Gas Reading: <u>Flare</u> <u>6145</u> coserved to remain below to	6- b Trial 3: Count Count 5 23 he alternative req	<pre>_/500 x 100% nts Observed for the Span= rers Observed for the Zero= ppm Reading: 2.3 Reading: 2.0 uested 10 miles per hour a</pre>	ppm .ppm nd no instantaneous speed

		CALIRRATION AN	ND PERTINENT DATA	
	10-101-1		AP L PININACIAI DAIN	
Date	10-18-2 R. Yepe		Site Name:	20
Inspector(s)	K. Yepe	26	Instrument: TVA 2020	
WEATHER OB	SERVATIONS			
Wind Speed	I:MPH	Wind Direction:	Barometric Pressure: 3 °	"Нд
Ai Temperature	C/C	General Weath Condition		
CALIBRATION	INFORMATION			
Pre-monitoring	Calibration Precision Chec	sk		
and calculate th	e average algebraic differ ne less than or equal to 10 /1-50	rence between the instrument % of the calibration gas value	ents by alternating zero air and the calit reading and the calibration gas as a pe Cal Gas Concentral	ercentage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas ConcCal Gas Reading	Response Time (second
1 2	-0.1	502	1,2	4
	70.1	4.11		4
3 Calibration Precis	→ 0 × (Average Difference: Cal Gas Conc. X 100%	*Perform recalibration if average difference is greater	er than 10
	→ 0 × (Average Difference: Cal Gas Conc. X 100% = 100%-	/500 x 100%	er than 10
	→ 0 × (Average Difference: Cal Gas Conc. X 100%	/500 x 100%	er than 10
Calibration Precis Span Sensitivity: Trial 1:	sion= Average Difference/	Average Difference: Cal Gas Conc. X 100% = 100%- = 99,95	/500 x 100%	
Calibration Precis Span Sensitivity: Trial 1: Cou		Average Difference: Cal Gas Conc. X 100% = 100%- = 99,96 n= <u>143697</u>	/500 x 100%	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2:	ints Observed for the Spa	Average Difference: Cal Gas Conc. X 100% = 100%- = 99,96 n= 143692 o= 1037	/500 x 100% % Trial 3: Counts Observed for the S	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2: Cou	ints Observed for the Spa ters Observed for the Zero	Average Difference: Cal Gas Conc. X 100% = 100%- = 99,96 n= 143692 o= 1037 n= 160108	/500 x 100% % Trial 3: Counts Observed for the S	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2: Cou	ints Observed for the Spa ters Observed for the Zero ints Observed for the Span ters Observed for the Zero	Average Difference: Cal Gas Conc. X 100% = 100%- = 99,96 n= 143692 o= 1037 n= 160108	/500 x 100% % Trial 3: Counts Observed for the S	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2: Cou Count	ints Observed for the Spa ters Observed for the Zero ints Observed for the Span ters Observed for the Zero	Average Difference: Cal Gas Conc. X 100% = 100% = 99,9% n = 14369Z n = 14369Z n = 160108 n = 3999	/500 x 100% % Trial 3: Counts Observed for the S	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2: Cou Count	ints Observed for the Spa ters Observed for the Zero ints Observed for the Span ters Observed for the Zero	Average Difference: Cal Gas Conc. X 100% = 100%- = 99,96 n= 143692 o= 1037 n= 160108	/500 x 100% % Trial 3: Counts Observed for the S	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Count Count Trial 2: Count	Ints Observed for the Spa ters Observed for the Zero Ints Observed for the Span ters Observed for the Zero alibration Check	Average Difference: Cal Gas Conc. X 100% = 100%- = $99,95$ n= <u>143697</u> n= <u>160108</u> p= <u>3999</u> Cal Gas Reading:	/500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the Z	pan= 157292
Calibration Precis Span Sensitivity: Trial 1: Count Count Trial 2: Count	Ints Observed for the Spa ters Observed for the Zero Ints Observed for the Spar ters Observed for the Zero alibration Check	Average Difference: Cal Gas Conc. X 100% = 100%- = $99,95$ n= <u>143697</u> n= <u>160108</u> p= <u>3999</u> Cal Gas Reading:	/500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the Z	pan= <u>157192</u> ero= <u>3972</u>
Calibration Precis Span Sensitivity: Trial 1: Cou Trial 2: Count Post Monitoring Ci ero Air Leading: ACKGROUND CO	Ints Observed for the Spanters Observed for the Zeron Ints Observed for the Zeron Ints Observed for the Zeron Alibration Check	Average Difference: Cal Gas Conc. X 100% = 100%- = $99,95$ n= <u>143697</u> n= <u>143697</u> n= <u>160108</u> p= <u>3999</u> Cal Gas Reading: KS	/500 x 100% % Trial 3: Counts Observed for the S Counters Observed for the Z	pan= <u>157192</u> ero= <u>3972</u>

		SURFACE EMISS			
Dete	10-18-7	Z		1/2000	
Date	1 1 0		Site Name:	Vasco	
Inspector(s)	thashad	Warven	Instrument: 1	TVA 2020	
WEATHER OF	BSERVATIONS				
Wind Speed	4МРН	Wind Direction:	В	Barometric Pressure: 30	"Hg
A Temperature		General Weath Condition			
CALIBRATION	INFORMATION				
Pre-monitoring	Calibration Precision Check				
and calculate th	brate the instrument. Make ne average algebraic differen be less than or equal to 10% al Number:	nce between the instrumen	it reading and the calib e	o air and the calibratic ration gas as a percen al Gas Concentration;	tage. The calibration
Trial	Zero Air Reading	Cal Gas Reading	Cal Gas Conc.	-Cal Gas Reading	Response Time (second
1	-0.1	501	1		
2	-0,1	500	0		1
3 Calibration Preci	sion= Average Difference/Ca			3 arage difference is greater than]
	sion= Average Difference/Ca	Average Difference al Gas Conc. X 100% = 100%	6- <u>0,3</u> /500	3 prage difference is greater than 0 × 100%]
Calibration Preci	sion= Average Difference/Ca	Average Difference: al Gas Conc. X 100%	6- <u>0,3</u> /500]
Calibration Preci Span Sensitivity:		Average Difference: al Gas Conc. X 100% = 100% = 99.9	6- <u>0,3</u> /500 % <u>Trial 3:</u>	0 x 100%	.11-11-11
Calibration Preci Span Sensitivity: Frial 1: Co	unts Observed for the Span-	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = <u>145924</u>	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2:	unts Observed for the Span- nters Observed for the Zero-	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = <u>145924</u> = <u>2728</u>	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 x 100%	145404
Calibration Preci Span Sensitivity: Irial 1: Cour Trial 2:	unts Observed for the Span-	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = <u>145924</u> = <u>2728</u>	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2: Cour	unts Observed for the Span- nters Observed for the Zero-	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 2728 = 144964	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Frial 2: Cour Cour	unts Observed for the Span- nters Observed for the Zero- unts Observed for the Span-	Average Difference: al Gas Conc. X 100% = 99.9 = <u>145924</u> = <u>2728</u> = <u>144964</u>	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Frial 2: Cour Cour	unts Observed for the Span- nters Observed for the Zero- unts Observed for the Span- ters Observed for the Zero- calibration Check	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 272% = 144964 = 2743	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour	unts Observed for the Span- iters Observed for the Zero- unts Observed for the Span- ters Observed for the Zero-	Average Difference: al Gas Conc. X 100% = 99.9 = <u>145924</u> = <u>2728</u> = <u>144964</u>	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2: Cour Coun Ost Monitoring C ero Air eading:	unts Observed for the Span- nters Observed for the Zero- unts Observed for the Span- ters Observed for the Zero- calibration Check	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 2728 = 144964 = 2743 Cal Gas Reading:	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 × 100%	145404
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2: Cour Cour Cour Cour Cour Cour Cour Cour	unts Observed for the Spans atters Observed for the Zeros unts Observed for the Spans ters Observed for the Zeros calibration Check OSS ppm ONCENTRATIONS CHECK	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 2728 = 144964 = 2743 Cal Gas Reading: S	6- <u>0,3</u> /500 % <u>Trial 3:</u> Counts Of	0 x 100% bserved for the Span= bserved for the Zero=	145404
Calibration Preci Span Sensitivity: Frial 1: Cour Trial 2: Cour Cour Cour Cour Cour Cour Cour Cour	unts Observed for the Spans aters Observed for the Zeros unts Observed for the Spans ters Observed for the Zeros Calibration Check Oncentrations check Description:	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 2728 = 144964 = 2743 Cal Gas Reading:	6 0,3 /500 % Trial 3: Counts Of Counters O 3 17 ppm Read	0 x 100% bserved for the Span= bserved for the Zero=	2723 ppm
Calibration Preci Span Sensitivity: Trial 1: Cour Trial 2: Cour Trial 2: Cour Coun Ost Monitoring C ero Air eading: ACKGROUND C pwind Location E pwind Location E	unts Observed for the Spans aters Observed for the Zeros unts Observed for the Spans ters Observed for the Zeros Calibration Check Oncentrations check Description:	Average Difference: al Gas Conc. X 100% = 100% = 99.9 = 145924 = 2728 = 144964 = 2743 Cal Gas Reading: S <u>F-[are</u> <u>G-145</u>	6 0,3 /500 % Trial 3: Counts Of Counters O 3 1:7 ppm Read Read	$0 \times 100\%$ bserved for the Span= bserved for the Zero= ing: 2.5	<u>ррт</u> ррт.

Attachment 6

Weather Data





Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data October 12, 2022 Vasco Road Landfill, Livermore, California



Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data October 14, 2022 Vasco Road Landfill, Livermore, California

October 17, 2022



Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data October 17, 2022 Vasco Road Landfill, Livermore, California



Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data October 18, 2022 Vasco Road Landfill, Livermore, California



Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data October 21, 2022 Vasco Road Landfill, Livermore, California



Fourth Quarter 2022 LMR Surface Emissions Monitoring Weather Data November 11, 2022 Vasco Road Landfill, Livermore, California

Appendix E – Title V Semi-Annual Report

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE:			FACILITY ID#:	
VASCO ROAD	LANDFILL			A5095
REPORTING PERIOD:	from	through	1	
	08/01/2022	-	01/31/2023	

CERTIFICATION:

I declare, under penalty of perjury under the laws of the state of California, that, based on information and belief formed after reasonable inquiry, all information provided in this reporting package is true, accurate, and addresses all deviations during the reporting period:

02/24/2023

Signature of Responsible Official

Date

<u>Josh Mills</u> Name of Responsible Official (please print)

<u>General Manager</u> 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

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE:			FACILITY ID#:	
VASCO ROAD LANDFILL				A5095
REPORTING PERIOD:	from	through	ו	
	08/01/2022	_	01/31/2023	

List of Permitted Sources and Abatement Device

Permit Unit Number	Equipment Description
S-#	Description
S-1	Vasco Road Landfill – Waste Decomposition Process; Equipped with
5-1	Gas Collection System; Abated by A-4 Landfill Gas Flare
S-12	Vasco Road Landfill – Waste and Cover Material Dumping
S-13	Vasco Road Landfill – Excavating, Bulldozing and Compacting
5-13	Activities
S-7	Non-retail Gasoline Dispensing Facility
S-14	Green Waste Processing Operation; A-14 Water Sprayer
S-15	Wood Waste Processing Operation; A-15 Water Sprayer
A-4	Landfill Gas Flare

Notes:

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection System Installation Dates	BAAQMD 8-34-501.7 and 501.8 and BAAQMD Condition # 818, Parts 22b-c and 22e-g	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 # 818, Parts 22a-c and 22e-g	Records	Periodic / On event basis	BAAQMD 8-34- 304.2	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 # 818, Parts 22a-c and 22e-g	Records	Periodic / On event basis	BAAQMD 8-34- 304.3	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: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Flow	BAAQMD 8-34-501.10	Gas Flow Meter and Recorder (every 15 minutes)	Continuous	BAAQMD 8-34-301 and 301.1	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Intermittent	Reportable Compliance Activity (RCA) IDs 08P84 / 08P85 and 08Q09 / 08Q10 were submitted to BAAQMD to request breakdown relief for GCCS shutdown events that occurred due to utility outages on January 4 and 16, 2023, respectively. A total of 74.50 hours of GCCS downtime were accrued during these events.
							(NOV) Number A60890 was issued to Vasco Road on January 17, 2023 for an alleged failure to operate the GCCS continuously during RCA ID 08P84 / 08P85.

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Flow	BAAQMD 8-34-404, 8-34- 501.1, 8-34-501.2, 8-34-501.5, 8-34- 501.10, 8-34-508, and BAAQMD Condition # 818, Part 22g	Records of Landfill Gas Flow Rates, Collection and Control Systems Downtime, and Collection System Components	Periodic / Daily	BAAQMD Condition # 818, Parts 1-3	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system; Except That Flare A-4 May Operate Less Than Continuously If: LFG Flow to Energy Plant is > 1200 scfm AND Remaining LFG Flow Available for A-4 is < 800 scfm (< 24 MM BTU/hour)	Continuous	N/A
Collection and Control Systems Shutdown Time	BAAQMD 8-34- 501.1	Operating Records	Periodic / Daily	BAAQMD 8-34- 113.2	\leq 240 hours per year and \leq 5 consecutive days	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Periods of Inoperation for Parametric Monitors	BAAQMD 1-523.4	Operating Records for All Parametric Monitors	Periodic / Daily	BAAQMD 1-523.2	 ≤ 15 consecutive days per incident and ≤ 30 calendar days per 12-month period 	Continuous	N/A
Continuous Monitors	40 CFR 60.7(b)	Operating Records for All Continuous Monitors	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous Operation except for breakdowns, repairs, calibration, and required span adjustments	Continuous	N/A
Wellhead Pressure	BAAQMD 8-34-414, 501.9 and 505.1	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34- 305.1	< 0 psig	Continuous	N/A
Temperature of Gas at Wellhead	BAAQMD 8-34-414, 501.9 and 505.2	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34- 305.2	< 55 °C (< 131 °F), except for components identified in Condition # 818, Part 3b(i)	Continuous	N/A
Temperature of Gas at Specified Well- heads	BAAQMD 8-34-414, 501.9 and 505.2	Monthly Inspection and Records	Periodic / Monthly	BAAQMD Condition # 818, Part 3b(i)	< 140 °F	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gas Concentrations in LFG at Wellhead	BAAQMD 8-34-414, 501.9 and 505.3 or 505.4	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.3 or 305.4	$N_2 < 20\%$ (by volume, dry basis) OR $O_2 < 5\%$ (by volume, dry basis), except for components identified in Condition # 818, Part 3b(ii)	Continuous	N/A
Gas Concentrations in LFG at Header	BAAQMD 8-34-414 and 8-34- 501.4 and BAAQMD Condition # 818, Part 3b(ii)	Monthly Inspection and Records	Periodic / Monthly	BAAQMD Condition # 818, Part 3b(ii)	O2 < 5% (by volume, dry basis) and CH4 > 35% (by volume, dry basis)	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic / Daily	BAAQMD 8-34- 116.2	< 5 wells at a time or < 10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic / Daily	BAAQMD 8-34- 116.3	< 24 hours per well	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Well Shutdown Limits	BAAQMD 8-34-117.6 and 501.1	Records	Periodic / Daily	BAAQMD 8-34- 117.4	< 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 and BAAQMD Condition # 818, Part 3b(iii)	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: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
TOC	BAAQMD 8-34-415, 416, 501.6, 506 and 510 and BAAQMD Condition # 818, Part 3b(iii)	Monthly Visual Inspection of Cover, Quarterly Inspection with OVA of Surface, Various Re- inspection Times for Leaking Areas, and Records	Periodic / Monthly, Quarterly, and on an Event Basis	TOC BAAQMD 8- 34-303	Surface Leak Limit: < 500 ppmv as methane at 2 inches above surface	Continuous	N/A
Non-Methane Organic Com- pounds (NMOC)	BAAQMD 8-34-412 and 8-34- 501.4 and BAAQMD Condition # 818, Part 20	Annual Source Tests and Records	Periodic / Annual	BAAQMD 8-34- 301.3	NMOC Destruction Efficiency: > 98% removal by weight OR NMOC Outlet Concentration: < 30 ppmv, dry basis @ 3% O2, expressed as methane (applies to flare only)	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Temperature of Combustion Zone (CT)	BAAQMD 8-34-501.3, and 507, and BAAQMD Condition # 818, Part 4	Temperature Sensor and Recorder (continuous)	Continuous	BAAQMD Condition # 818, Part 5	Flare CT > 1402 °F, averaged over any 3-hour period	Continuous	N/A
Opacity	BAAQMD Condition # 818, Part 22d	Records of all site watering and road cleaning events	Periodic / On event basis, Monthly	BAAQMD 6-1-301 and SIP 6-301	Ringelmann No. 1 for ≤ 3 minutes/hr (applies to active landfill operations)	Continuous	N/A
Opacity	None	N/A	None	BAAQMD 6-1-301 and SIP 6-301	Ringelmann No. 1 for < 3 minutes/hr (applies to flare)	Continuous	N/A
TSP	None	N/A	None	BAAQMD 6-1-310.1 and SIP 6-310	< 0.15 grains/dscf (applies to flare only)	Continuous	N/A
NOx	BAAQMD Condition # 818, Part 20	Annual Source Test	Periodic / Annual	BAAQMD Condition # 818, Part 8	Flare Outlet Concentration: < 11 ppmv of NOx @ 15% O2, dry basis OR Flare Outlet Emission Rate: < 0.049 pounds of NO2 per MM BTU	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
CO	BAAQMD Condition # 818, Part 20	Annual Source Test	Periodic / Annual	BAAQMD Condition # 818, Part 10	Flare Outlet Concentration: < 73 ppmv of CO @ 15% O2, dry basis OR Flare Outlet Emission Rate: < 0.19 pounds of CO per MM BTU	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 (applies to flare only)	Continuous	N/A
SO ₂	None	N/A	None	BAAQMD Regulation 9-1-302	≤ 300 ppm, (dry basis) (applies to flare only)	Continuous	N/A
Sulfur Content in Landfill Gas	BAAQMD Condition # 818, Parts 12, 21	Sulfur analysis of landfill gas	Periodic / Quarterly	BAAQMD Condition # 818, Part 12	Annual Average TRS < 320 ppmv, expressed as H2S (dry basis)	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
H ₂ S	None	N/A	None	BAAQMD 9-2-301	Property Line Ground Level Limits: < 0.06 ppm, averaged over 3 minutes and < 0.03 ppm, averaged over 60 minutes	Continuous	N/A
Heat Input	BAAQMD 8-34- 501.10 and 508 and BAAQMD Condition # 818, Parts 3b(ii), 13 and 22g	Gas Flow Rate Meter, LFG Methane Analyses, Calculations and Records	Continuous, Periodic / Daily, and Periodic / Monthly	BAAQMD Condition # 818, Part 13	< 2880 MM BTU per day and < 1,051,200 MM BTU per 12-month period	Continuous	N/A
Vehicle Traffic	BAAQMD Condition # 818, Part 22a	Records	Periodic / Daily	BAAQMD Condition # 818, Part 14a	< 625 vehicles per day	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Amount of Material Accepted	BAAQMD Condition # 818, Part 22a	Records	Periodic / Daily	BAAQMD Condition # 818, Part 14	< 2518 tons per day of solid waste and < 23,800,000 tons (cumulative) of decomposable materials and < 31,650,000 yd3 (cumulative) amount of all wastes and cover materials	Continuous	N/A
Total Carbon Emissions	BAAQMD Condition # 818, Part 18	Records	Periodic / Daily	BAAQMD 8-2-301	< 15 pounds per day Or < 300 ppmv, dry basis (applies only to aeration of or use as cover soil of soil containing < 50 ppmw of volatile organic compounds)	Continuous	N/A
Organic Content of Soil	BAAQMD Condition # 818, Part 18	Records	Periodic / Daily	BAAQMD Condition # 818, Part 15	< 50 ppmw of VOC in soil or < 50 ppmv of VOC, expressed as C1, measured 3 inches above soil	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Amount of VOC Laden Soil Accepted	BAAQMD Condition # 818, Part 18	Records	Periodic / On event basis	BAAQMD Condition # 818, Part 16a-b	< 10,000 tons per consecutive 12-month period for soil with high chlorinated compound concentration and < 170,000 tons per consecutive 12-month period for other VOC laden soil	Continuous	N/A
TAC Concentration Limits for VOC- laden Soil	BAAQMD Condition # 818, Part 18	Records	Periodic / On event basis	BAAQMD Condition # 818, Part 16a-b	Compound < ppmw Benzene 0.50 Carbon Tetrachloride 0.50 Chloroform 6.00 1,4 Dichlorobenzene 7.50 1,2 Dichloroethane 0.50 Tetrachloroethylene 0.70 Trichloroethylene 0.50 Vinyl Chloride 0.20	Continuous	N/A

Site: Vasco Road Landfill	Facility ID#: A5095
Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Amount of Metal Laden Soil Accepted	BAAQMD Condition # 818, Part 18	Records	Periodic / On event basis	BAAQMD Condition # 818, Part 16	< 180,000 tons per consecutive 12-month period	Continuous	N/A
TAC Concen- tration Limits for Metal- Laden Soil	BAAQMD Condition # 818, Part 18	Records	Periodic / On event basis	BAAQMD Condition # 818, Part 16	Arsenic < 130 ppmw Beryllium < 75 ppmw Cadmium < 100 ppmw Chromium VI < 7 ppmw Copper < 2500 ppmw Lead < 1000 ppmw Mercury < 20 ppmw Nickel < 2000 ppmw Selenium < 100ppmw Zinc < 5000 ppmw	Continuous	N/A
Startup Shutdown or Malfunction Procedures	40 CFR 63.1980(a- b)	Records (all occurrences, duration of each, corrective actions)	Periodic / On event basis	40 CFR 63.6(e)	Minimize Emissions by Implementing SSM Plan	Continuous	N/A
Site: Vasco Road Landfill	Facility ID#: A5095						
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Permitted Unit: S-1 Vasco Road Landfill, A-4 Landfill Gas FLARE; S-12 Waste and Cover Material Dumping; S-13 Excavating, Bulldozing, and Compacting Activities	Reporting Period: from 08/01/2022 through 01/31/2023						

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Trackout onto Paved Roadways	BAAQMD 6-6-501	Records	Periodic / Daily	BAAQMD 6-6-301	Trackout causing visible emissions: < 25 linear feet for no more than 4 hours; and Trackout remaining on adjacent paved public roadway or paved shoulder: < 1 quart at end of each workday	Continuous	N/A
Visible Emissions from Cleaning Trackout	BAAQMD 6-6-501	Records	Periodic / Daily	BAAQMD 6-6-302	 < Ringelmann No. 1 Limitation for no more than 3 minutes in any 60-minute period 	Continuous	N/A

Site:	Vasco I	Road Landfill	Facility ID#:	A509	5
Permitted #9551	Unit:	S-7 NON-RETAIL GASOLINE DISPENSING FACILITY	Reporting Period:	from	08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Gasoline Throughput	BAAQMD 8-7-503.1	Records	Periodic / Annual	BAAQMD Condition # 7523	< 400,000 gallons per 12-month period	Continuous	N/A
Exempt Throughput	BAAQMD 8-7-501 and 8-7-503.2	Records	Periodic / On event basis	BAAQMD 6-1-310	< 1000 gallons per facility for tank integrity leak checking	Continuous	N/A
Organic Compounds	CARB EO G-70-116-F, paragraph 19 and BAAQMD 8-7-301.13 and 8-7- 407	Annual Check for Vapor Tightness and Proper Operation of Vapor Recovery System	Periodic / Annual	BAAQMD 8-7-301.6	All Phase I Equipment (except components with allowable leak rates) shall be leak free (<3 drops/minute) and vapor tight	Continuous	N/A
Organic Compounds	CARB EO G-70-116-F, paragraph 19 and BAAQMD 8-7-301.13 and 8-7- 407	Annual Check for Vapor Tightness and Proper Operation of Vapor Recovery System	Periodic / Annual	BAAQMD 8-7-302.5	All Phase II Equipment (except components with allowable leak rates or at the nozzle/fill- pipe interface) Shall Be: leak free (<3 drops/minute) and vapor tight	Continuous	N/A
Organic Compounds	SIP 8-5-403 and 8- 5-503	Annual Inspection with Portable Hydro-carbon Detector	Periodic / On event basis	SIP 8-5-303.2	Tank Pressure Vacuum Valve Shall Be: Gas Tight or < 500 ppmv (expressed as	Continuous	N/A

Site:	Vasco	Road Landfill	Facility ID#:	A509	95
Permitted U #9551	Jnit:	S-7 NON-RETAIL GASOLINE DISPENSING FACILITY	Reporting Period:	from	08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
					methane) above background for PRVs (as defined in SIP 8- 5-206)		
Organic Compounds	CARB EO G-70-116-F, paragraph 19 and BAAQMD 8-7-301.13 and 8-7- 407	Annual Check for Vapor Tightness and Proper Operation of Vapor Recovery System	Periodic / Annual	CARB EO G-70-116- F, paragraph 10	Any Emergency Vent or Manway Shall Be: leak free	Continuous	N/A
Defective Component Repair/ Replacement Time Limit	BAAQMD 8-7-503.2	Records	Periodic / On event basis	BAAQMD 8-7-302.4	≦ 7 days	Continuous	N/A
Liquid Removal Rate	CARB EO G-70-116-F	CARB Certification Procedures	Periodic / On event basis	BAAQMD 8-7-302.8	 5 ml per gallon dispensed, when dispensing rate 5 gallons/minute 	Continuous	N/A
Liquid Retain from Nozzles	CARB EO G-70-116-F	CARB Certification Procedures	Periodic / On event basis	BAAQMD 8-7-302.12	≤_100 ml per 1000 gallons dispensed	Continuous	N/A
Nozzle Spitting	CARB EO G-70-116-F	CARB Certification Procedures	Periodic / On event basis	BAAQMD 8-7-302.13	<u>≤</u> 1.0 ml per nozzle per test	Continuous	N/A
Pressure- Vacuum Valve Settings	CARB EO G-70-116-F	CARB Certification Procedures	Periodic / On event basis	BAAQMD 8-7-316 and CARB EO G-70-116- F, paragraph 14	Pressure Setting: > 2.5 inches of water, gauge	Continuous	N/A

Site:	Vasco	Road Landfill	Facility ID#:	A509	95
Permitted #9551	Unit:	S-7 NON-RETAIL GASOLINE DISPENSING FACILITY	Reporting Period:	from	08/01/2022 through 01/31/2023

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Pressure-	SIP 8-5-403	Semi-Annual Inspection	Periodic / On	SIP	Pressure Setting:	Continuous	N/A
Vacuum	and	and	event basis	8-5-303.1	> 10% of maximum		
Valve	CARB EO	CARB Certification			working pressure or		
Settings	G-70-116-	Procedures			> 0.5 psig		
Disconnectio	CARB EO	Annual Check for Vapor	Periodic /	CARB EO G-70-116-	≤ 10 ml per	Continuous	N/A
n Liquid	G-70-116-F,	Tightness and Proper	Annual	F, paragraph 12	disconnect, averaged		
Leaks	paragraph 19 and	Operation of Vapor			over 3 disconnect		
	BAAQMD	Recovery System			operations		
	8-7-301.13 and 8-7-						
	407						

Site: V	/asco F	Road Landfill	Facility ID#:	A509	5
Permitted Unit: S-14 GREENWASTE PROCESSING OPERATION, A-14		Reporting Period:	from	08/01/2022 through 01/31/2023	
WATER SPRAYER	ł		_		

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Waste Processing Limit	BAAQMD Condition # 25515 Part 1	Records	Periodic / Annual	BAAQMD Condition # 25515 Part 1	≤ 16,000 tons of green waste per 12-month period	Continuous	N/A
Opacity	BAAQMD Condition # 25515, Part 2	Observation of Source in Operation	Periodic / On event basis	BAAQMD 6-1-301 and SIP 6-301	< Ringelmann 1.0 for 3 minutes in any hour	Continuous	N/A
TSP	None	N/A	None	BAAQMD 6-1-311.1 and SIP 6-311	E = $4.10(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P >55,116 lb/hr	Continuous	N/A
Total Carbon Emissions	None	N/A	None	BAAQMD 8-2-301	 ≤ 15 pounds/day or ≤ 300 ppm, dry basis and vapor tight 	Continuous	N/A

Site: Va	sco Road Landfill	Facility ID#:	A509	5
Permitted Uni	t: S-15 WOODWASTE PROCESSING OPERATION, A-15	Reporting Period:	from	08/01/2022 through 01/31/2023
WATER SPRAYER				

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Limit Compliance	
Waste Processing Limit	BAAQMD Condition # 25516 Part 1	Records	Periodic / Annual	BAAQMD Condition # 25516 Part 1	≤ 5,000 tons of wood waste per 12-month period	Continuous	N/A
Opacity	BAAQMD Condition # 25516, Part 2	Observation of Source in Operation	Periodic / On event basis	BAAQMD 6-1-301 and SIP 6-301	< Ringelmann 1.0 for 3 minutes in any hour	Continuous	N/A
TSP	None	N/A	None	BAAQMD 6-1-311.1 and SIP 6-311	E = $4.10(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P >55,116 lb/hr	Continuous	N/A

Appendix F – Well Exceedance Documentation

Root Cause Analysis and Corrective Analysis Forms



Date of Initial Exceedance:	8/4/2021
Collection Device ID:	VREW2103
Temperature Reading:	133.6 degrees Fahrenheit

Root Cause Analysis			
Has the owner/operator received approval from the state			
agency to operate at a temperature higher than 55°C (131°F)	\Box Yes	🖾 No	
for this well?			
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 6	3.1958(c).		
• If NO, continue the form.			
Describe what was inspected.			
The well and surrounding areas			
Describe what was determined to be the root cause of the exceedance.			
Slightly higher temp due to decomposition			
Determine the required next steps.			
Was the temperature exceedance remediated within 60 days	🖂 Yes	🗆 No	
since the initial exceedance?			
 If YES, keep records of Root Cause Analysis. No reporting required. 			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Date of Initial Exceedance:	9/1/2022
Collection Device ID:	VRLRW003
Pressure Reading:	6.16

Root Cause Analysis			
Was the reason for the positive pressure due to one of the following:			
A fire or increased well temperature.	\Box Yes	🖾 No	
Use of a geomembrane or synthetic cover.	🗆 Yes	🖾 No	
A decommissioned well.	🗆 Yes	🖾 No	
• If YES to ANY of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).			
• If NO to <u>ALL</u> of the above, continue the form.	• If NO to ALL of the above, continue the form.		
Describe what was inspected.			
Well and lateral			
Describe what was determined to be the root cause of the exceedance.			
Overall field vacuum was adjusted			
Determine the required next steps.			
Was the positive pressure remediated within 60 days since the initial exceedance?	🛛 Yes	□ No	
• If YES, keep records of Root Cause Analysis. No reporting required.			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Root Cause Analysis

Date of Initial Exceedance:	9/1/2022
Collection Device ID:	VRLRW004
Pressure Reading:	6.28

Root Cause Analysis			
Was the reason for the positive pressure due to one of the following:			
A fire or increased well temperature.	\Box Yes	🖾 No	
Use of a geomembrane or synthetic cover.	\Box Yes	🖾 No	
A decommissioned well.	🗆 Yes	🖾 No	
• If YES to ANY of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).			
• If NO to <u>ALL</u> of the above, continue the form.	• If NO to ALL of the above, continue the form.		
Describe what was inspected.			
Well and lateral			
Describe what was determined to be the root cause of the exceedance.			
Overall field vacuum was adjusted			
Determine the required next steps.			
Was the positive pressure remediated within 60 days since the initial exceedance?	🖂 Yes	□ No	
• If YES, keep records of Root Cause Analysis. No reporting required.			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Root Cause Analysis

Date of Initial Exceedance:	9/14/2022
Collection Device ID:	VEW2204B
Pressure Reading:	.66

Root Cause Analysis			
Was the reason for the positive pressure due to one of the following:			
A fire or increased well temperature. \Box Yes \boxtimes No			
Use of a geomembrane or synthetic cover.	□ Yes	🖾 No	
A decommissioned well.	□ Yes	🖾 No	
• If YES to ANY of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).			
• If NO to <u>ALL</u> of the above, continue the form.	• If NO to ALL of the above, continue the form.		
Describe what was inspected.			
Well and lateral			
Describe what was determined to be the root cause of the exceedance.			
Lateral partially watered in. Vacuum adjusted			
Determine the required next steps.			
Was the positive pressure remediated within 60 days since the initial exceedance?	🛛 Yes	□ No	
• If YES, keep records of Root Cause Analysis. No reporting required.			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Date of Initial Exceedance:	10/6/2022
Collection Device ID:	VREW2104
Temperature Reading:	133.9 degrees Fahrenheit

Root Cause Analysis			
Has the owner/operator received approval from the state			
agency to operate at a temperature higher than 55°C (131°F)	\Box Yes	🖾 No	
for this well?			
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 6	3.1958(c).		
• If NO, continue the form.			
Describe what was inspected.			
The well and surrounding areas			
Describe what was determined to be the root cause of the exceedance.			
Slightly higher temp due to decomposition			
Determine the required next steps.			
Was the temperature exceedance remediated within 60 days \Box Yes \Box No		□ No	
since the initial exceedance?			
 If YES, keep records of Root Cause Analysis. No reporting required. 			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Date of Initial Exceedance:	10/6/2022
Collection Device ID:	VEW2204B
Temperature Reading:	139.2 degrees Fahrenheit

Root Cause Analysis			
Has the owner/operator received approval from the state			
agency to operate at a temperature higher than 55°C (131°F)	\Box Yes	🖾 No	
for this well?			
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 6	3.1958(c).		
• If NO, continue the form.			
Describe what was inspected.			
The well and surrounding areas			
Describe what was determined to be the root cause of the exceedance.			
Slightly higher temp due to decomposition			
Determine the required next steps.			
Was the temperature exceedance remediated within 60 days \Box Yes \Box No		□ No	
since the initial exceedance?			
 If YES, keep records of Root Cause Analysis. No reporting required. 			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Date of Initial Exceedance:	11/2/2022
Collection Device ID:	VRLEW111
Pressure Reading:	6.6

Root Cause Analysis			
Was the reason for the positive pressure due to one of the following:			
A fire or increased well temperature.	A fire or increased well temperature. \Box Yes \boxtimes No		
Use of a geomembrane or synthetic cover.	🗆 Yes	🖾 No	
A decommissioned well.	🗆 Yes	🖾 No	
• If YES to <u>ANY</u> of the above, exempt as per 40 CFR 62.16720(a)(3)(iii)/ 40 CFR §63.1958(b).			
• If NO to <u>ALL</u> of the above, continue the form.			
Describe what was inspected.			
Well and lateral			
Describe what was determined to be the root cause of the exceedance.			
Lateral needs replacement			
Determine the required next steps.			
Was the positive pressure remediated within 60 days since the initial exceedance?	🗆 Yes	🖾 No	
 If YES, keep records of Root Cause Analysis. No reporting required. If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance. 			



Corrective Action Analysis and Implementation Schedule

Date of Initial Exceedance:	11/2/2022
Collection Device ID:	VRLEW111
Pressure Reading:	6.6

Corrective Action Analysis

Describe the corrective actions taken to remediate exceedance.

Lateral to well needs replacement

Implementation Schedule		
Expected Start Date:	1/5/2023	
Expected Completion Date:	1/5/2023	
Provide a description of pr	roposed repairs and/or remedial action required and	
supporting information for implementation timeframe.		
New lateral installed through active area		

Final Steps		
Determine the required next steps.		
Is the remediation expected to take less than 120 days since initial exceedance per implementation schedule?	🛛 Yes	□ No
 If YES, send notification to state agency within 75 days of initial exceedance. Include Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule in the next NSPS Report. If NO, cond Root Cause Analysis, Corrective Action Analysis, and Implementation 		

• If NO, send Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule to state agency within 75 days for approval and include in next NSPS Report.



Date of Initial Exceedance:	11/22/2022
Collection Device ID:	VREW2104
Temperature Reading:	140.9 degrees Fahrenheit

Root Cause Analysis			
Has the owner/operator received approval from the state			
agency to operate at a temperature higher than 55°C (131°F)	\Box Yes	🖾 No	
for this well?			
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 6	3.1958(c).		
• If NO, continue the form.			
Describe what was inspected.			
The well and surrounding areas			
Describe what was determined to be the root cause of the exceedance.			
Slightly higher temp due to decomposition			
Determine the required next steps.			
Was the temperature exceedance remediated within 60 days	□ Yes	🖂 No	
since the initial exceedance?			
• If YES, keep records of Root Cause Analysis. No reporting required.			
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit			
Notification to state agency within 75 days of initial exceedance.			



Corrective Action Analysis and Implementation Schedule

Date of Initial Exceedance:	11/22/2022
Collection Device ID:	VREW2104
Temperature Reading:	140.9 degrees Fahrenheit

Corrective Action Analysis

Describe the corrective actions taken to remediate exceedance.

Well has been adjusted and tested. It is near an area previously tested for high temps. CO readings have been taken on 12-20-22 (35 pp,) and 1-6-2023 – 40 ppm. Normal

Implementation Schedule			
Expected Start Date:			
Expected Completion Date:	TBD		
Provide a description of pr	roposed repairs and/or remedial action required and		
supporting information for implementation timeframe.			
HOV application submitted Jar	1-22, approved Feb-23. CO testing normal decomposition		

-			
F	'inal Steps		
D	Determine the required next steps.		
	s the remediation expected to take less than 120 days since nitial exceedance per implementation schedule?	🗆 Yes	🛛 No
•	 If YES, send notification to state agency within 75 days of initial exceedance. Include Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule in the next Annual Report. If NO, send Root Cause Analysis, Corrective Action Analysis, and Implementation 		
	Schedule to state agency within 75 days for approval and include in next Annual Report.		

75-Day Notifications

SCS ENGINEERS

February 3, 2023

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

Re: 75-Day Notification of Temperature Exceedance Vasco Road Landfill, Livermore, California Facility Number A5095

Dear Ms. Cabral,

On behalf of Vasco Road Landfill (Vasco), SCS Engineers (SCS) hereby provides the Bay Area Air Quality Management District (BAAQMD or District) with a 75-day notification pursuant to the compliance provisions identified in 40 Code of Federal Regulations (CFR) 63.1981(j)(1) for a wellhead temperature exceedance. On June 21, 2021, Vasco became subject to the California Emissions Guidelines (EG) Rule, which 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 federal National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart AAAA rule came into effect on September 27, 2021, allowing Vasco to comply with Subpart AAAA in lieu of compliance with the equivalent provisions of Subpart 000 for the wellhead temperature requirements. However, because Vasco is still subject to BAAQMD Regulation 8, Rule 34 as well as the site's permit to operate (PTO), which incorporate the outdated New Source Performance Standards (NSPS) Subpart WWW wellhead requirements, the site must still operate wells below 131 degrees Fahrenheit(°F), and we are providing this notification out of an abundance of caution until the outdated requirements can be removed from the PTO.

Well VREW2104 had an initial temperature exceedance reading of 140.9 °F on November 22, 2022. Corrective actions were initiated within 5 days; however, the well could not be brought back into compliance within 15 days. As required under 40 CFR 62.16724(k)(1) and 63.1960(a)(4), a root cause analysis was completed within 60 days from the original exceedance. In addition, a corrective action analysis was conducted as required for wells that could not be remediated in 60 days. All the steps for compliance were conducted, and the well is expected to be able to come back into compliance within the 120-day timeframe from the original exceedance (by March 22, 2023). Additionally, SCS has performed carbon monoxide (CO) monitoring at the well, which showed normal landfill decomposition at the well. Since the initial exceedance, there have been two (2) CO readings (35 parts per million by volume (ppmv) and 40 ppmv) for an average of approximately 37.5 ppmv. This notification is being submitted due to the 131°F limit in the BAAQMD rules and PTO. As the wellhead temperature is under 145°F, Vasco is in compliance with the federal NESHAP Subpart AAAA rule, which allows for wellhead temperatures of up to 145°F. As required under 40 CFR 62.16724(k)(1) and 63.1960(a)(4), this submittal contains the root cause analysis and corrective action analysis (see attached), and constitutes the required 75-day notification under Subparts 000 and AAAA.

Brenda Cabral February 3, 2023 Page 2

If you have any questions, please contact Maria Bowen of SCS at (619) 455-9518.

Sincerely,

Hannah Morse Associate Staff Professional SCS Engineers

Maria Bowen Project Manager SCS Engineers

- cc: Antonia Gunner, Vasco Road Joshua Mills, Vasco Road Art Jones, SCSFS Administrator, U.S. EPA Region 9
- Attachments Root Cause Analysis Corrective Action Analysis



Date of Initial Exceedance:	11/22/2022
Collection Device ID:	VREW2104
Temperature Reading:	140.9 degrees Fahrenheit

Root Cause Analysis				
Has the owner/operator received approval from the state				
agency to operate at a temperature higher than 55°C (131°F)	\Box Yes	🖾 No		
for this well?				
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 6	3.1958(c).			
• If NO, continue the form.				
Describe what was inspected.				
The well and surrounding areas	The well and surrounding areas			
Describe what was determined to be the root cause of the exceedance.				
Slightly higher temp due to decomposition				
Determine the required next steps.				
Was the temperature exceedance remediated within 60 days	□ Yes			
since the initial exceedance? \Box Yes \Box No				
• If YES, keep records of Root Cause Analysis. No reporting required.				
• If NO, continue with Corrective Action Analysis and Implementation Plan and submit				
Notification to state agency within 75 days of initial exceedance.				



Corrective Action Analysis and Implementation Schedule

Date of Initial Exceedance:	11/22/2022
Collection Device ID:	VREW2104
Temperature Reading:	140.9 degrees Fahrenheit

Corrective Action Analysis

Describe the corrective actions taken to remediate exceedance.

Well has been adjusted and tested. It is near an area previously tested for high temps. CO readings have been taken on 12-20-22 (35 pp,) and 1-6-2023 – 40 ppm. Normal

Implementation Schedule				
Expected Start Date:	12/20/2022			
Expected Completion Date:	3/22/2023			
Provide a description of proposed repairs and/or remedial action required and				
supporting information for implementation timeframe.				
CO testing indicates normal decomposition. Well will be adjusted and monitored.				

Final Steps			
Determine the required next steps.			
Is the remediation expected to take less than 120 days since initial exceedance per implementation schedule?	🖾 Yes	🗆 No	
 If YES, send notification to state agency within 75 days of initial exceedance. Include Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule in the next Annual Report. If NO, send Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule to state agency within 75 days for approval and include in next Annual Report. 			