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1. ☐ RECEIVED IN ENFORCEMENT: 02/27/2023

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,

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

SCS ENGINEERS

01204082.06 Task 5 | February 2023

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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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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 OOO.

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:

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)**
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.

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(l)(1) and (2) of this section.
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--	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

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).

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).	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 60 758(c)(1)(i), the average temperature of the flare	Per 40 CFR 63.1983(c)(1)(i), the 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) Downtime
Vasco 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.
Total		**3,701.97**	

Notes:

[1]The 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_2O)	Adjusted Static Pressure ("H_2O)	5-Day Corrective Action Date	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

LEGEND

- 100 — EXISTING VERTICAL GAS EXTRACTION WELL
- 100 — EXISTING REMOTE GAS WELL CASING LOCATION
- LRW #1 — EXISTING LEACHATE RECIRCULATION WELL
- MP/GP-1 — EXISTING GAS MONITORING PROBE
- EXISTING CONDENSATE SUMP
- EXISTING REMOTE GAS WELLHEAD (FOR LCRS, HORIZ. OR VERT. WELL)
- BOUNDARY OF CURRENT ACTIVE FACE

GRAPHIC SCALE

250 125 0 250 500

(IN FEET)

N

SEE SHEET C-102

SEE SHEET C-103

SEE SHEET C-104

2" AIR & FORCE MAIN

2" DRAIN

LEACHATE TANK (SV-6)

POWER PLANT

FLARE STATION

CONDENSATE TANK

SUMP

ADMINISTRATION OFFICES

ENTRANCE ROAD

ENTRANCE ROAD

SITE SURVEY CONTROL POINTS

PANEL NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
214	458712.848	2069983.977	219.00	TARGET
215	452296.280	2069428.449	201.31	TARGET
300	455910.048	2064824.210	286.98	TARGET
301	455888.971	2066015.279	224.54	TARGET
302	458441.905	2068181.307	232.31	TARGET
303	454191.976	2066527.709	247.73	TARGET
304	452462.589	2066991.322	282.72	TARGET
305	452237.359	2063347.608	330.63	TARGET
306	459363.038	2064635.979	317.87	TARGET
307	455902.421	2070194.396	242.68	TARGET

DRAFT RECORD DRAWING

NO.	REVISION DESCRIPTION	BY:

REPUBLIC SERVICES, INC.

WASTE COLLECTION • RECYCLING • TRANSFER • DISPOSAL

TETRA TECH

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

VASCO ROAD LANDFILL

2022 GCCS IMPROVEMENTS

SITE PLAN, SURVEY CONTROL, AND INDEX TO PLAN SHEETS

DESIGNED BY :	CME	SCALE : AS SHOWN	
DRAWN BY :	JJK	DATE : 9/9/2022	FILE NO. C-101:
CHECKED BY :	AMN/SHA	DATE : 9/9/2022	SHEET C-101
APPROVED BY :	PJS	DATE : 9/9/2022	

I:\dwg\Republic\Vasco Road\Gas\2022 Design\Record Drawings\C-101 09.08.2022.dwg, 9/09/22 10:12:24, JAZZ, KALINGASAN

Appendix C – LFGTE Facility Downtime Logs

Vasco

Monthly SSM Report

Lead Operator : Mike Rogers

Month : August 2022

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Type	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

Vasco

Monthly SSM Report

Lead Operator : Mike Rogers

Month : September 2022

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Type	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	

Vasco

Monthly SSM Report

Lead Operator : Mike Rogers

Month : October 2022

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Type	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

Vasco

Monthly SSM Report

Lead Operator : Mike Rogers

Month : November 2022

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Type	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

Vasco

Monthly SSM Report

Lead Operator : Mike Rogers

Month : December 2022

Eng	Start Time	End Time	Duration (HH:MM)	Eng Hours	Operator	Type	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					

AMERESCO
Green • Clean • Sustainable

Vasco
Monthly SSM Report

Lead Operator : Mike Rogers
Month : January 2023

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

Appendix D – Surface Emission and GCCS Component Leak Monitoring Results

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

Michael Calmes
Project Manager
SCS Field Services

Encl.

cc: Art Jones, 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

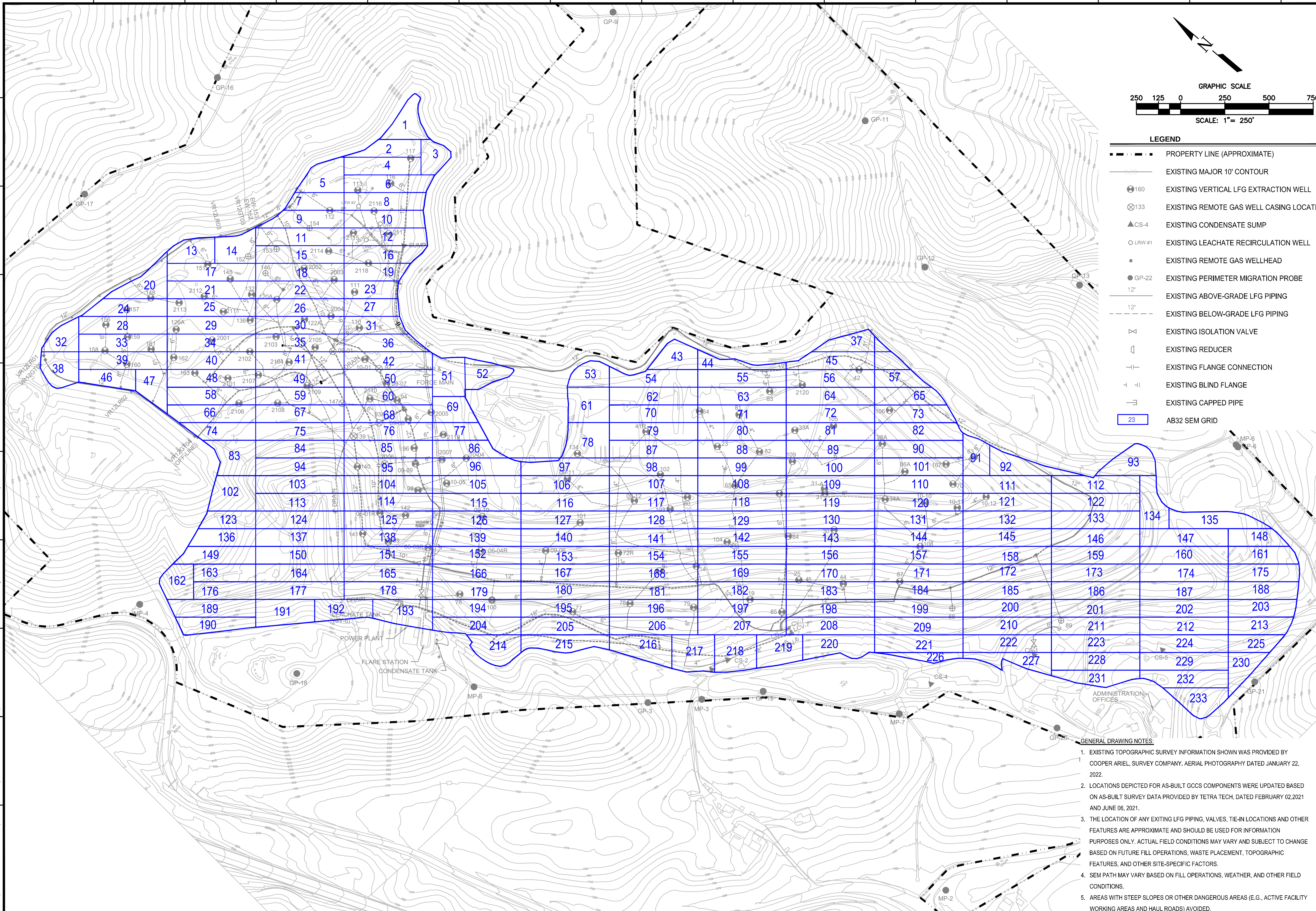
According to the LMR and NSPS, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the fourth quarter 2022 (October through December) surface emissions testing event is scheduled to be performed by the 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



GRAPHIC SCALE

250 125 0 250 500 750

SCALE: 1"= 250'

LEGEND

- PROPERTY LINE (APPROXIMATE)
- EXISTING MAJOR 10' CONTOUR
- 160 EXISTING VERTICAL LFG EXTRACTION WELL
- 133 EXISTING REMOTE GAS WELL CASING LOCATION
- CS-4 EXISTING CONDENSATE SUMP
- LRW #1 EXISTING LEACHATE RECIRCULATION WELL
- EXISTING REMOTE GAS WELLHEAD
- GP-22 EXISTING PERIMETER MIGRATION PROBE
- 12" EXISTING ABOVE-GRADE LFG PIPING
- 12" EXISTING BELOW-GRADE LFG PIPING
- EXISTING ISOLATION VALVE
- EXISTING REDUCER
- EXISTING FLANGE CONNECTION
- EXISTING BLIND FLANGE
- EXISTING CAPPED PIPE
- 23 AB32 SEM GRID

GENERAL DRAWING NOTES:

1. EXISTING TOPOGRAPHIC SURVEY INFORMATION SHOWN WAS PROVIDED BY COOPER ARIEL, SURVEY COMPANY. AERIAL PHOTOGRAPHY DATED JANUARY 22, 2022.
2. LOCATIONS DEPICTED FOR AS-BUILT GCCS COMPONENTS WERE UPDATED BASED ON AS-BUILT SURVEY DATA PROVIDED BY TETRA TECH, DATED FEBRUARY 02,2021 AND JUNE 06, 2021.
3. THE LOCATION OF ANY EXITING LFG PIPING, VALVES, TIE-IN LOCATIONS AND OTHER FEATURES ARE APPROXIMATE AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY. ACTUAL FIELD CONDITIONS MAY VARY AND SUBJECT TO CHANGE BASED ON FUTURE FILL OPERATIONS, WASTE PLACEMENT, TOPOGRAPHIC FEATURES, AND OTHER SITE-SPECIFIC FACTORS.
4. SEM PATH MAY VARY BASED ON FILL OPERATIONS, WEATHER, AND OTHER FIELD CONDITIONS.
5. AREAS WITH STEEP SLOPES OR OTHER DANGEROUS AREAS (E.G., ACTIVE FACILITY WORKING AREAS AND HAUL ROADS) AVOIDED.

DATE	REVISION	NO.

SHEET TITLE: 2022 SEM MAP

PROJECT TITLE: VASCO ROAD LANDFILL LIVERMORE, CALIFORNIA

CLIENT: REPUBLIC SERVICES

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
8799 BALBOA AVENUE SUITE 290
SAN DIEGO, CA 92123
(858) 571-5500 FAX. (562) 427-0805

PROJ. NO. 07221004.02	DWN. BY: SRM
DSN. BY: ATV	CHK. BY: MD
ACAD FILE: F:/ENGINEERS	APP. BY: MD

DATE: 3/30/2022

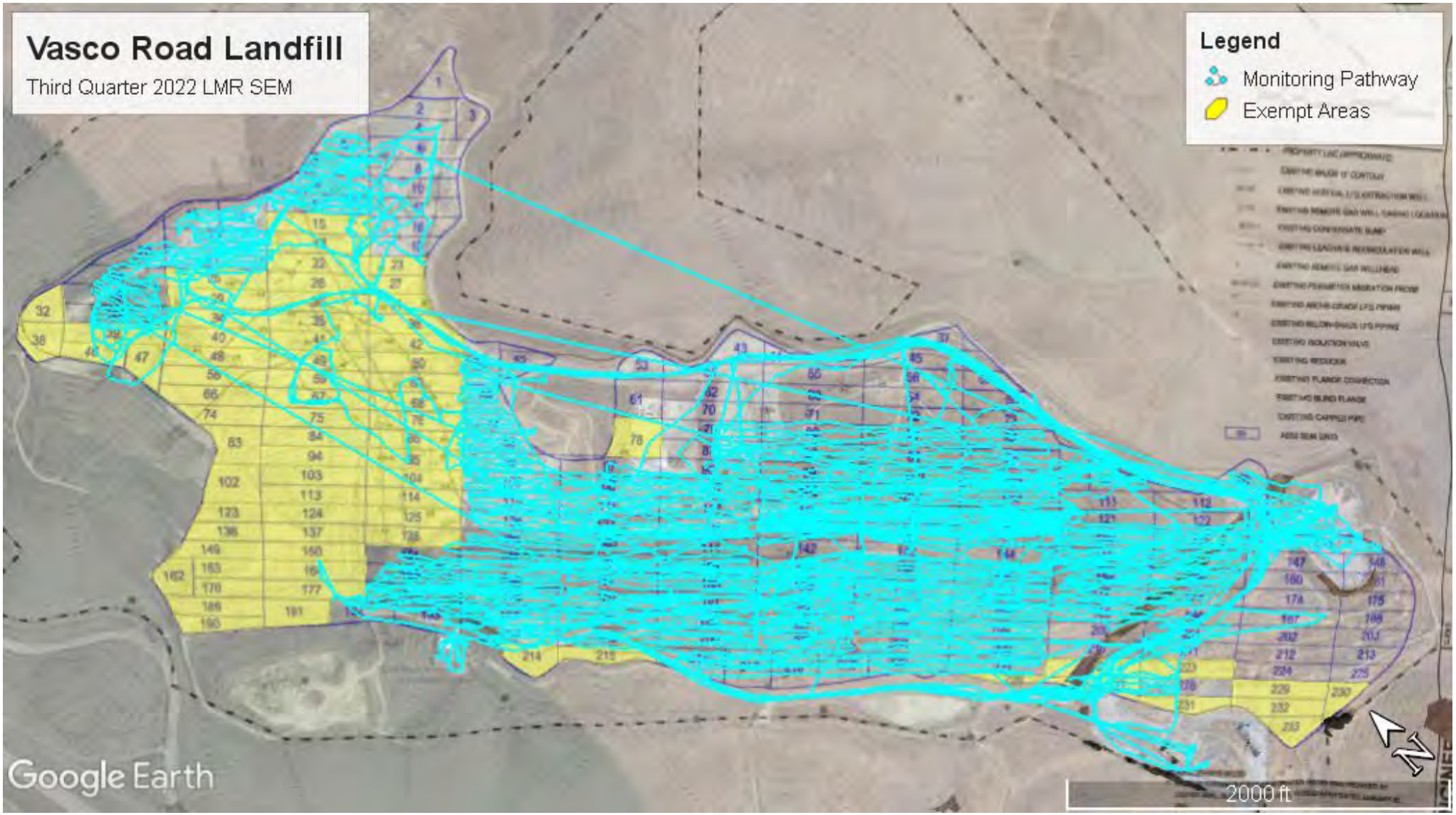
SCALE: AS SHOWN

SHEET: 1

Q:\CAD\ASBUILT – MASTERS\Vasco Road\AB32 Grid Base Map\Vasco LF SEM Grids_2022-03-30.dwg Mar 30, 2022 – 9:3am By: 5160srm

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 Component Emissions Monitoring Results Vasco Road Landfill, Livermore, California

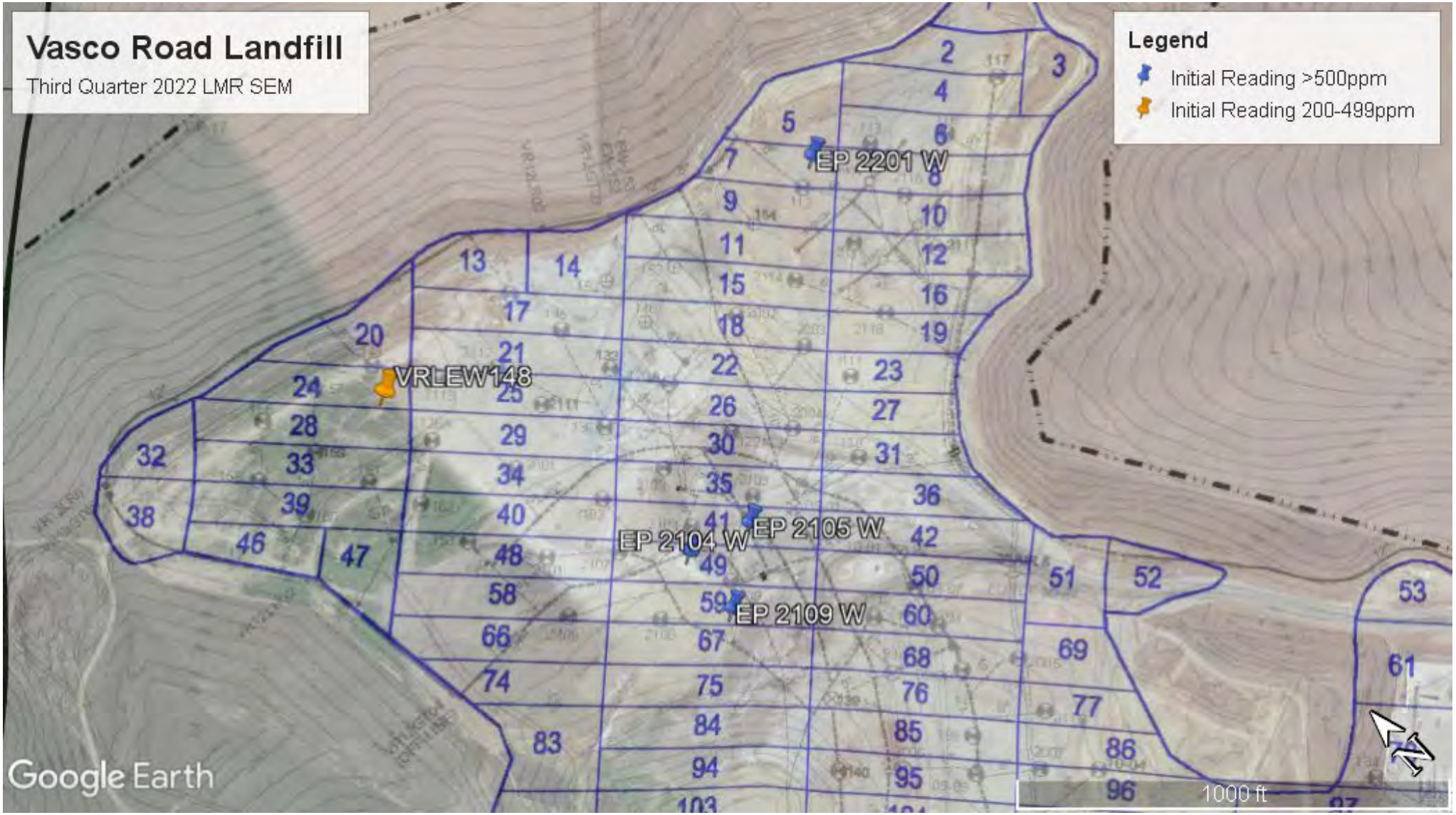
Instantaneous Data Report for July 12, 13, 22 and August 11, 2022

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

Third Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results Vasco Road Landfill, Livermore, California

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	

Table 2. Integrated Surface Emissions Monitoring Results Vasco Road Landfill, Livermore, California

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	
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 086	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	

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	

Table 2. Integrated Surface Emissions Monitoring Results Vasco Road Landfill, Livermore, California

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	

Table 2. Integrated Surface Emissions Monitoring Results Vasco Road Landfill, 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

Attachment 5

Calibration Logs

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 3-12-22

Monitor(s): Bryan Ochoa

Site Name: Vasco

Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH

Wind Direction: E

Barometric Pressure: 29.87 "Hg

Air Temperature: 54 °F

General Weather Conditions: Partly Cloudy

CALIBRATION INFORMATION

Pre-Monitoring Calibration Precision Check

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

Instrument Serial Number: 1153

Cal Gas Concentration: 500ppm

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

Average Difference: 0

*Perform recalibration if average difference is greater than 10

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

= 100% - 0 /500 x 100%

= 100 %

Span Sensitivity:

Trial 1:

Counts Observed for the Span= 152928

Counters Observed for the Zero= 3250

Trial 2:

Counts Observed for the Span= 147212

Counters Observed for the Zero= 3045

Trial 3:

Counts Observed for the Span= 156092

Counters Observed for the Zero= 3035

Post Monitoring Calibration Check

Zero Air Reading: 1.1 ppm

Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare

Reading: 2.3 ppm

Downwind Location Description: G-146

Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-12-22 Site Name: VASCO

Inspector(s): Ricardo Yepez Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: E Barometric Pressure: 29.87 "Hg

Air Temperature: 54 °F General Weather Conditions: PARTLY CLOUDY

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	504	4	1
2	0	500	0	2
3	0	500	0	1

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.3 /500 x 100%

= 99.7%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 129220
Counters Observed for the Zero= 3644

Trial 2:
Counts Observed for the Span= 138200
Counters Observed for the Zero= 3557

Trial 3:
Counts Observed for the Span= 137196
Counters Observed for the Zero= 3509

Post Monitoring Calibration Check

Zero Air Reading: -0.5 ppm Cal Gas Reading: 510 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.1 ppm

Downwind Location Description: G.146 Reading: 2.5 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-12-22 Site Name: LaSCO

Inspector(s): LAQSHAD Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: E Barometric Pressure: 29.87 "Hg

Air Temperature: 94 °F General Weather Conditions: PARTLY CLOUDY

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

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

Average Difference: 0

*Perform recalibration if average difference is greater than 10

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

= 100%- 0 /500 x 100%

= 100 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 180512
Counters Observed for the Zero= 4962

Trial 2:
Counts Observed for the Span= 177748
Counters Observed for the Zero= 4846

Trial 3:
Counts Observed for the Span= 173608
Counters Observed for the Zero= 4823

Post Monitoring Calibration Check

Zero Air Reading: -1.0 ppm Cal Gas Reading: 521 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.9 ppm

Downwind Location Description: G-146 Reading: 2.1 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-12-22 Site Name: Vasco

Inspector(s): Don Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: E Barometric Pressure: 29 "Hg

Air Temperature: 59 "F General Weather Conditions: Partly Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 142060
Counters Observed for the Zero= 2503

Trial 2:
Counts Observed for the Span= 142180
Counters Observed for the Zero= 2536

Trial 3:
Counts Observed for the Span= 143704
Counters Observed for the Zero= 2486

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm Cal Gas Reading: 521 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: G-148 Reading: 1.4 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-12-22 Site Name: Lyco

Inspector(s): Ruben Rios Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: E Barometric Pressure: 29.87 "Hg

Air Temperature: 54 °F General Weather Conditions: PARTLY CLOUDY

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 2364 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	503	3	1
2	0	502	2	1
3	0	502	2	1

Average Difference: 2.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 2.3 /500 x 100%

= 99.5 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 178756
Counters Observed for the Zero= 4658

Trial 2:
Counts Observed for the Span= 180620
Counters Observed for the Zero= 4491

Trial 3:
Counts Observed for the Span= 180524
Counters Observed for the Zero= 3932

Post Monitoring Calibration Check

Zero Air Reading: 1.8 ppm Cal Gas Reading: 515 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 20 ppm

Downwind Location Description: G-146 Reading: 1.9 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-12-22 Site Name: VASCO

Inspector(s): Emmanuel Paz Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 12 MPH Wind Direction: E Barometric Pressure: 29.87 "Hg

Air Temperature: 59 °F General Weather Conditions: PARTLY CLOUDY

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1220 Cal Gas Concentration: 500ppm

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

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 141796
Counters Observed for the Zero= 3772

Trial 2:
Counts Observed for the Span= 143864
Counters Observed for the Zero= 3671

Trial 3:
Counts Observed for the Span= 145488
Counters Observed for the Zero= 3630

Post Monitoring Calibration Check

Zero Air Reading: -1.0 ppm Cal Gas Reading: 512 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.2 ppm

Downwind Location Description: G-146 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7/13/22 Site Name: Vasco

Inspector(s): Emmanuel Paz Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 10 MPH Wind Direction: E Barometric Pressure: 29 "Hg

Air Temperature: 91 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

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

Average Difference: .6

*Perform recalibration if average difference is greater than 10

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

= 100%- .6 /500 x 100%

= 998 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 137148
Counters Observed for the Zero= 2835

Trial 2:
Counts Observed for the Span= 136968
Counters Observed for the Zero= 2811

Trial 3:
Counts Observed for the Span= 139132
Counters Observed for the Zero= 2805

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Plate Reading: 23 ppm

Downwind Location Description: G146 Reading: 210 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-13-22 Site Name: LASCO

Inspector(s): Diego Romero Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 10 MPH Wind Direction: E Barometric Pressure: 29 "Hg

Air Temperature: 61 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

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

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 176292
Counters Observed for the Zero= 5110

Trial 2:
Counts Observed for the Span= 175032
Counters Observed for the Zero= 4922

Trial 3:
Counts Observed for the Span= 164880
Counters Observed for the Zero= 4911

Post Monitoring Calibration Check

Zero Air Reading: 1.0 ppm Cal Gas Reading: 498 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: flare Reading: 2.3 ppm

Downwind Location Description: G1416 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7/13/22 Site Name: Vasco

Inspector(s): Ruben Rios Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 10 MPH Wind Direction: East Barometric Pressure: 29.95 "Hg

Air Temperature: 61 °F General Weather Conditions: Cloudy-sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 2367 Cal Gas Concentration: 500ppm

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

Average Difference: .6

*Perform recalibration if average difference is greater than 10

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

= 100%- .6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 160208
Counters Observed for the Zero= 4870

Trial 2:
Counts Observed for the Span= 159820
Counters Observed for the Zero= 4744

Trial 3:
Counts Observed for the Span= 156736
Counters Observed for the Zero= 4638

Post Monitoring Calibration Check

Zero Air Reading: 1.2 ppm Cal Gas Reading: 530 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: flare Reading: 2.3 ppm

Downwind Location Description: G 146 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 2-13-22 Site Name: Vasco

Inspector(s): Don Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 10 MPH Wind Direction: E Barometric Pressure: 29 "Hg

Air Temperature: 61 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1211 Cal Gas Concentration: 500ppm

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

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 118460
Counters Observed for the Zero= 3812

Trial 2:
Counts Observed for the Span= 120688
Counters Observed for the Zero= 3801

Trial 3:
Counts Observed for the Span= 121871
Counters Observed for the Zero= 3804

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.3 ppm

Downwind Location Description: G146 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-13-22 Site Name: Vasco

Inspector(s): Rashad Warren Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 10 MPH Wind Direction: E Barometric Pressure: 29 "Hg

Air Temperature: 61 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .6

*Perform recalibration if average difference is greater than 10

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

= 100%- .6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 146563
Counters Observed for the Zero= 2643

Trial 2:
Counts Observed for the Span= 145872
Counters Observed for the Zero= 2611

Trial 3:
Counts Observed for the Span= 145923
Counters Observed for the Zero= 2628

Post Monitoring Calibration Check

Zero Air Reading: -0.4 ppm Cal Gas Reading: 507 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.3 ppm

Downwind Location Description: G1460 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 7-22-22 Site Name: Vasco

Inspector(s): Lou Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 9 MPH Wind Direction: WSW Barometric Pressure: 29 "Hg

Air Temperature: 57 °F General Weather Conditions: sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 2367 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	502	2	5
2	0	501	1	5
3	-0.1	500	0	5

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 169772
Counters Observed for the Zero= 5859

Trial 2:
Counts Observed for the Span= 171796
Counters Observed for the Zero= 5835

Trial 3:
Counts Observed for the Span= 173972
Counters Observed for the Zero= 5832

Post Monitoring Calibration Check

Zero Air Reading: 0.3 ppm Cal Gas Reading: 519 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 2.2 ppm

Downwind Location Description: G134 Reading: 2.6 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 8-11-22 Site Name: Vasco

Inspector(s): Diego Romero Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 0 MPH Wind Direction: S Barometric Pressure: 30.05 "Hg

Air Temperature: 63 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.1	505	5	1
2	-0.2	500	0	1
3	-0.1	498	2	2

Average Difference: 2.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 2.3 /500 x 100%

= 99.4 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 155460
Counters Observed for the Zero= 2781

Trial 2:
Counts Observed for the Span= 158740
Counters Observed for the Zero= 2738

Trial 3:
Counts Observed for the Span= 157412
Counters Observed for the Zero= 2688

Post Monitoring Calibration Check

Zero Air Reading: -0.8 ppm Cal Gas Reading: 478 ppm

BACKGROUND CONCENTRATIONS CHECKS

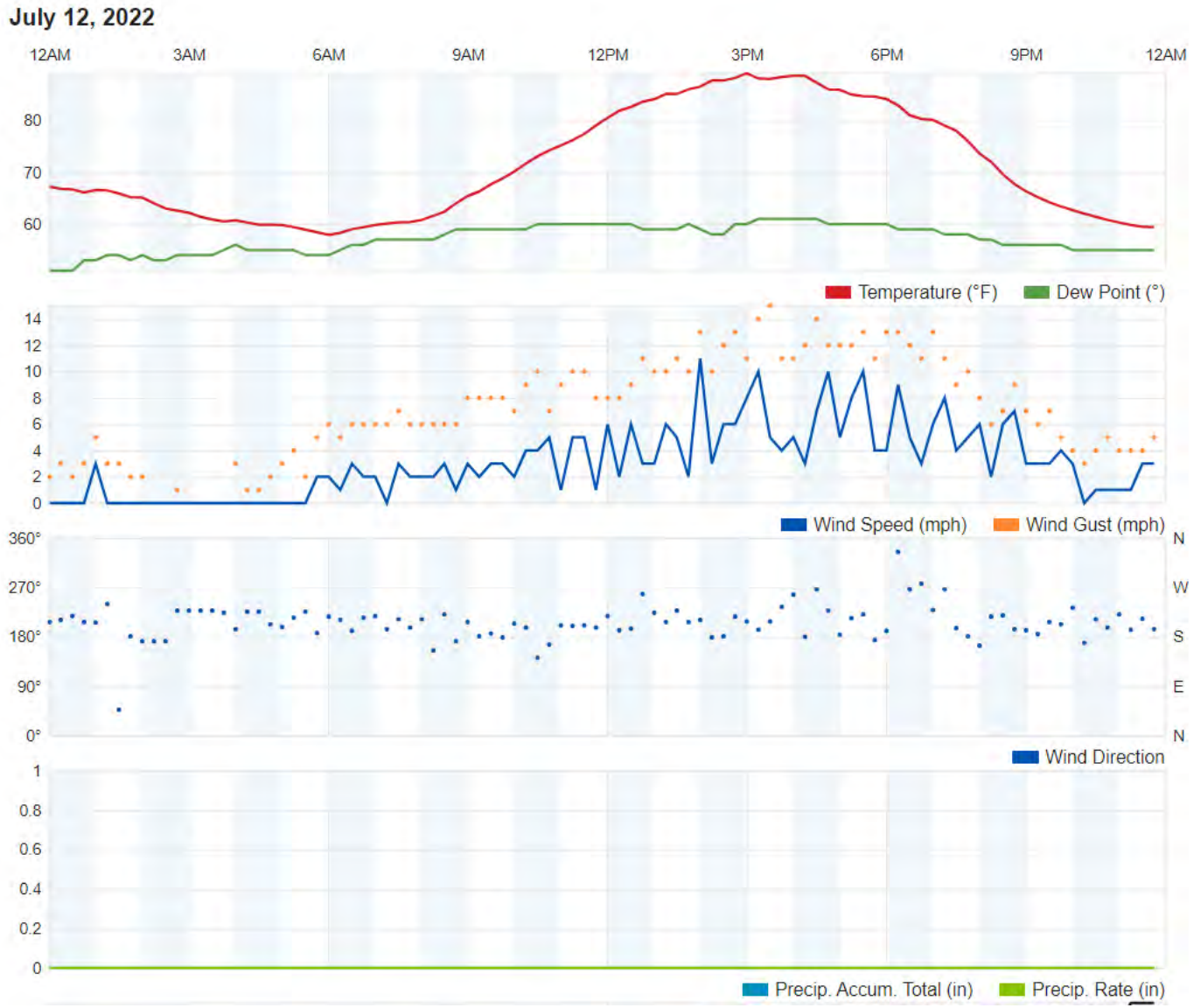
Upwind Location Description: G37 Reading: 3.1 ppm

Downwind Location Description: G233 Reading: 1.4 ppm

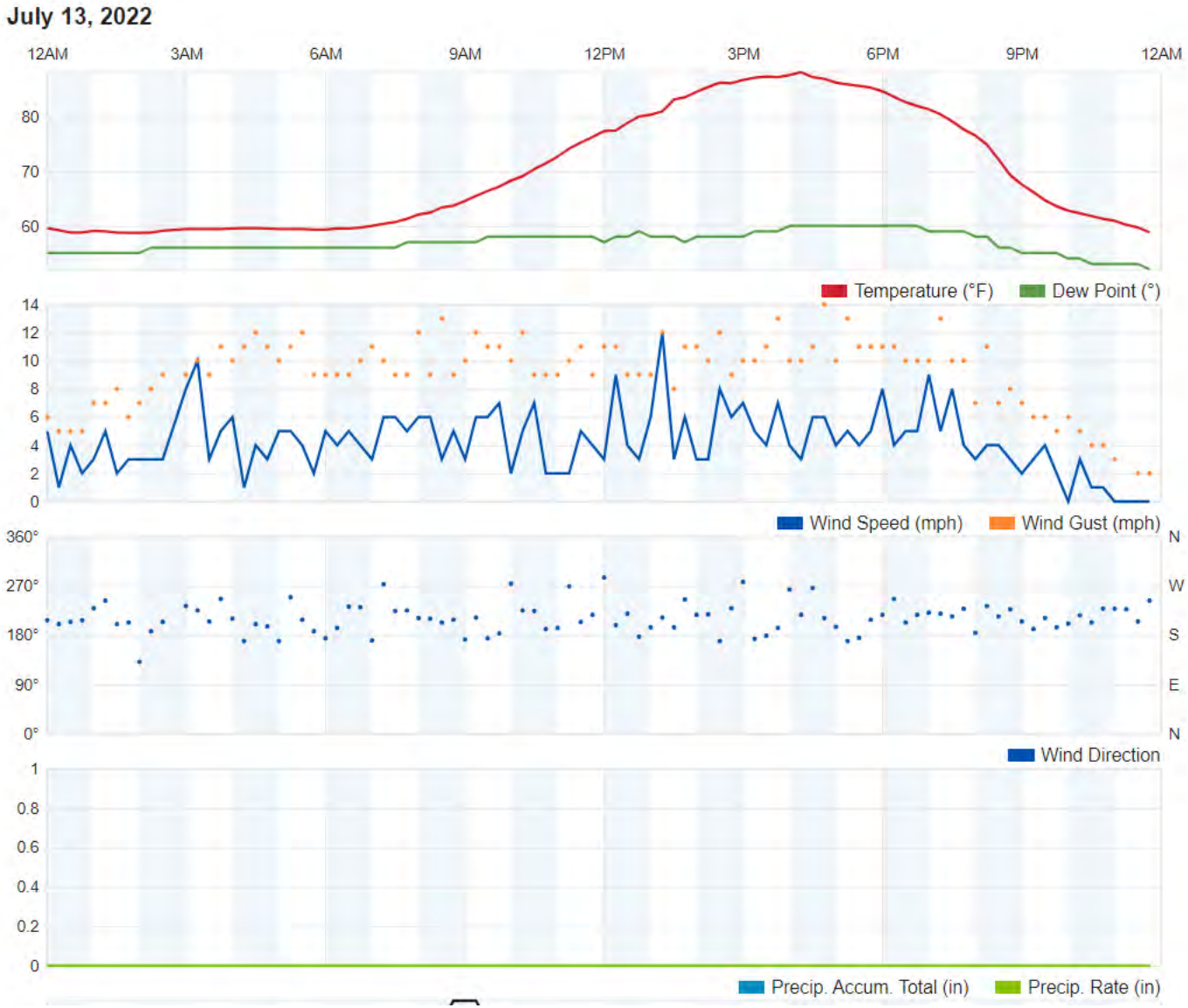
Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested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

Attachment 6

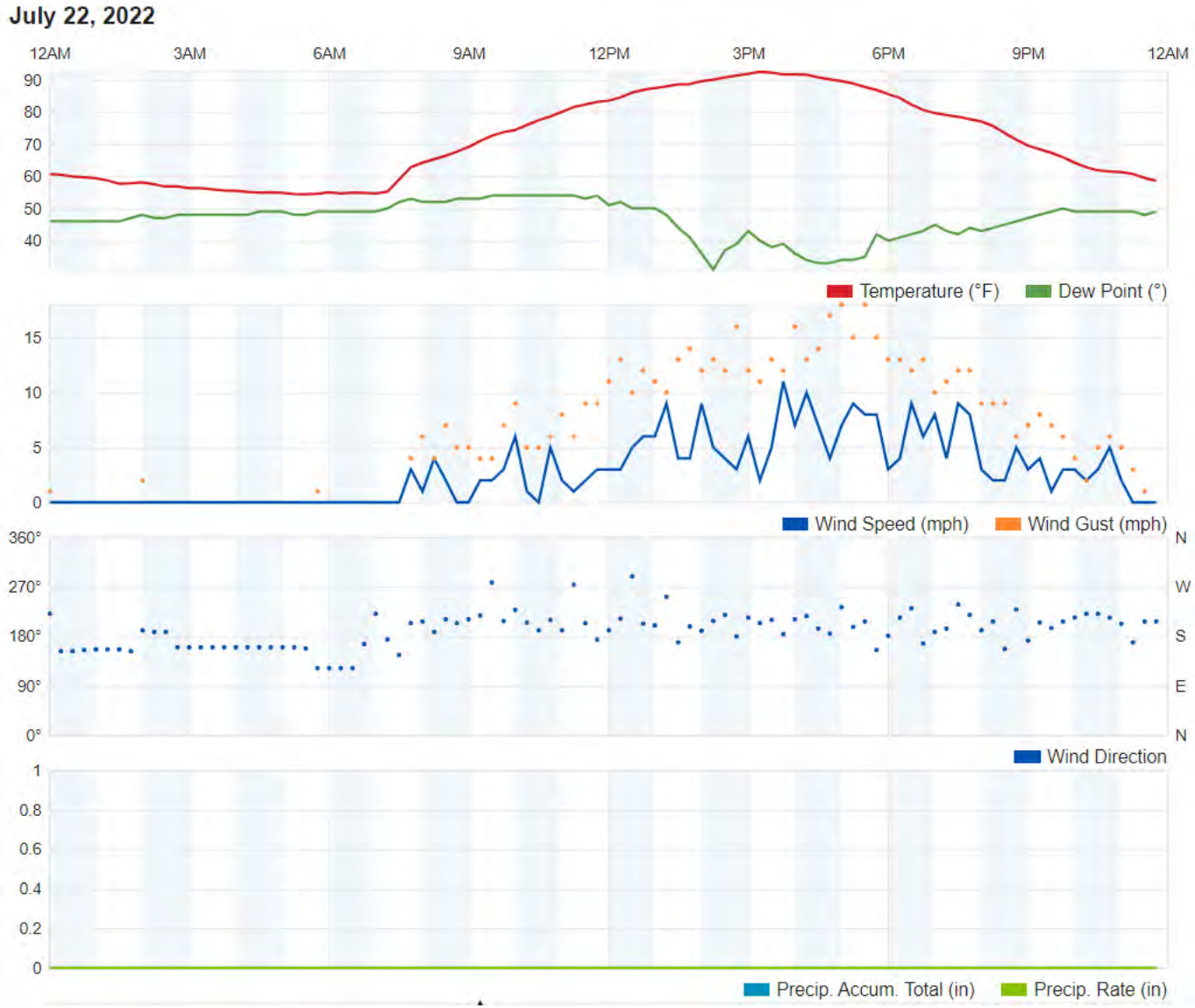
Weather Data



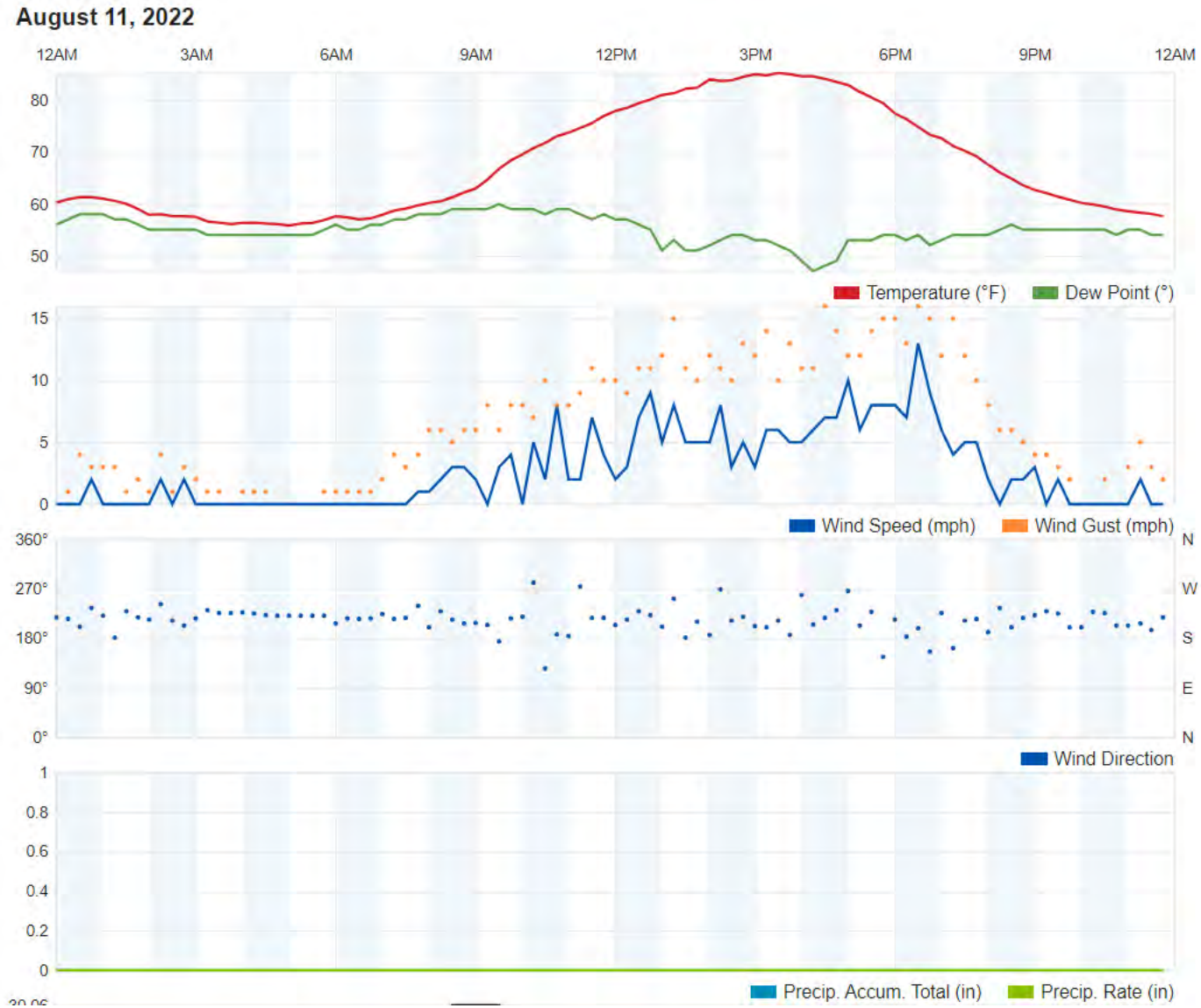
Third Quarter 2022
LMR Surface Emissions Monitoring Weather Data
July 12, 2022
Vasco Road Landfill, Livermore, California



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



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

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

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

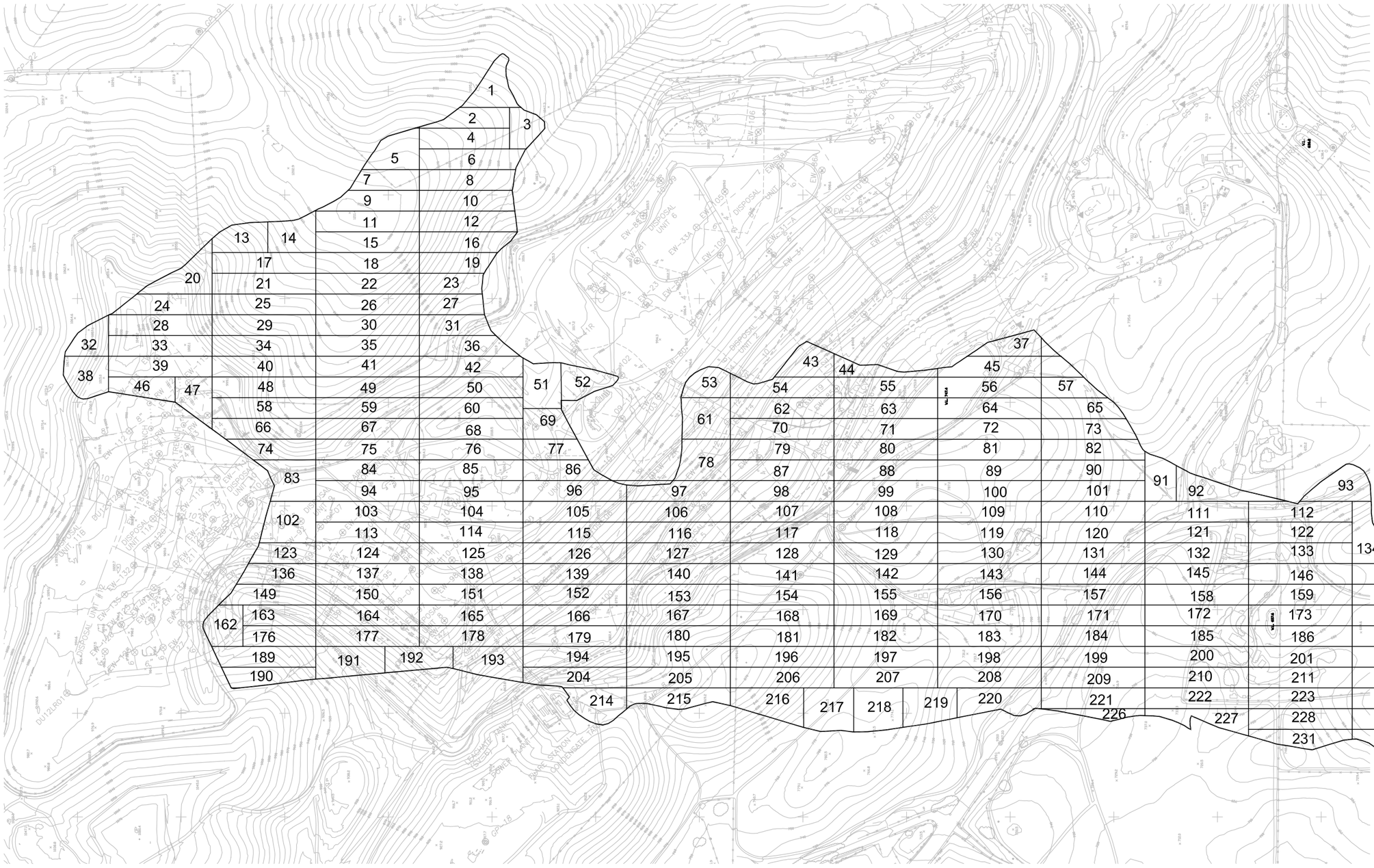
According to the LMR and NSPS, surface emissions monitoring at active landfills is required to be performed on a quarterly basis. Therefore, in accordance with our approved Work Scope, the first quarter 2023 (January through March) surface emissions testing event is scheduled to be performed by the end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

Attachment 1

Landfill Grid



SCALE IN FEET

500 0 500

(DRAWING SIZE IN 11"X17")

SCS ENGINEERS

ENVIRONMENTAL CONSULTANTS

3117 FITE CIRCLE, SUITE 108
SACRAMENTO, CALIFORNIA 95827
PH. (916) 361-1297 FAX. (916) 361-1299

PROJ. NO.	DWN. BY:	ACAD FILE:
07217028.00	ATV	FIGURE 1.DWG
DSN. BY: ATV	CHK. BY: WBS	APP. BY: AJ

SHEET TITLE:
SURFACE EMISSIONS MONITORING GRID MAP

PROJECT TITLE:
VASCO ROAD LANDFILL
ALAMEDA COUNTY, CALIFORNIA

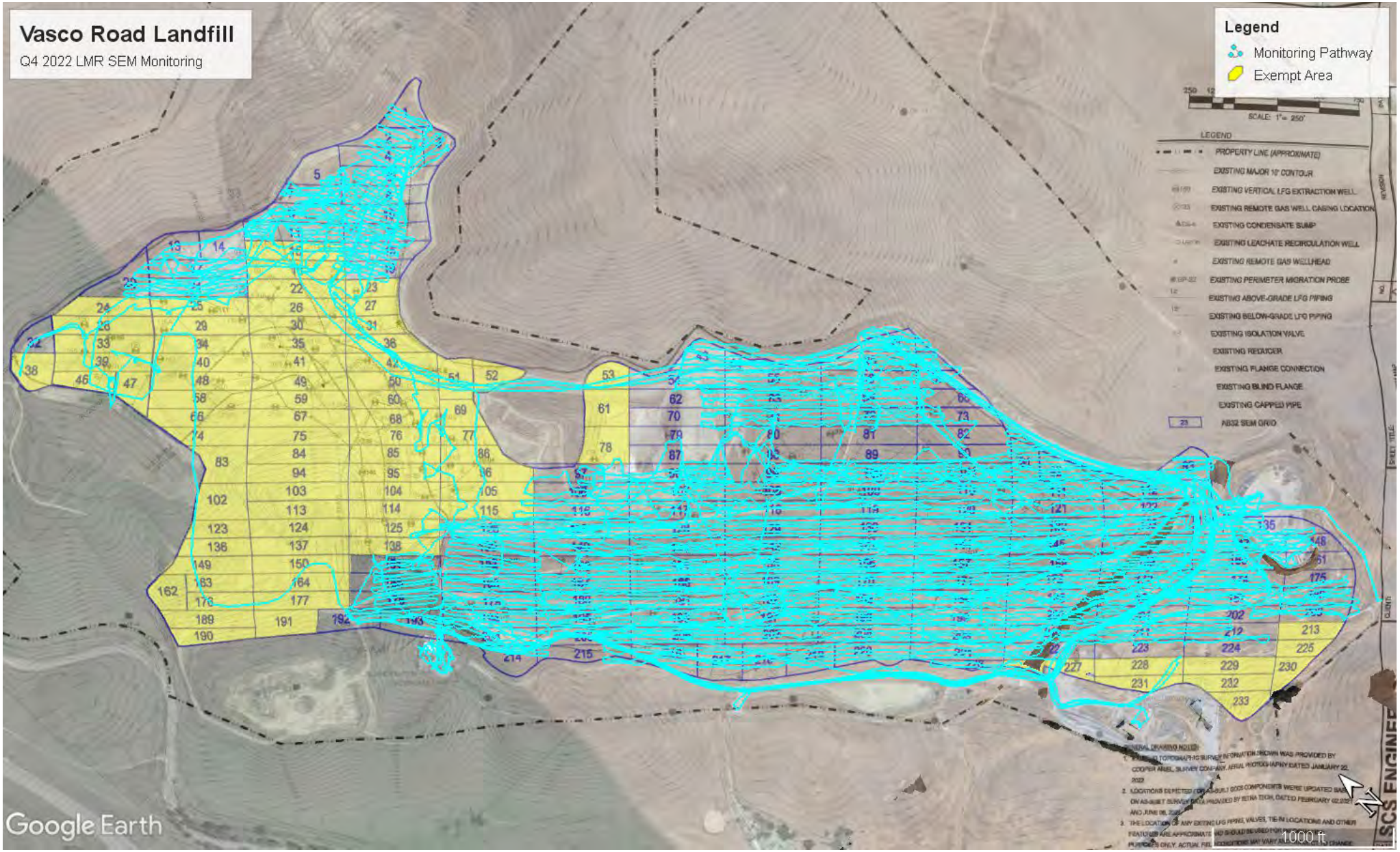
DATE: 3/14/17

SCALE: AS SHOWN

FIGURE: 1 – A

Attachment 2

Surface Pathway



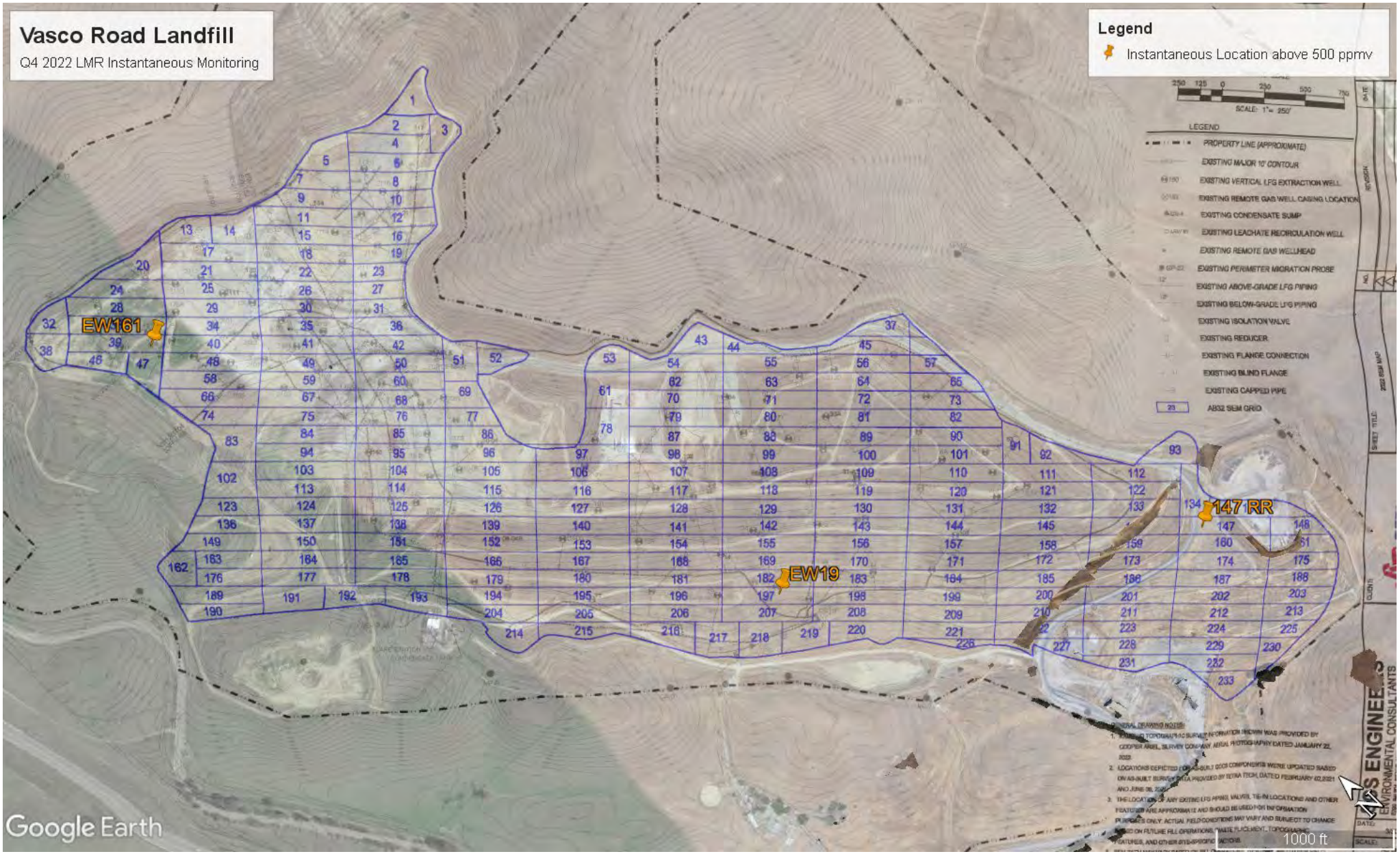
Fourth Quarter 2022

Initial LMR Surface Emissions Monitoring Pathway

Vasco Road Landfill, Livermore, California

Attachment 3

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 Component Emissions Monitoring Results
Vasco 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.

Attachment 4

Integrated Monitoring Results

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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	

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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	

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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	

Fourth Quarter 2022
Table 2. Integrated Surface Emissions Monitoring Results
Vasco Road Landfill, Livermore, California

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

Attachment 5

Calibration Logs

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 Site Name: VASCO

Inspector(s): R. Warren Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 9 MPH Wind Direction: SW Barometric Pressure: 30.00 "Hg

Air Temperature: 54 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5421 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0.0	499	1	1
2	-0.1	499	1	2
3	0.0	500	0	2

Average Difference: 0.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 143496
Counters Observed for the Zero= 4144

Trial 2:
Counts Observed for the Span= 141052
Counters Observed for the Zero= 4149

Trial 3:
Counts Observed for the Span= 138784
Counters Observed for the Zero= 4144

Post Monitoring Calibration Check

Zero Air Reading: 0.9 ppm Cal Gas Reading: 516 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2 ppm

Downwind Location Description: Flare Reading: 2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 Site Name: Vasco

Inspector(s): D. Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NE Barometric Pressure: 30.0 "Hg

Air Temperature: 57 °F General Weather Conditions: cloudy/windy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

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

Average Difference: 0.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 126228
Counters Observed for the Zero= 3608

Trial 2:
Counts Observed for the Span= 132280
Counters Observed for the Zero= 3582

Trial 3:
Counts Observed for the Span= 140042
Counters Observed for the Zero= 3594

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 513 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.1 ppm

Downwind Location Description: Flare Reading: 2.5 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 Site Name: Vasco

Inspector(s): Bryan Ochoa Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NE Barometric Pressure: 30.65 "Hg

Air Temperature: 53 °F General Weather Conditions: Partly Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

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

Average Difference: ______

*Perform recalibration if average difference is greater than 10

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

= 100%- ______ /500 x 100%

= %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 182452
Counters Observed for the Zero= 5390

Trial 2:
Counts Observed for the Span= 193456
Counters Observed for the Zero= 5411

Trial 3:
Counts Observed for the Span= 190400
Counters Observed for the Zero= 5290

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 7.4 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 Site Name: VASW

Inspector(s): Ruben Rios III Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: ~~12~~ 5 MPH Wind Direction: NE Barometric Pressure: 30.05 "Hg

Air Temperature: 53 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1211 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.1	503		
2	-0.1	502		
3	0	498		

Average Difference: [ ]

*Perform recalibration if average difference is greater than 10

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

= 100%- _____ /500 x 100%

= %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 134024
Counters Observed for the Zero= 4219

Trial 2:
Counts Observed for the Span= 135320
Counters Observed for the Zero= 4169

Trial 3:
Counts Observed for the Span= 134030
Counters Observed for the Zero= 4147

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.4 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 Site Name: Vasco

Inspector(s): Alfredo Gomez Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NE Barometric Pressure: 30.05 "Hg

Air Temperature: 53 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 2364 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.2	503		
2	-0.1	500		
3	-0.1	500		

Average Difference:

*Perform recalibration if average difference is greater than 10

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

= 100%- _____ /500 x 100%

= %

Span Sensitivity:

Trial 1:

Counts Observed for the Span= 191180

Counters Observed for the Zero= 4366

Trial 2:

Counts Observed for the Span= 192576

Counters Observed for the Zero= 4264

Trial 3:

Counts Observed for the Span= 191236

Counters Observed for the Zero= 4295

Post Monitoring Calibration Check

Zero Air Reading: 1.2 ppm Cal Gas Reading: 504 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.1 ppm

Downwind Location Description: flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/12/22 | Site Name: Vasco

Inspector(s): Ruben R. | Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH | Wind Direction: ______ | Barometric Pressure: 30.0 "Hg

Air Temperature: 57 °F | General Weather Conditions: Windy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 4106 | Cal Gas Concentration: 500ppm

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

Average Difference: 0

*Perform recalibration if average difference is greater than 10

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

= 100%- 0 /500 x 100%

= 100 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 145572
Counters Observed for the Zero= 5396

Trial 2:
Counts Observed for the Span= 144940
Counters Observed for the Zero= 5380

Trial 3:
Counts Observed for the Span= 144292
Counters Observed for the Zero= 5382

Post Monitoring Calibration Check

Zero Air Reading: -0.1 ppm | Cal Gas Reading: 507 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Carroll Co | Reading: 2.4 ppm

Downwind Location Description: Flare | Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/14/22 Site Name: Vasco

Inspector(s): Rashad . W Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NE Barometric Pressure: 29.86 "Hg

Air Temperature: 52 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1220 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	500	4	0
2	0	500	4	0
3	-0.1	500	1	0

Average Difference: 3

*Perform recalibration if average difference is greater than 10

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

= 100%- 3 /500 x 100%

= 99.4 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 144928
Counters Observed for the Zero= 3791

Trial 2:
Counts Observed for the Span= 145088
Counters Observed for the Zero= 3797

Trial 3:
Counts Observed for the Span= 145464
Counters Observed for the Zero= 3771

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 503 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.6 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/14/22 Site Name: vaco

Inspector(s): Bryan. Ochoa Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NE Barometric Pressure: 29.8 "Hg

Air Temperature: 53 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.1	500	0	1
2	0	499	1	1
3	-0.1	502	2	1

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 998 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 180256
Counters Observed for the Zero= 4905

Trial 2:
Counts Observed for the Span= 183868
Counters Observed for the Zero= 4943

Trial 3:
Counts Observed for the Span= 176632
Counters Observed for the Zero= 4941

Post Monitoring Calibration Check

Zero Air Reading: 1 ppm Cal Gas Reading: 501 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.6 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/14/22 Site Name: VASCO

Inspector(s): A. Gomez Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NE Barometric Pressure: 29.8 "Hg

Air Temperature: 52 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 2364 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0	502	2	2
2	-0.1	500	0	2
3	0	501	1	1

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 189786
Counters Observed for the Zero= 3941

Trial 2:
Counts Observed for the Span= 191492
Counters Observed for the Zero= 4040

Trial 3:
Counts Observed for the Span= 190888
Counters Observed for the Zero= 5101

Post Monitoring Calibration Check

Zero Air Reading: 1.2 ppm Cal Gas Reading: 501 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.5 ppm

Downwind Location Description: Flare Reading: 2.4 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/14/22 Site Name: Vasco

Inspector(s): Emmanuel Paz Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NE Barometric Pressure: 29.86 "Hg

Air Temperature: 52 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5421 Cal Gas Concentration: 500ppm

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

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 138192
Counters Observed for the Zero= 4229

Trial 2:
Counts Observed for the Span= 141064
Counters Observed for the Zero= 4174

Trial 3:
Counts Observed for the Span= 140664
Counters Observed for the Zero= 4188

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.5 ppm

Downwind Location Description: Flare Reading: 2.6 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/14/22 Site Name: Vasco

Inspector(s): DON. G Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 4 MPH Wind Direction: NE Barometric Pressure: 29.8 "Hg

Air Temperature: 52 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5420 Cal Gas Concentration: 500ppm

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

Average Difference: 0.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 130172
Counters Observed for the Zero= 3602

Trial 2:
Counts Observed for the Span= 134584
Counters Observed for the Zero= 3764

Trial 3:
Counts Observed for the Span= 136528
Counters Observed for the Zero= 3872

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm Cal Gas Reading: 503 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.1 ppm

Downwind Location Description: Flare Reading: 2.1 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/17/22 Site Name: Vasco

Inspector(s): Ruben Rios Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: S Barometric Pressure: 30.09 "Hg

Air Temperature: 63 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: ~~5470~~ 2364 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.2	503	3	3
2	-0.1	501	1	3
3	-0.1	501	1	3

Average Difference: 1.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.6 /500 x 100%

= 99.6%

Span Sensitivity:

Trial 1:

Counts Observed for the Span= 153092

Counters Observed for the Zero= 4243

Trial 2:

Counts Observed for the Span= 152960

Counters Observed for the Zero= 4112

Trial 3:

Counts Observed for the Span= 152932

Counters Observed for the Zero= 4158

Post Monitoring Calibration Check

Zero Air Reading: 0.1 ppm Cal Gas Reading: 521 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/17/22 Site Name: Vasco

Inspector(s): Don Gibbson Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: S Barometric Pressure: 30.09 "Hg

Air Temperature: 63 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: ~~[illegible]~~ 6420 Cal Gas Concentration: 500ppm

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

Average Difference: 3

*Perform recalibration if average difference is greater than 10

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

= 100%- 3 /500 x 100%

= 99.4 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 129740
Counters Observed for the Zero= 3585

Trial 2:
Counts Observed for the Span= 133560
Counters Observed for the Zero= 3569

Trial 3:
Counts Observed for the Span= 134984
Counters Observed for the Zero= ~~4[illegible]~~ 3562

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: [illegible] Reading: [illegible] ppm

Downwind Location Description: [illegible] Reading: [illegible] ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/17/22 Site Name: Vasco

Inspector(s): R. Warren Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 30.0 "Hg

Air Temperature: 48 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

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

Average Difference: 0.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.3 /500 x 100%

= 99.94 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 181296
Counters Observed for the Zero= 4929

Trial 2:
Counts Observed for the Span= 180848
Counters Observed for the Zero= 4924

Trial 3:
Counts Observed for the Span= 180140
Counters Observed for the Zero= 4963

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.2 ppm

Downwind Location Description: Flare Reading: 2.4 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-17-22 Site Name: Vasco

Inspector(s): Diego Romero Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 65 °F General Weather Conditions: sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 4100 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.1	496	4	4
2	-0.2	499	1	3
3	-0.1	500	0	4

Average Difference: 1.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.6 /500 x 100%

= 99.6 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 168136
Counters Observed for the Zero= ~~4100~~ 5849

Trial 2:
Counts Observed for the Span= 160004
Counters Observed for the Zero= 5849

Trial 3:
Counts Observed for the Span= 158252
Counters Observed for the Zero= 5792

Post Monitoring Calibration Check

Zero Air Reading: 0.2 ppm Cal Gas Reading: 510 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-17-22 Site Name: VASCO

Inspector(s): Emmanuel P Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 30.0 "Hg

Air Temperature: 49 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	00	500	0	1
2	-0.9	499	1	3
3		500	0	2

Average Difference: 0.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.3 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 148000
Counters Observed for the Zero= 2534

Trial 2:
Counts Observed for the Span= 147780
Counters Observed for the Zero= 2506

Trial 3:
Counts Observed for the Span= 147868
Counters Observed for the Zero= 2518

Post Monitoring Calibration Check

Zero Air Reading: 1.1 ppm Cal Gas Reading: 498 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid C Reading: 2.4 ppm

Downwind Location Description: Flare Reading: 2.4 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-17-22 Site Name: Vasco

Inspector(s): Bryan Ochoa Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: S Barometric Pressure: 30.09 "Hg

Air Temperature: 63 °F General Weather Conditions: Sunny

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

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

Average Difference: 1.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 1.3 /500 x 100%

= 99.7 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 131136
Counters Observed for the Zero= 3044

Trial 2:
Counts Observed for the Span= 140080
Counters Observed for the Zero= 3022

Trial 3:
Counts Observed for the Span= 140832
Counters Observed for the Zero= 3010

Post Monitoring Calibration Check

Zero Air Reading: -3.9 ppm Cal Gas Reading: 513 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 2.3 ppm

Downwind Location Description: Flare Reading: 2.1 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10/17/22 Site Name: Valco

Inspector(s): A. Gomez Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 3 MPH Wind Direction: NE Barometric Pressure: 30.0 "Hg

Air Temperature: 49 °F General Weather Conditions: Clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1211 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	0.0	500	0	1
2	0.0	500	0	1
3	-.01	499	1	2

Average Difference: 0.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.3 /500 x 100%

= %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 120700
Counters Observed for the Zero= 3863

Trial 2:
Counts Observed for the Span= 121272
Counters Observed for the Zero= 3893

Trial 3:
Counts Observed for the Span= 121632
Counters Observed for the Zero= 3883

Post Monitoring Calibration Check

Zero Air Reading: _____ ppm Cal Gas Reading: 504 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Grid 6 Reading: 32 ppm

Downwind Location Description: Flare Reading: 2.2 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-18-22 Site Name: Vasco

Inspector(s): Dan Gibson Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 89 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5419 Cal Gas Concentration: 500ppm

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

Average Difference: 0.6

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.6 /500 x 100%

= 99.8 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 187196
Counters Observed for the Zero= 5058

Trial 2:
Counts Observed for the Span= 184508
Counters Observed for the Zero= 5039

Trial 3:
Counts Observed for the Span= 182956
Counters Observed for the Zero= 5062

Post Monitoring Calibration Check

Zero Air Reading: 0.9 ppm Cal Gas Reading: 507 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.4 ppm

Downwind Location Description: G-145 Reading: 2.1 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-18-22 Site Name: Vasco

Inspector(s): Emmanuel Paz Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 59 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 5421 Cal Gas Concentration: 500ppm

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

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.98%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 135324
Counters Observed for the Zero= 4445

Trial 2:
Counts Observed for the Span= 142788
Counters Observed for the Zero= 4351

Trial 3:
Counts Observed for the Span= 142812
Counters Observed for the Zero= 4302

Post Monitoring Calibration Check

Zero Air Reading: 0.7 ppm Cal Gas Reading: 523 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.3 ppm

Downwind Location Description: G 145 Reading: 2.0 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-18-22 Site Name: Vosco

Inspector(s): R. Yepez Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 89 °F General Weather Conditions: Cloudy

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 4388 Cal Gas Concentration: 500ppm

Trial	Zero Air Reading	Cal Gas Reading	|Cal Gas Conc.-Cal Gas Reading|	Response Time (seconds)
1	-0.1	507	7	4
2	-0.1	499	1	4
3	-0.1	500	0	3

Average Difference: 1

*Perform recalibration if average difference is greater than 10

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

= 100%- 1 /500 x 100%

= 99.98%

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 143697
Counters Observed for the Zero= 4037

Trial 2:
Counts Observed for the Span= 160108
Counters Observed for the Zero= 3999

Trial 3:
Counts Observed for the Span= 157292
Counters Observed for the Zero= 3972

Post Monitoring Calibration Check

Zero Air Reading: 0.9 ppm Cal Gas Reading: 521 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 2.5 ppm

Downwind Location Description: G-145 Reading: 2.3 ppm

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

SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA

Date: 10-18-22 Site Name: Vasco

Inspector(s): Rashad Warren Instrument: TVA 2020

WEATHER OBSERVATIONS

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

Air Temperature: 59 °F General Weather Conditions: cloud

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1215 Cal Gas Concentration: 500ppm

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

Average Difference: 0.3

*Perform recalibration if average difference is greater than 10

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

= 100%- 0.3 /500 x 100%

= 99.9 %

Span Sensitivity:

Trial 1:
Counts Observed for the Span= 145924
Counters Observed for the Zero= 2728

Trial 2:
Counts Observed for the Span= 144964
Counters Observed for the Zero= 2743

Trial 3:
Counts Observed for the Span= 145404
Counters Observed for the Zero= 2723

Post Monitoring Calibration Check

Zero Air Reading: 0.5 ppm Cal Gas Reading: 517 ppm

BACKGROUND CONCENTRATIONS CHECKS

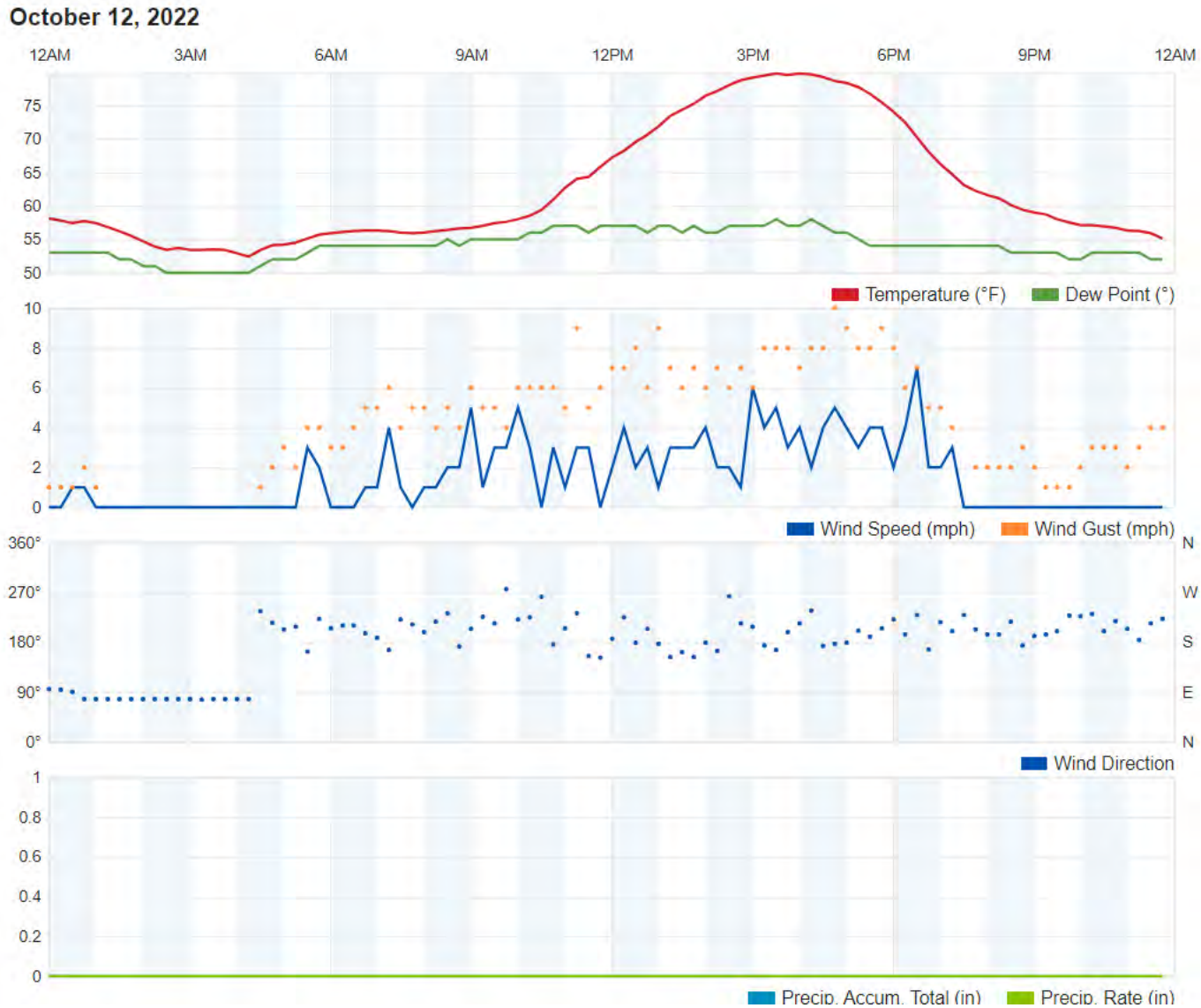
Upwind Location Description: Flare Reading: 2.1 ppm

Downwind Location Description: G-145 Reading: 2.5 ppm

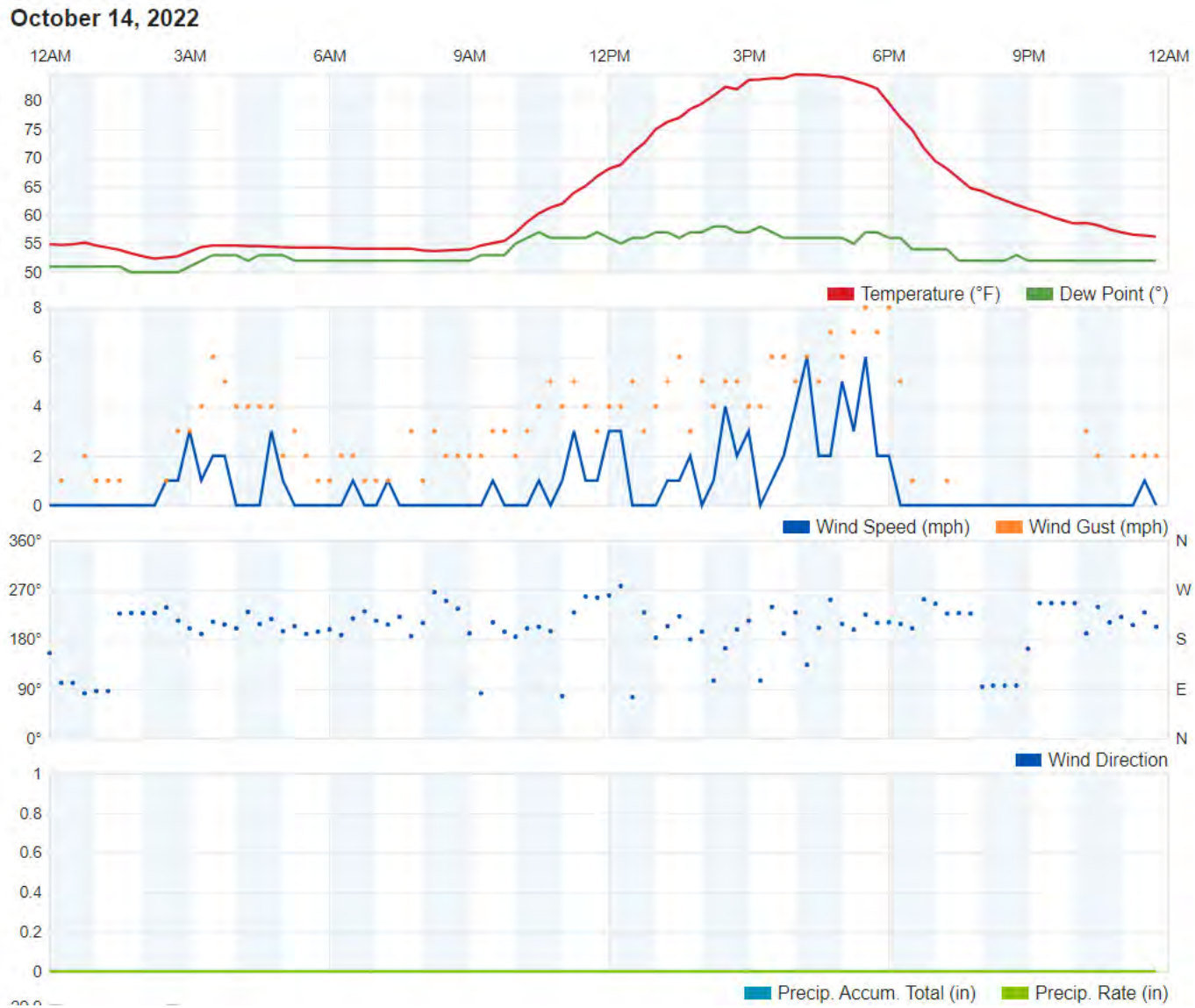
Notes: Wind speed averages were observed to remain below the alternative requested 10 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested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

Attachment 6

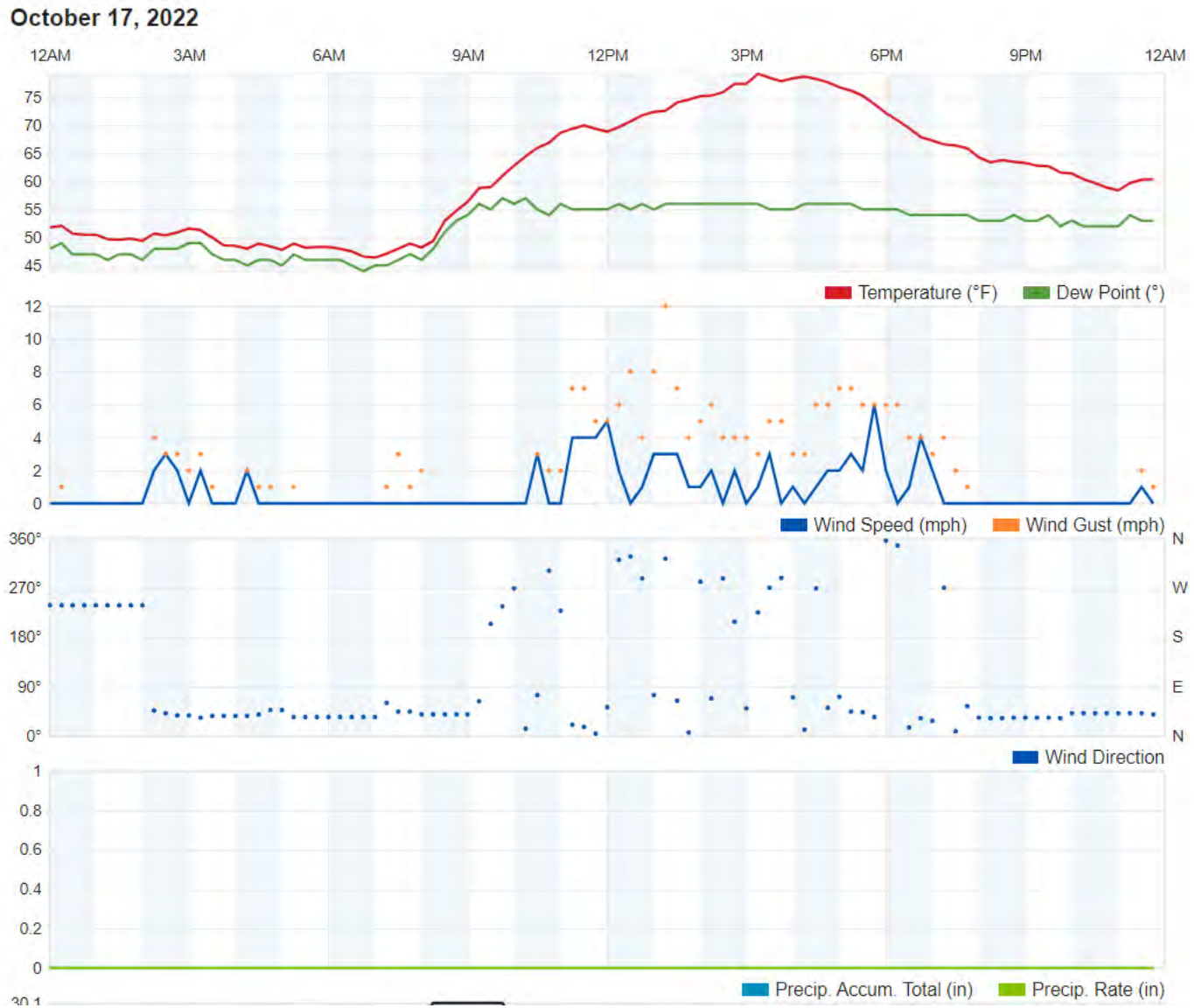
Weather Data



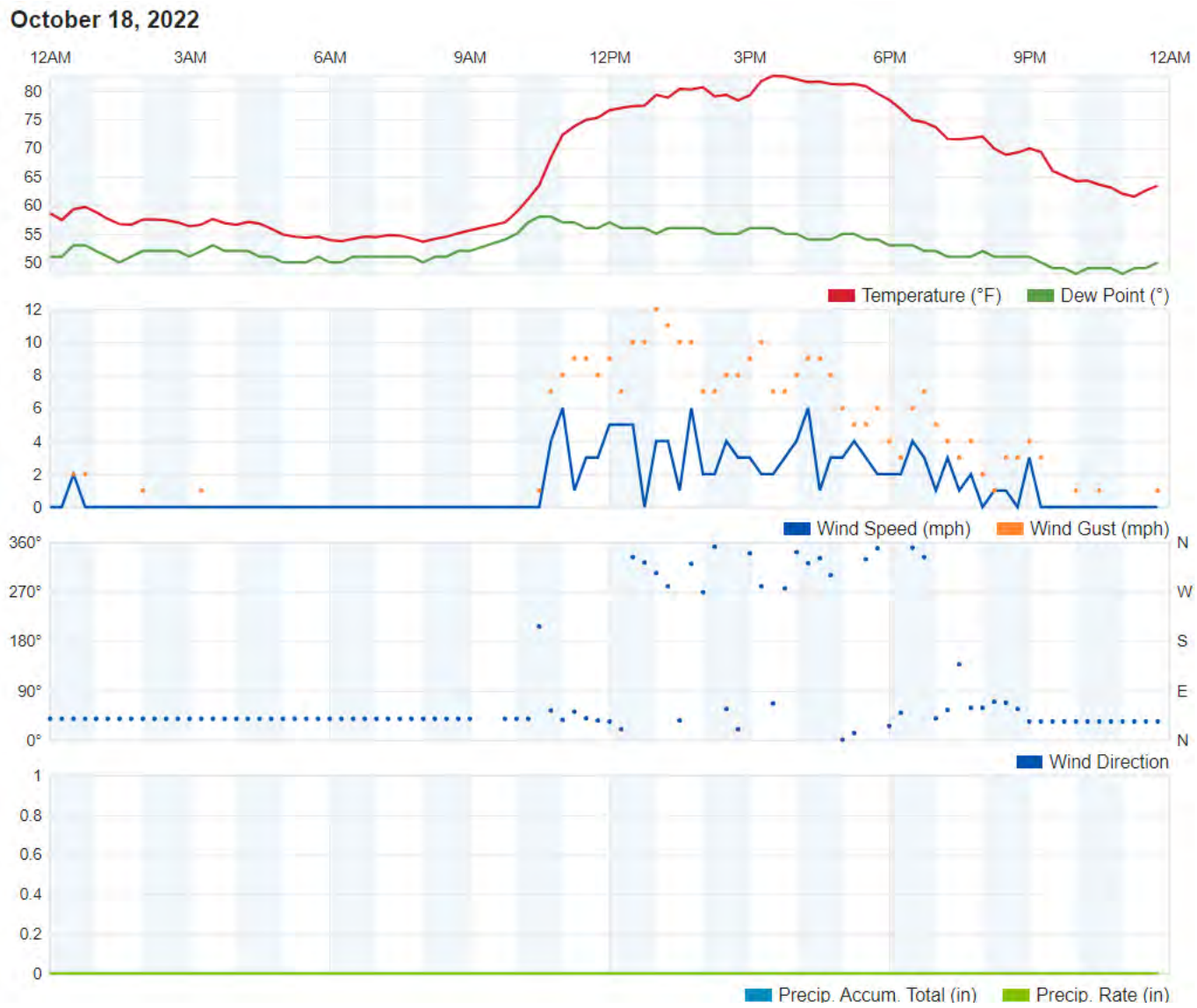
Fourth Quarter 2022
LMR Surface Emissions Monitoring Weather Data
October 12, 2022
Vasco Road Landfill, Livermore, California



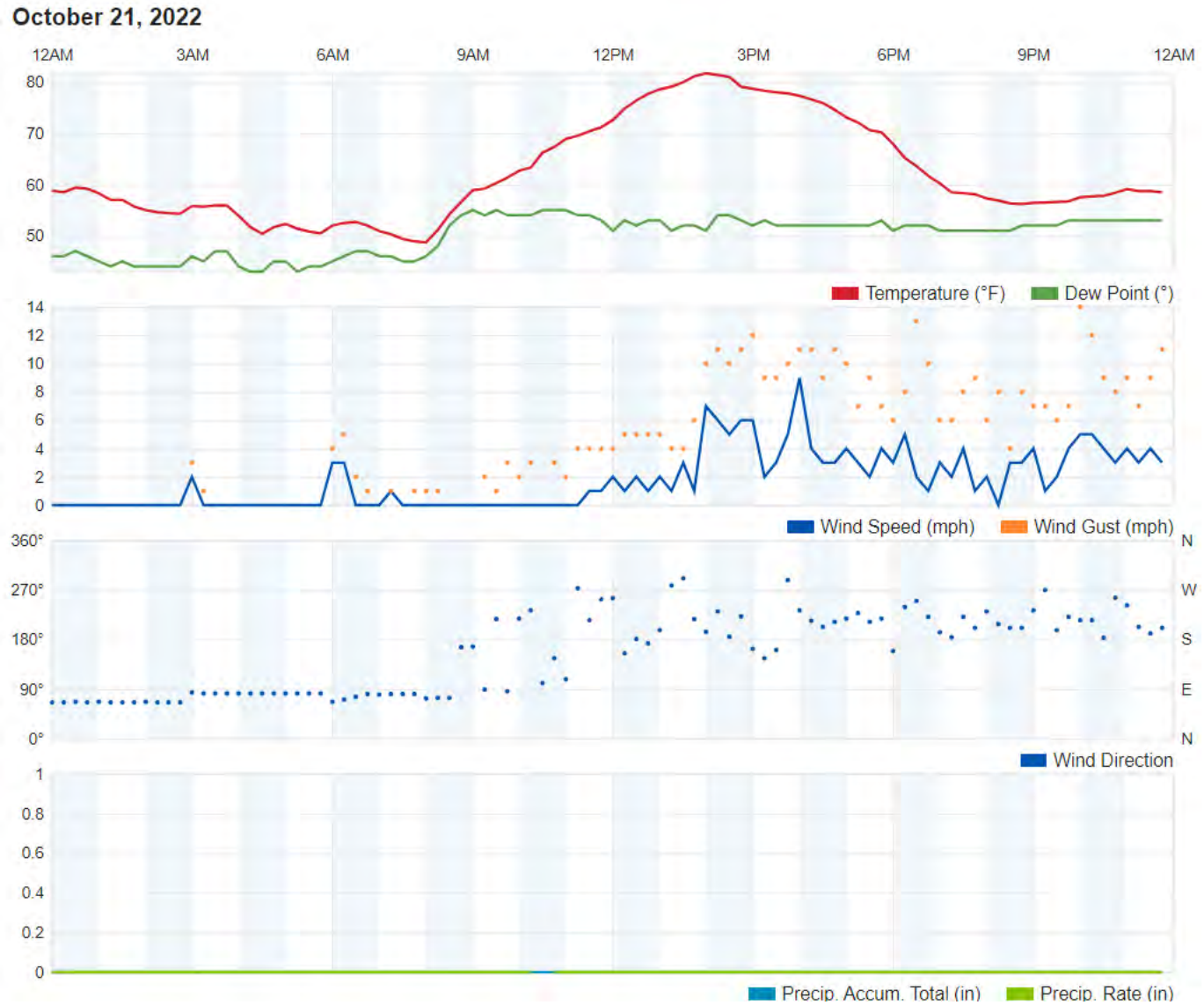
Fourth Quarter 2022
LMR Surface Emissions Monitoring Weather Data
October 14, 2022
Vasco Road Landfill, Livermore, California



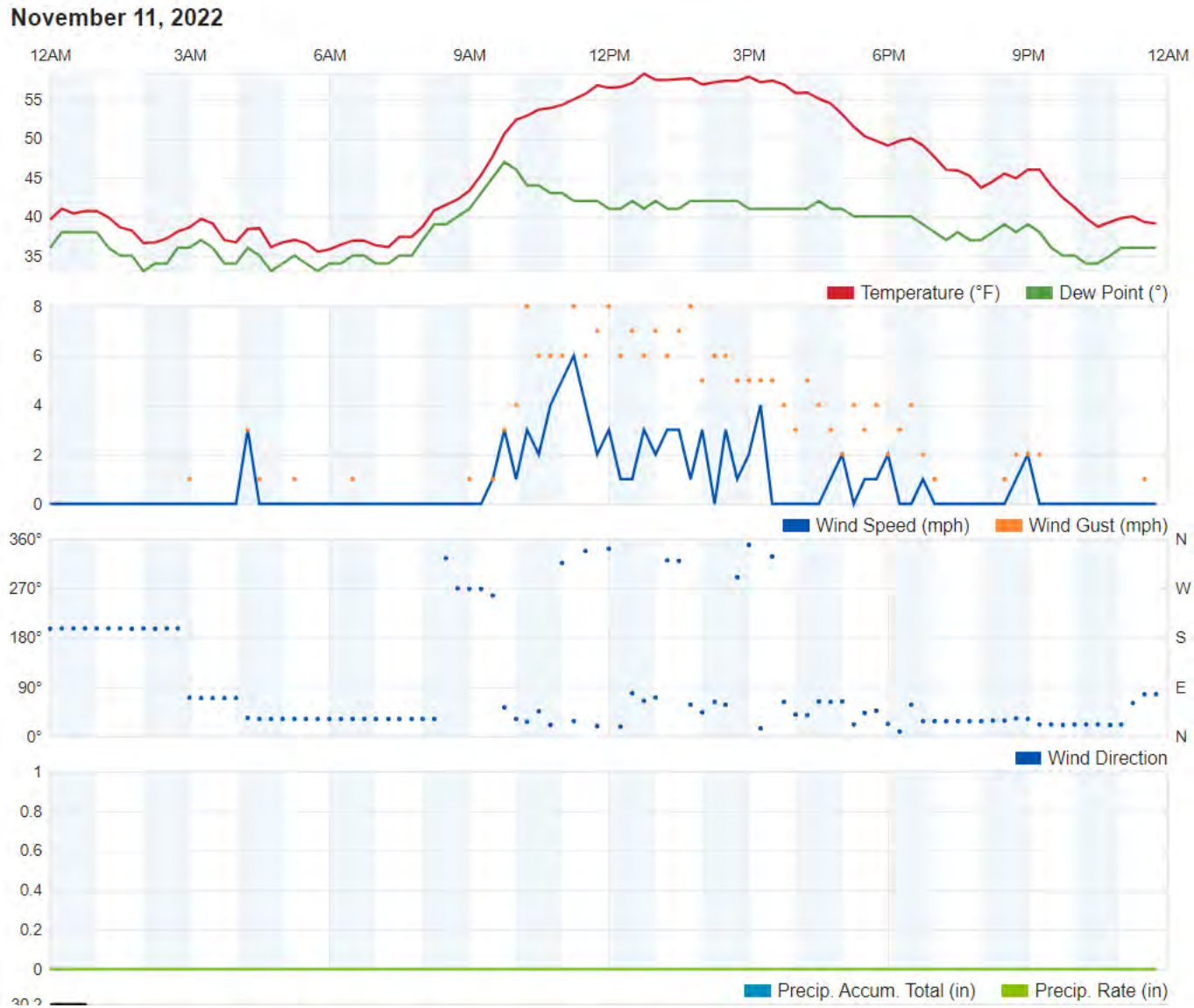
Fourth Quarter 2022
LMR Surface Emissions Monitoring Weather Data
October 17, 2022
Vasco Road Landfill, Livermore, California



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

VASCO ROAD LANDIFLL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: VASCO ROAD LANDFILL	**FACILITY ID#:** A5095
REPORTING PERIOD: *from* 08/01/2022	*through* 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:

Signature of Responsible Official

02/24/2023

Date

Josh Mills

Name of Responsible Official (please print)

General Manager

Title of Responsible Official (please print)

Mail to:

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

VASCO ROAD LANDIFLL

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: VASCO ROAD LANDFILL	**FACILITY ID#:** A5095
REPORTING PERIOD: *from* 08/01/2022	*through* 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 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 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:

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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. Notice of Violation (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.

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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 ºC (< 131 ºF), 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 ºF	Continuous	N/A

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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 ºF, 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
NO_x	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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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_2S	None	N/A	None	BAAQMD 9-2-301	Property Line Ground Level Limits: < 0.06 ppm, averaged over 3 minutes and < 0.03 ppm, averaged over 60 minutes	Continuous	N/A
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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

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
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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Vasco Road Landfill	**Facility ID#:** A5095
Permitted Unit: S-7 NON-RETAIL GASOLINE DISPENSING FACILITY #9551	**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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Vasco Road Landfill	**Facility ID#:** A5095
Permitted Unit: S-7 NON-RETAIL GASOLINE DISPENSING FACILITY #9551	**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	≤ 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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Vasco Road Landfill	**Facility ID#:** A5095
Permitted Unit: S-7 NON-RETAIL GASOLINE DISPENSING FACILITY #9551	**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-Vacuum Valve Settings	SIP 8-5-403 and CARB EO G-70-116-	Semi-Annual Inspection and CARB Certification Procedures	Periodic / On event basis	SIP 8-5-303.1	Pressure Setting: > 10% of maximum working pressure or > 0.5 psig	Continuous	N/A
Disconnection Liquid Leaks	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 12	≤ 10 ml per disconnect, averaged over 3 disconnect operations	Continuous	N/A

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Vasco Road Landfill	**Facility ID#:** A5095
Permitted Unit: S-14 GREENWASTE PROCESSING OPERATION, A-14 WATER SPRAYER	**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
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

VASCO ROAD LANDFILL

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Vasco Road Landfill	**Facility ID#:** A5095
Permitted Unit: S-15 WOODWASTE PROCESSING OPERATION, A-15 WATER SPRAYER	**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
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

TEMPERATURE EXCEEDANCE

Root Cause Analysis

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) for this well?	☐ Yes	☒ No
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 63.1958(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 since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

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.	☐ 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 **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.		

PRESSURE 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.	☐ 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 **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.		

PRESSURE 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.	☐ 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 **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.		

TEMPERATURE EXCEEDANCE

Root Cause Analysis

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) for this well?	☐ Yes	☒ No
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 63.1958(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 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.		

TEMPERATURE EXCEEDANCE

Root Cause Analysis

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) for this well?	☐ Yes	☒ No
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 63.1958(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 since the initial exceedance?	☒ Yes	☐ No
• If YES, keep records of Root Cause Analysis. No reporting required. • If NO, continue with Corrective Action Analysis and Implementation Plan and submit Notification to state agency within 75 days of initial exceedance.		

PRESSURE EXCEEDANCE

Root Cause Analysis

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.	☐ 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 **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 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.		

PRESSURE 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 proposed 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, send Root Cause Analysis, Corrective Action Analysis, and Implementation Schedule to state agency within 75 days for approval and include in next NSPS Report.

TEMPERATURE EXCEEDANCE

Root Cause 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) for this well?	☐ Yes	☒ No
• If YES, exempt as per 40 CFR 62.16720(a)(4)(iii)/ 40 CFR 63.1958(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 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.		

TEMPERATURE 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 proposed repairs and/or remedial action required and supporting information for implementation timeframe.	
HOV application submitted Jan-22, approved Feb-23. CO testing normal decomposition	

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.

75-Day Notifications

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 OOO. 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 OOO 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 OOO and AAAA.

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

TEMPERATURE EXCEEDANCE

Root Cause Analysis

Date of Initial Exceedance:	11/22/2022
Collection Device ID:	VREW2104
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Root Cause Analysis		
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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 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.		

TEMPERATURE 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.		