

# BAAQMD Rule 8-34 Semi-Annual Report and Title V Semi-Annual Report City of Sunnyvale Landfill and SMaRT Station<sup>®</sup> Sunnyvale, California (Facility No. 5905)

Prepared for:



Sunnyvale

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For Submittal to:

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**SCS ENGINEERS**

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This submittal consisting of the Bay Area Air Quality Management District (BAAQMD) Rule 8-34 Semi-Annual Report and the Title V Semi-Annual Monitoring Report for the Sunnyvale Landfill in Sunnyvale, California, dated July 2024, was prepared and reviewed by the following:



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# SECTION I. BAAQMD RULE 8-34 SEMI-ANNUAL REPORT

## 1.0 INTRODUCTION

This Bay Area Air Quality Management District (BAAQMD) Rule 8-34 Semi-Annual Report for the Sunnyvale Landfill (Landfill) is for the January 1, 2024 through June 30, 2024 reporting period. As approved by the BAAQMD on November 13, 2013, Rule 8-34 reports are synchronized with the reporting periods specified in the Landfill's Initial Major Facility Review (MFR or Title V) Permit, which was issued by the District on September 19, 2013. As such, the semi-annual Reports cover the semi-annual period January 1 through June 30 and July 1 through December 31; with respective reporting deadlines of July 31 and January 31. This semi-annual report was prepared by SCS Engineers (SCS) on behalf of the City of Sunnyvale Environmental Services Department (City) for submittal to the BAAQMD.

The Landfill was originally assigned BAAQMD Plant No. 2253; however, this designation was changed to No. 5905 when it was combined with the SMaRT Station®. This change was made in anticipation of these two facilities being placed under a single Title V permit. The Semi-Annual Report pertains to the landfill gas (LFG) collection and control system (GCCS) operated at the Landfill.

This report includes the following information, as required by BAAQMD Rule 8-34-411 for small design capacity landfills:

- All system and/or component downtime and reasons for the shutdown (8-34-501.1)
- All emission control system downtime and reason for the shutdown (8-34-501.2)
- Continuous temperature monitoring and dates of any excesses (8-34-501.3 and 507)
- Testing performed to satisfy the requirements of this rule (8-34-501.4)
- Monthly landfill gas flow rates and excesses (8-34-501.5)
- Collection and emission control system leak testing and any excesses, action taken to correct excesses, and re-monitored concentrations (8-34-501.6 and 503)
- Annual waste acceptance rate and the current amount of waste in-place (8-34-501.7)
- Records of non-degradable waste if area is excluded from LFG collection (8-34-501.8)
- Continuous flow monitoring (8-34-501.10 and 508)

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

## **2.0 SITE BACKGROUND INFORMATION**

The Sunnyvale Landfill is located in Sunnyvale, California and is owned and operated by the City. The 93-acre site is a closed landfill site.

The Landfill began accepting waste circa 1920. Until about 1957, most combustible wastes received were burned. In the late 1970's, the site was permitted to operate as a sanitary landfill by the State of California.

Filling operations ceased in September 1993. Closure was completed in October 1994 with an estimated 2.29 million Megagrams (Mg) of waste in place. The Landfill comprises 93 acres in four separate hills referred to as the West Hill, Recycle Hill, South Hill, and East Hill. The maximum height of the Landfill is approximately 90 feet.

## **2.1 EXISTING PERMITS AND PERMIT MODIFICATIONS**

The City maintains a BAAQMD Permit to Operate (PTO) (Plant No. 5905) and a Major Facility Review (MFR)/Title V permit for the entire Landfill, the LFG collection system, the LFG flare, and the SMaRT Station. A Title V permit was initially issued on September 19, 2013. The current Title V permit was issued on December 14, 2017. An application for renewal of the Title V permit for the Landfill and SMaRT Station was submitted to the BAAQMD on March 6, 2018.

The City also maintains a BAAQMD Title V Permit (Plant No. 733) to operate the City of Sunnyvale Water Pollution Control Plant (WPCP), which includes a Power Generation Facility (PGF) that utilizes LFG. The WPCP will continue to operate under a separate Title V permit with separate Title V reporting.

LFG is currently collected from all areas of the Landfill where municipal solid waste was placed and diverted to one or both methane-fired internal combustion (IC) engine generators at the PGF or to the flare located within the flare station at the WPCP. Note that the old flare (designated by the BAAQMD as abatement device 8 (A-8) on the Title V Permit) was replaced by a new flare (A-9). Flare A-8 was permanently taken out of service on September 3, 2013. Flare A-9 began operating on September 24, 2013, with a subsequent, initial source test performed on October 2, 2013.

## **2.2 EXISTING LANDFILL GAS COLLECTION AND CONTROL SYSTEM**

The GCCS for the site was installed and became operational in 1987. Several extraction wells were added to the collection system when the final cover was constructed in 1994, and two additional wells were added in 2000.

The gas collection system consists of a header piping network, vertical extraction wells, and horizontal gas collectors. The emission control system (ECS) consists of one enclosed flare and the PGF with two methane-fired engine generators. Note that Digester Gas (Digas), in addition to LFG, is burned in the enclosed flare. Both Digas and air-blended natural gas (ABNG), in addition to LFG, are used to fuel the PGF. The existing GCCS provides LFG control throughout the entire area of the Landfill property where municipal solid waste was placed. Additional details can be found in the GCCS Design Plan, which was prepared for the site by SCS in 2001 and submitted to the BAAQMD. A diagram of the GCCS displaying system component locations is shown in the site plan(s) provided in **Appendix A**.

On March 7, 2024, modifications to the LFG Flare at the WPCP site were made. The Sunnyvale WPCP rehabilitation project included a new Primary Treatment Facility infrastructure in the Package 1 phase of the project. Package 1 phase included installation of a new Motor Control Center (MCC-212.B1 - power supply and breakers). The LFGF was taken off the old Auxiliary Pump Station MCC and tied into this new Primary Treatment MCC-212.B1.

On April 23, 2024, modifications to the Landfill Gas System Piping (West Hill of Landfill) were made. A 3-inch jumper line was installed, aboveground, on the upper east side of the West Hill to increase vacuum to gas wells.

## **3.0 MONITORING AND RECORDS**

### **3.1 CONTINUOUSLY MONITORED PARAMETERS**

To comply with this regulation, the Landfill owner/operator is required to maintain full-time operation of the LFG collection system, control devices, and individual extraction wells. Operation is documented by continuously monitoring flow to the flare as well as flare combustion temperature, or flow to the PGF. Downtime for any of these components must be reported in the Rule 8-34 Semi-Annual Report. This information is summarized below and in the attached tables. Records of continuously monitored parameters are available for inspection at the site.

#### **3.1.1 Gas Extraction System Downtime**

During this reporting period, the gas extraction/collection system shut down on fourteen (14) occasions for a total elapsed time of 27.16 hours.

The WPCP, at which the PGF, the LFG Flare, and the blowers are located, is undergoing major construction and rehabilitation. The WPCP began operation in 1956, and the subject reconstruction/rehabilitation project is anticipated to take 20 years to complete. This work is taking place on the same site as the existing WPCP that must remain operational during the construction/rehabilitation. Portions of the WPCP's electrical system, which includes the electrical components of the gas collection and control system (that provide electricity to the blowers, the LFG and the PGF, as well as the associated instrumentation, meters, etc.), occasionally require shutdowns to upgrade equipment, add new lines, or to incorporate new lines for new and improved processes/equipment. During this reporting period, 11.66 hours of GCCS downtime were recorded due to both WPCP and LFGCCS planned maintenance. Refer to **Table 1** (attached) for the Log of GCCS/ECS downtime.

Eight (8) of the fourteen (14) downtime events involving the entire GCCS were deemed by the City to meet the Rule 8-34-113 exemption criteria for downtime due to maintenance and inspection. These downtime events are shown in **Table 1** (attached).

It is the City's understanding that the remaining six (6) downtime events, which were unplanned shutdowns, did not meet the District's Rule 8-34-113 exemption criteria, and the City submitted a Reportable Compliance Activity (RCA) Notification Form, requesting Breakdown relief for each occurrence.

The first three events occurred on February 4 and 5, 2024, resulting in 11.14 hours of downtime. These events were combined into one deviation report and BAAQMD assigned Breakdown Relief ID 200138, 200140, and 200147 for these events. The fourth event occurred on February 12, 2024, resulting in 1.73 hours of downtime. BAAQMD assigned Breakdown Relief ID 200172 for this event. The fifth and sixth events occurred on February 20 and 23, 2024, resulting in 2.63 hours of downtime. BAAQMD assigned Breakdown Relief ID 200186 and 200200 for these events. City staff previously submitted RCA notification forms as well as the 10-day/30-day Title V deviation reports for these events, which are provided in **Appendix D**.

In the event of a shutdown of an ECS component due to unforeseen circumstances, the City would be aware of downtime events because personnel are automatically notified of the downtime via an alarm system that notifies on-site facility personnel of such an event.

Because the gas extraction system and ECS are designed to work in concert, downtime for the extraction system results in downtime for the flare and the PGF. If sufficient Digas and ABNG were available to maintain PGF operation, the operator could choose to run the PGF rather than purchase electricity.

### **3.1.2 Emission Control System Downtime**

Because of the redundancies built into the GCCS at the Landfill (e.g., multiple control devices), it is unusual for both of the methane-fired engine generators and the enclosed flare to be unable to operate at the same time during an unplanned event. During this reporting period, total GCCS downtime was 27.16 hours. Eight (8) downtime events totaling 11.66 hours were allowable under Rule 8-34-113 and the remaining six (6) downtime events totaling 15.5 hours were not allowed, as mentioned above.

The City was aware of each flare downtime event either because it was a scheduled maintenance event, or, if it was an unplanned event, because facility personnel are automatically notified via an alarm system of such a shutdown. For unplanned events, facility personnel promptly performed inspection and corrective action as needed to avoid excess emissions. During all GCCS startup, shutdown, and malfunction events, City staff and/or their contractors or consultants inspected the system and conducted the necessary activities (e.g., inspections, maintenance, or repairs) to bring the GCCS back on-line, and maintain compliance.

Please note that because the LFG extraction system and control devices are designed to work in concert, downtime for the entire control system also results in downtime for the extraction system. When the LFG flare goes off-line, an automatic valve is actuated which interrupts LFG and Digas flow to the flare, and an electric relay is triggered, which turns off the extraction system (i.e., LFG blower). When the flare is off-line and both generator sets (gensets) are also not operating, there is no free venting of gas because the gas is constrained by the inoperative gensets and has no alternative outlet. In such circumstances, the blower would be shut down manually. During this reporting period, there were no instances where LFG flow passed through the control system uncontrolled (i.e., free venting). Additionally, there is no bypass that could allow the collected LFG stream to be diverted from the control devices.

### **3.1.3 Individual Well Downtime**

Although the entire GCCS may not go off-line, individual extraction wells are occasionally taken off-line for inspection, maintenance, repair, and other unforeseen circumstances. These are generally

planned events, although such events can occur without notice. In each case, the City was able to bring the extraction wells back on-line and maintain compliance.

A summary of the instances of individual well downtime during the reporting period is provided in **Table 2**, including the date, well identification number, reason for the downtime, a description of what was done to bring the well back on-line, and the total elapsed downtime. At no time during the reporting period were more than five (5) wells offline concurrently, or a single well for more than 24 hours. The well identification numbers are listed on the drawing provided in **Appendix A**. Each of these instances was allowed under Section 117 of Rule 8-34.

### **3.1.4 Flow Meter and Temperature Gauge Downtime**

The continuous operation of the LFG collection system and control devices is measured through the continuous measurement of LFG flow. Operation of the LFG flare in compliance with the PTO is monitored via flare temperature. As required by Rule 8-34, the GCCS at the Landfill is equipped with flow measuring devices and a temperature gauge, which provide continuous readout displays, as well as electronic data records from a video-graphic recorder. Additionally, flow and temperature data are recorded on the optical coupling device, "OPTO", which periodically backs up its data. The OPTO data allows retrieval of information to fill in any gaps in the video-graphic recorders' records. Review of the data from the OPTO and the video-graphic recorder indicates there were four (4) gaps during the reporting period. Per District Rule 1-523.1, no District notification is required for periods of inoperation of parametric monitors of less than 24 hours.

The first gap that occurred during the reporting period occurred on January 18, 2024. On January 18, 2024 from 7:15 to 9:40, there was a gap due to the replacement of the flow meters. The second gap occurred on January 18, 2024 from 9:50 to 10:30. This gap was due to the calibration and validation of the new flow meters. The third gap occurred on February 6, 2024 from 10:50 to 11:15. This gap was due to maintenance. The fourth and final gap of the reporting period occurred on March 6, 2024 from 9:50 to 11:20. This gap was due to LFGF PLC work and switchgear MCC work. During no time in the reporting period did the gaps exceed 24 hours.

## **3.2 COMPONENT LEAK QUARTERLY MONITORING**

### **3.2.1 First Quarter 2024 Monitoring**

The Landfill GCCS components and the PGF were both tested on March 12, 2024 for any leaks with a methane concentration of greater than 500 parts per million by volume (ppmv) as required by the California Air Resources Board (CARB) AB 32 Landfill Methane Rule (LMR) or greater than 1,000 ppmv as required by BAAQMD Rule 8-34-503. Testing was performed by SCS Field Services (SCSFS) using an organic vapor analyzer (OVA), which was calibrated on the same day. Calibration records are available upon request.

During the monitoring events, no component leaks in excess of 500 ppmv were detected in the Landfill GCCS components or the PGF, and therefore compliance was demonstrated. A report of the monitoring conducted by SCSFS for the 2024 first quarter event can be found in **Appendix B**.

### **3.2.2 Second Quarter 2024 Monitoring**

The Landfill GCCS components and the PGF were both tested on April 25, 2024, for any leaks with a methane concentration of greater than 500 ppmv as required by the CARB AB-32 LMR, or 1,000

ppmv as required by BAAQMD Rule 8-34-503. Testing was performed by SCSFS using an OVA, which was calibrated on the same day.

During the monitoring events, Engine Turbo Inlet Nos. 1, 2, and 3 exceeded the 500-ppmv limit. WPCP staff performed necessary repairs on April 26, 2024 and upon retesting on May 1, 2024, all exceedance locations returned to compliance and, therefore, compliance was demonstrated. A report of the monitoring conducted by SCSFS for the 2024 second quarter event can be found in **Appendix B**.

### **3.3 CONTROL EFFICIENCY**

The LFG flare (A-9) is required, under the provisions of the Initial Title V Permit, to be tested annually to demonstrate compliance with the control efficiency standard of greater than 98 percent (%) non-methane organic compound (NMOC) destruction efficiency or an outlet concentration of less than 30 ppmv of NMOCs as methane at 3 % oxygen (for flares) as required by BAAQMD Rule 8-34-301.4, 8-34-412 and 8-34-413. Initial testing of this flare was performed by Blue Sky Environmental, Inc. on October 2, 2013, followed by two annual flare testing events conducted in October 2014 and October 2015. Per Condition 11586 Part 12 of the City's PTO, after three consecutive annual source tests demonstrate compliance, the testing frequency can be reduced to once every three years. The most recent source test was conducted on September 20, 2021. The Source Test report dated November 9, 2021, indicated the flare was in compliance. A copy of the full report has been submitted to the District. The next LFG flare source testing is required by September 2024.

### **3.4 WELLHEAD AND SURFACE EMISSIONS MONITORING**

There was no wellhead monitoring activity pursuant to Rule 8-34 performed at the site because the monitoring is not required per the limited exemption for small design capacity landfills (8-34-120). However, monthly wellhead monitoring for pressure is performed under the AB 32 LMR, and will be reported in a separate annual report to the BAAQMD, which has been delegated by the CARB to implement the LMR. Similarly, landfill surface emissions monitoring (SEM) is not required by Rule 8-34, however, SEM is performed annually at the subject site, as required under the AB 32 LMR.

### **3.5 COVER INTEGRITY MONITORING**

The integrity of the landfill cover is monitored on a monthly basis by the City in accordance with BAAQMD Rule 8-34-510 using procedures specified in the GCCS Design Plan (SCS, 2001). During the reporting period, cover integrity monitoring was conducted on January 29, February 23, March 26, April 30, May 30, and June 25, 2024. During the reporting period, the observations during these monthly monitoring events indicated the landfill surface was in good condition. In the event visual evidence suggests otherwise, the surface will be promptly repaired.

### **3.6 MONTHLY LANDFILL GAS FLOW RATES**

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

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

The Sunnyvale Landfill is a closed landfill that has not accepted waste since 1993. The City only has records of quantities of waste that the facility received since 1976; earlier acceptance rates for the Landfill are estimated since no records are available to describe any previous waste disposal operations. The site has an estimated 2.29 million Mg of refuse in place.

### **3.7.1 Non-Degradable Waste Areas**

A non-degradable monofill area exists at the Landfill between the East and South Hills. This Biosolids Monofill is not within the area covered by the GCCS and is not designated on the GCCS drawing. There were 35 cubic yards of boat ramp dredged materials deposited to the Biosolids Monofill during the reporting period. Records are available upon request.

## **SECTION II. 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 January 1 through June 30 and July 1 through December 31, must be clearly identified in each report. This Title V Report covers the January 1, 2024 through June 30, 2024 reporting period.

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

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

## Tables

Table 1

**Log of Gas Collection and Control System (GCCS) Downtime OR Emission Control System (ECS) Downtime**

(Total Allowed Time for either GCCS or ECS downtime is 240 hours per calendar year)

**2024 Reporting Period (January 1, 2024 - June 30, 2024)**

Date	Initial Cause of Downtime*			Reason for Downtime**	Time System Went Offline	Time System Came Online	Duration Offline	Balance of Hours***
	GCCS	ECS	Other					
								240.00
1/18/24	X			LFG field and LFGF flow meter replacement.	7:09	10:24	3.25	236.75
3/6/24			X	Switched LFGF to new power by contractor.	9:48	11:20	1.53	235.22
3/6/24			X	PGF PLC work by maintenance.	11:50	11:54	0.07	235.15
5/29/24			X	Switched power supply to HW MCC- contractor work.	10:00	10:06	0.10	235.05
5/29/24			X	Switched power supply to HW MCC- contractor work.	13:36	13:52	0.27	234.78
5/29/24			X	Contractor work 2 MW Gen PLC.	14:31	14:35	0.70	234.08
6/12/24			X	Contractor work - 255 switchgear.	9:25	14:50	5.42	228.66
6/19/24			X	Maintenance work - 255 switchgear.	10:13	10:32	0.32	228.34

**Total Time Off-Line 11.66**

Notes:

- \* Place a checkmark in the box under the system that was the initial cause of the shutdown. (e.g. A break in the GCCS system, a problem with the Flare or Gensets, and a plant power outage would result in the "GCCS", "ECS", and "other" box being checked, respectively.)
- \*\* Provide a brief explanation of the cause of the downtime. (eg: There was a break in a lfg line; while the engines were undergoing maintenance the flare malfunctioned; and a plant-wide power outage occurred.)
- \*\*\* Please convert minutes into hundredths of an hour (e.g. 5 hrs, 13 min would be recorded as 5.22 hours) and subtract from prior line's balance of hours.

Table 2

Downtime of Individual Gas Collection Wells  
Reporting Period - January 1, 2024 through December 31, 2024

Well No.	Date Off-Line	Reason for Improvement	Corrective Action	Date On-Line	Offline (hours)
EW-24E-w	2/26/24	Gas well casing damaged by heavy equipment.	Repaired well casing.	2/27/24	23.95
EW-34E-w	4/3/24	Flex hose damaged by goats. This flex pipe was old and needed replacement anyway.	Replaced flex pipe with a higher UV quality flex material.	4/3/24	0.25
EW-16W-w	6/24/24	High O2. Found tee fitting lost glue adhesiveness and three rubber couplings were loose.	Fixed tee fitting and tightened all couplings. Replaced flex hosing.	6/24/24	1.18
EW-28W-w	6/27/24	Low spots on 3" pipe causing low vacuum.	Removed low spots and installed clean out.	6/27/24	1.6



## Appendix A – GCCS Drawings

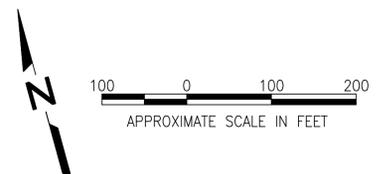


WEST HILL  
RECYCLE HILL  
SOUTH HILL

- NOTES:**
- (1) LOCATION OF LFG WELLS AND PIPING PROVIDED BY CITY OF SUNNYVALE.
  - (2) THE LOCATION OF ALL EXISTING CONDENSATE SUMPS ARE APPROXIMATE. LOCATION OF CONDENSATE LINES AND AIR LINES FROM AS-BUILT DRAWINGS (SCS ENGINEERS, 12-11-2006).
  - (3) AERIAL TOPOGRAPHY BY AERO-GEODETTIC CORPORATION
  - (4) AERIAL PHOTOGRAPH FROM GOOGLE EARTH 2011.

**LEGEND**

HV11	SURVEY BENCHMARK	29	PERIMETER LFG MIGRATION COMPLIANCE PROBE
Z 8.37	SURVEY BENCHMARK ELEVATION	GX-24	GROUNDWATER EXTRACTION WELL
EW-15E-V	LFG WELLHEAD/VALVE	---	LFG EXTRACTION PIPING (BELOW GROUND)
EW-15E-H	LFG WELLHEAD	---	LFG EXTRACTION PIPING (ABOVE GROUND)
GR-6	LEACHATE WELL	---	FENCE
GR-6-CON	CONNECTION POINT FOR LEACHATE WELL EXTRACTION	CB1	GATCH BASIN
V-14	BUTTERFLY GATE VALVE	SL	STREET LIGHT
CT-4E	CONDENSATE TRAP (VERTICAL TYPE)	UTL	UTILITY TRANSMISSION LINE
CT-5E	CONDENSATE TRAP (HORIZONTAL TYPE)	UTL	UTILITY POWER POLE
SWM-2	SURFACE WATER QUALITY MONITORING POINT	MH	MAN HOLE
SG-6	SURFACE WATER ELEVATION STAFF GAUGE	ET	EXTRACTION TRENCH
G-32	GROUNDWATER ELEVATION MONITORING WELL	EH-1	STORM WATER SAMPLE LOCATION
G-16	GROUNDWATER QUALITY MONITORING WELL	N	LFG CONDENSATE LINES & AIR LINES
			CONDENSATE & AIR LINE CHECK/CONTROL VALVE



Rev.	Description	Date

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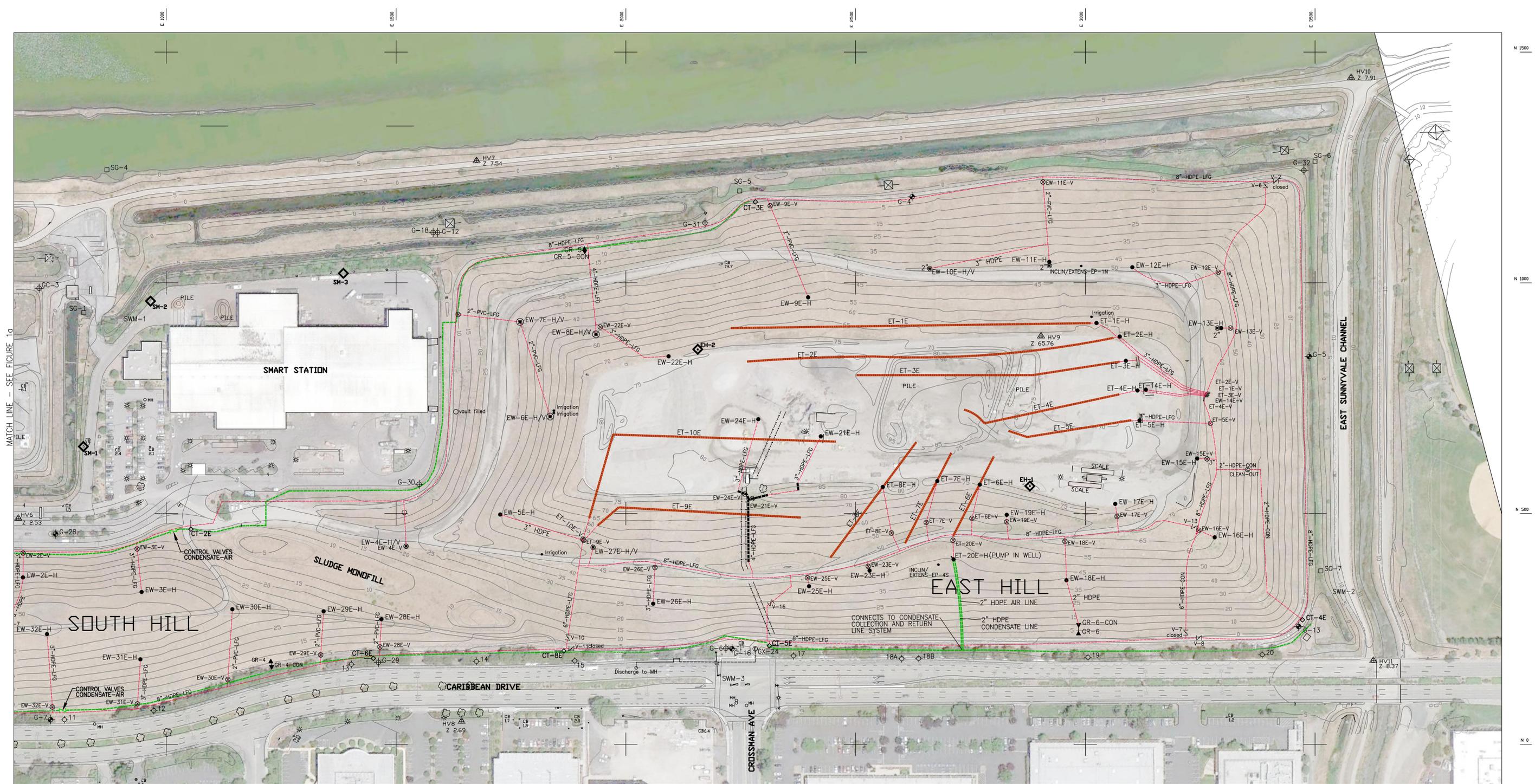
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Designed By:	TMS
Drawn By:	TMS
Checked By:	JJM
SCS Job No.:	01211339.00

SHEET TITLE:	SITE PLAN WEST
PROJECT TITLE:	LANDFILL GAS AND OTHER ENVIRONMENTAL MONITORING AND CONTROL SYSTEMS SUNNYVALE LANDFILL

**CITY OF SUNNYVALE**  
 CALIFORNIA

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 Environmental Services Department  
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Date:	5/4/2012
Drawing No.:	1a

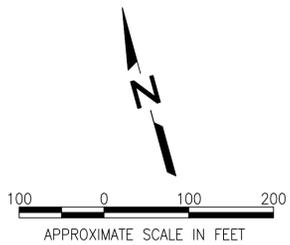


MATCH LINE - SEE FIGURE 1a

**NOTES:**

- (1) LOCATION OF LFG WELLS AND PIPING PROVIDED BY CITY OF SUNNYVALE.
- (2) THE LOCATION OF ALL EXISTING CONDENSATE SUMPS ARE APPROXIMATE. LOCATION OF CONDENSATE LINES AND AIR LINES FROM AS-BUILT DRAWINGS (SCS ENGINEERS, 12-11-2006).
- (3) AERIAL TOPOGRAPHY BY AERO-GEODETTIC CORPORATION
- (4) AERIAL PHOTOGRAPH FROM GOOGLE EARTH 2011.

LEGEND	
HV11 Z 8.37	SURVEY BENCHMARK
EW-15E-V	SURVEY BENCHMARK ELEVATION
EW-15E-H	LFG WELLHEAD/VALVE
GR-6	LFG WELLHEAD
GR-6-CON	LEACHATE WELL
V-14	CONNECTION POINT FOR LEACHATE WELL EXTRACTION
CT-4E	BUTTERFLY/ GATE VALVE
CT-5E	CONDENSATE TRAP (VERTICAL TYPE)
CT-5E	CONDENSATE TRAP (HORIZONTAL TYPE)
SWM-2	CONDENSATE TRAP (HORIZONTAL TYPE)
SG-6	SURFACE WATER QUALITY MONITORING POINT
G-32	SURFACE WATER ELEVATION STAFF GAUGE
G-16	GROUNDWATER ELEVATION MONITORING WELL
G-29	GROUNDWATER QUALITY MONITORING WELL
GX-24	PERIMETER LFG MIGRATION COMPLIANCE PROBE
GX-24	GROUNDWATER EXTRACTION WELL
---	LFG EXTRACTION PIPING (BELOW GROUND)
---	LFG EXTRACTION PIPING (ABOVE GROUND)
---	FENCE
CB	CATCH BASIN
SL	STREET LIGHT
UT	UTILITY TRANSMISSION LINE
MP	UTILITY POWER POLE
MH	MAN HOLE
T-3W	EXTRACTION TRENCH
EH-1	STORM WATER SAMPLE LOCATION
---	LFG CONDENSATE LINES & AIR LINES
---	CONDENSATE & AIR LINE CHECK/ CONTROL VALVE



Rev.	Description	Date

**SCS ENGINEERS**  
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Designed By:	TMS
Drawn By:	TMS
Checked By:	JJM
SCS Job No.:	01211339.00

SHEET TITLE:	SITE PLAN EAST
PROJECT TITLE:	LANDFILL GAS AND OTHER ENVIRONMENTAL MONITORING AND CONTROL SYSTEMS SUNNYVALE LANDFILL

City of Sunnyvale  
 Environmental Services Department  
 456 West Olive Avenue  
 P.O. Box 3707  
 Sunnyvale, California  
 94088-3707

Date:	5/4/2012
Drawing No.:	1b

Appendix B – SCSFS Quarterly LFG Collection System Component  
Leak/Emissions Testing and Component Emissions Monitoring  
Results

April 18, 2024  
File No. 01200220.07, Task 71

Ms. Sunanda Katragadda  
City of Sunnyvale  
Environmental Services Department  
456 West Olive Avenue  
Post Office Box 3707  
Sunnyvale, California 94086

Subject: First Quarter 2024 Landfill Gas (LFG) Collection System Component Leak/Emissions  
Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Ms. Katragadda:

This letter provides results of the landfill gas collection system component leak/emissions monitoring for the first quarter of 2024 (January through March) as required by the Landfill Methane Rule (LMR) and Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34. All work was performed by SCS Field Services (SCS) in accordance with City approval and our approved Work Scope.

## CONCLUSIONS AND RECOMMENDATIONS

On March 12, 2024, LFG component (e.g., well/valve vaults) leak/emissions monitoring showed no exceedances of the LMR limit of 500 ppmv or the BAAQMD Regulation 8, Rule 34 threshold of 1,000 parts per million (ppm), respectively. Therefore, no additional testing is recommended until the second quarter 2024.

## BACKGROUND

The Sunnyvale Landfill site is an inactive 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, 40 to 50 percent carbon dioxide, and trace amounts of various other gases, some of which are odorous. The Sunnyvale property contains a system to control the combustible gases generated in the landfill.

The gases produced in the landfill will either vent vertically to the atmosphere or migrate horizontally through subsurface soil to locations on adjacent properties. If the soil surrounding a landfill consists of permeable materials, there is a greater likelihood that the LFG will migrate to offsite locations. If the methane gas component of LFG is allowed to accumulate in a confined area (i.e., utility lines, irrigation valve boxes, vaults, basements, wall spaces, etc.) and is exposed to an ignition source, it can be explosive at concentrations between 5 and 15 percent by volume.



## **LFG COMPONENT EMISSIONS MONITORING**

On March 12, 2024, LFG component leak/emissions monitoring was performed at the subject site. The intent of the monitoring was to identify any specific locations (e.g., well/valve vaults and components) with organic compound concentrations exceeding the LMR threshold of 500 ppmv or BAAQMD, Regulation 8, Rule 34 threshold limit value of 1,000 ppmv measured as methane, respectively.

## **TESTING INSTRUMENTATION/CALIBRATION**

Instruments used to perform the LFG component leak/emissions 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 FID meets BAAQMD requirements and was calibrated in accordance with manufacturer specifications and EPA Method 21.

## **LFG COMPONENT EMISSIONS MONITORING PROCEDURES**

LFG component leak/emissions monitoring was conducted in accordance with BAAQMD Regulation 8, Rule 34 and the LMR. Monitoring was performed with the FID inlet held within 1 to 2 centimeters above all accessible LFG system components including extraction well and control valve vault boxes and flanges, etc.

## **TESTING RESULTS**

On March 12, 2024, quarterly LFG component/leak emissions testing of the collection system valve and wellhead boxes and flare station was performed as required by the BAAQMD. No methane gas concentrations in excess of the LMR limit of 500 ppmv or Rule 8-34 limit of 1000 ppmv limit were detected during this testing. See attached table for monitoring results. Therefore, the next required quarterly testing is due by the end of June 2024.

## **STANDARD PROVISIONS**

This report addresses conditions of the subject site on the test date only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the emissions at the subject site.

Ms. Katragadda

April 18, 2024

Page 3

Should you have any questions, do not hesitate to contact either of the undersigned.

Sincerely,

Handwritten signature of Rebecca L. Lucero in blue ink.

Rebecca L. Lucero  
Project Coordinator  
SCS Field Services

Handwritten signature of Stephen Harquail in blue ink.

Stephen Harquail  
Project Manager  
SCS Field Services

cc: Silviana Ruiz  
Julie Choun

**First Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 3-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

Temperature: 57  
 Barometric Pressure: 30  
 Wind Speed/Direction: nw12  
 Instrument: TVA-2020  
 Calibration: zero-500

**East Hill Horizontals**

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	1.4	1.3	
2E	1.4	1.4	
3E	1.5	1.3	
4E	1.5	1.2	
5E	1.4	1.3	
6E	1.4	1.2	
7E	1.4	1.3	
8E	1.5	1.2	
9E	1.4	1.2	
10E	1.5	1.2	



**First Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 3-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

Temperature: 57  
 Barometric Pressure: 30  
 Wind Speed/Direction: nw12  
 Instrument: TVA-2020  
 Calibration: zero-500

**East Hill Verticals**

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	1.5	1.2	
2E	1.4	1.1	
3E	1.3	1.2	
4E	1.3	1.0	
5E	1.1	1.1	
6E	1.0	1.1	
7E	1.2	1.2	
8E	1.2	1.1	
9E	1.1	1.2	
10E	1.1	1.1	
11E	1.3	1.2	
12E	1.3	1.0	
13E	1.2	1.2	
14E	1.2	1.2	
15E	1.1	1.1	
16E	1.0	1.1	
17E	1.1	1.2	
18E	1.3	1.3	
19E	1.4	1.2	
20E	1.3	1.3	
21E	1.4	1.2	
22E	1.2	1.1	



**First Quarter 2024**  
**City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 3-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

Temperature: 57  
 Barometric Pressure: 30  
 Wind Speed/Direction: nw12  
 Instrument: TVA-2020  
 Calibration: zero-500

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
23E	1.6	1.4	
24E	1.5	1.2	
25E	2.0	1.4	
26E	1.5	1.2	
27E	1.5	1.3	
28E	1.4	1.2	
29E	2.0	1.5	
30E	1.3	1.1	
31E	1.4	1.2	
32E	1.5	1.3	
33E	1.2	1.1	
34E	1.3	1.2	
35E	1.2	1.1	
36E	1.1	1.1	

**West Hill Horizontals**

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	1.2	1.2	
2W	1.3	1.2	
3W	1.2	1.1	



**First Quarter 2024**  
**City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 3-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

Temperature: 57  
 Barometric Pressure: 30  
 Wind Speed/Direction: nw12  
 Instrument: TVA-2020  
 Calibration: zero-500

**West Hill Verticals**

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	1.3	1.2	
2W	1.2	1.2	
3W	1.3	1.1	
4W	1.2	1.1	
5W	1.3	1.1	
6W	1.2	1.1	
7W	1.2	1.1	
8W	1.2	1.1	
9W	1.1	1.0	
10W	1.3	1.2	
11W	1.4	1.2	
12W	1.3	1.3	
13W	1.5	1.2	
14W	1.4	1.2	
15W	1.3	1.2	
16W	1.4	1.2	
17W	1.3	1.2	
18W	1.3	1.1	
19W	1.3	1.2	
20W	1.2	1.1	
21W	1.2	1.1	



**First Quarter 2024**  
**City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 3-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

Temperature: 57  
 Barometric Pressure: 30  
 Wind Speed/Direction: nw12  
 Instrument: TVA-2020  
 Calibration: zero-500

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
22W	1.2	1.1	
23W	1.2	1.1	
24W	1.3	1.2	
25W	1.2	1.1	
26W	1.2	1.1	
27W	1.3	1.2	
28W	1.2	1.2	
29W	1.2	1.2	
30W	1.4	1.2	



May 2, 2024  
File No. 01200220.07

Ms. Silvana Ruiz  
City of Sunnyvale  
Post Office Box 3707  
Sunnyvale, California 94086

Subject: First Quarter 2024 Power Generation Facility (PGF) and Landfill Gas (LFG) Flare System Component Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Ms. Ruiz:

This letter provides results of the first quarter 2024 PGF and LFG flare system component leak/emissions monitoring as required by Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34 and the Landfill Methane Rule (LMR). All work was performed by SCS Field Services (SCS) in accordance with City-approved Purchase Order.

## **CONCLUSIONS AND RECOMMENDATIONS**

On March 12, 2024, PGF and LFG flare positive pressure component (e.g., leak/emissions) monitoring showed no exceedances of BAAQMD Regulation 8, Rule 34 or LMR threshold of 1000 and 500 parts per million (ppm), respectively. Therefore, no additional testing is recommended until the second quarter 2024.

## **BACKGROUND**

The Sunnyvale Landfill site is an inactive 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, 40 to 50 percent carbon dioxide, and trace amounts of various other gases, some of which are odorous. The Sunnyvale property contains a system to control the combustible gases generated in the landfill.

The gases produced in the landfill will either vent vertically to the atmosphere or migrate horizontally through subsurface soil to locations on adjacent properties. If the soil surrounding a landfill consists of permeable materials, there is a greater likelihood that the LFG will migrate to offsite locations. If the methane gas component of LFG is allowed to accumulate in a confined area (i.e., utility lines, irrigation valve boxes, vaults, basements, wall spaces, etc.) and is exposed to an ignition source, it can be explosive at concentrations between 5 and 15 percent by volume. At higher concentrations, methane gas is flammable. However, the presence of methane gas in site soil does not mean there is an immediate threat of explosion because flames cannot typically propagate through soil.



## **LFG COMPONENT EMISSIONS MONITORING**

On March 12, 2024, PGF and Flare landfill gas component leak/emissions monitoring was performed at the subject site. The intent of the monitoring was to identify any specific locations at the PGF with organic compound concentrations exceeding BAAQMD, Regulation 8, Rule 34 and LMR threshold limit value of 1000 ppmv or 500 ppmv, respectively measured as methane.

## **TESTING INSTRUMENTATION/CALIBRATION**

Instruments used to perform the LFG component leak/emissions testing consisted of the following:

- Thermo-Scientific TVA-2020 (TVA). This instrument measures methane in air over a range of 1 to 50,000 ppmv. The TVA-2020 meets BAAQMD requirements and was calibrated in accordance with manufacturer specifications and EPA Method 21.

## **LFG COMPONENT EMISSIONS MONITORING PROCEDURES**

LFG component leak/emissions monitoring was conducted in accordance with BAAQMD Regulation 8, Rule 34 and the LMR. Monitoring was performed with the TVA-2020 inlet held within 1 to 2 centimeters above all/accessible PGF system components under positive pressure including valves, flanges, blower seals, etc.

## **TESTING RESULTS**

On March 12, 2024, quarterly LFG component/leak emissions testing of the PGF and LFG Flare Station were performed as required by the BAAQMD (see attached data table). No location of the LFG flare tested exceeded the Rule 8-34 1000 ppmv limit and LMR 500 ppmv limit during our monitoring event. Therefore, the next required quarterly testing for all components is due by the end of June 2024.

## **STANDARD PROVISIONS**

This report addresses conditions of the subject site on the test date only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the emissions at the subject site.

Ms. Silviana Ruiz

May 2, 2024

Page 3

Should you have any questions, do not hesitate to contact either of the undersigned.

Sincerely,

Handwritten signature of Rebecca L. Lucero in blue ink.

Rebecca L. Lucero  
Project Coordinator  
SCS Field Services

Handwritten signature of Stephen Harquail in blue ink.

Stephen Harquail  
Project Manager  
SCS Field Services

cc: Melody Tovar  
Bryan Berdeen  
Julie Choun

**First Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

Technician: Don Gibson  
 Date: 03-12-24  
 Weather: cloudy  
 ppm = parts per million  
 NR = Not Required

77.0  
 Barometric Pressure: 30  
 Wind Speed/Direction: se6  
 Instrument: TVA-2020  
 Calibration: 03-12-24

**Flare Station**

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Blowers	2		
Valves	2		
Piping	3		
Flanges	10		

**Power Generation Facility**

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Compressor	2.4		
Valves	2.1		
Piping	3.2		
Flanges	304		
Blowers	28.2		
Engines	13.4		



July 15, 2024  
File No. 01200220.07, Task 71

Ms. Silviana Ruiz  
City of Sunnyvale  
Environmental Services Department  
456 West Olive Avenue  
Post Office Box 3707  
Sunnyvale, California 94086

Subject: Second Quarter 2024 Landfill Gas (LFG) Collection System Component  
Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Ms. Ruiz:

This letter provides results of the landfill gas collection system component leak/emissions monitoring for the second quarter of 2024 (April through June) as required by the Landfill Methane Rule (LMR) and Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34. All work was performed by SCS Field Services (SCS) in accordance with City approval and our approved Work Scope.

## CONCLUSIONS AND RECOMMENDATIONS

On April 25, 2024, LFG component (e.g., well/valve vaults) leak/emissions monitoring showed no exceedances of the LMR limit of 500 ppmv or the BAAQMD Regulation 8, Rule 34 threshold of 1,000 parts per million (ppm), respectively. Therefore, no additional testing is recommended until the third quarter 2024.

## BACKGROUND

The Sunnyvale Landfill site is an inactive 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, 40 to 50 percent carbon dioxide, and trace amounts of various other gases, some of which are odorous. The Sunnyvale property contains a system to control the combustible gases generated in the landfill.

The gases produced in the landfill will either vent vertically to the atmosphere or migrate horizontally through subsurface soil to locations on adjacent properties. If the soil surrounding a landfill consists of permeable materials, there is a greater likelihood that the LFG will migrate to offsite locations. If the methane gas component of LFG is allowed to accumulate in a confined area (i.e., utility lines, irrigation valve boxes, vaults, basements, wall spaces, etc.) and is exposed to an ignition source, it can be explosive at concentrations between 5 and 15 percent by volume.



## **LFG COMPONENT EMISSIONS MONITORING**

On April 25, 2024, LFG component leak/emissions monitoring was performed at the subject site. The intent of the monitoring was to identify any specific locations (e.g., well/valve vaults and components) with organic compound concentrations exceeding the LMR threshold of 500 ppmv or BAAQMD, Regulation 8, Rule 34 threshold limit value of 1,000 ppmv measured as methane, respectively.

## **TESTING INSTRUMENTATION/CALIBRATION**

Instruments used to perform the LFG component leak/emissions 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 FID meets BAAQMD requirements and was calibrated in accordance with manufacturer specifications and EPA Method 21.

## **LFG COMPONENT EMISSIONS MONITORING PROCEDURES**

LFG component leak/emissions monitoring was conducted in accordance with BAAQMD Regulation 8, Rule 34 and the LMR. Monitoring was performed with the FID inlet held within 1 to 2 centimeters above all accessible LFG system components including extraction well and control valve vault boxes and flanges, etc.

## **TESTING RESULTS**

On April 25, 2024, quarterly LFG component/leak emissions testing of the collection system valve and wellhead boxes and flare station was performed as required by the BAAQMD. No methane gas concentrations in excess of the LMR limit of 500 ppmv or Rule 8-34 limit of 1000 ppmv limit were detected during this testing. See attached table for monitoring results. Therefore, the next required quarterly testing is due by the end of September 2024.

## **STANDARD PROVISIONS**

This report addresses conditions of the subject site on the test date only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the emissions at the subject site.

Ms. Ruiz  
July 15, 2024  
Page 3

Should you have any questions, do not hesitate to contact either of the undersigned.

Sincerely,

Handwritten signature of Rebecca L. Lucero in blue ink.

Rebecca L. Lucero  
Project Coordinator  
SCS Field Services

Handwritten signature of Stephen Harquail in blue ink.

Stephen Harquail  
Project Manager  
SCS Field Services

cc: Sunanda Katragadda  
Julie Choun

**Second Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson, Ricardo Yopez, Emmanuel Paz, F  
**Date:** 4-25-24  
**Weather:** Cloudy  
 ppm = parts per million  
 NR = Not Required

**Temperature:** 45  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** SSE 5  
**Instrument:** TVA-2020  
**Calibration:** Zero-500

**East Hill Horizontals**

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	1.2	1.2	
2E	1.2	1.1	
3E	1.3	1.2	
4E	1.1	1.0	
5E	1.1	1.5	
6E	1.2	1.4	
7E	1.2	1.3	
8E	1.2	1.6	
9E	1.1	1.7	
10E	1.1	1.1	

**Second Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson, Ricardo Yepez, Emmanuel Paz, F  
**Date:** 4-25-24  
**Weather:** Cloudy  
 ppm = parts per million  
 NR = Not Required

**Temperature:** 45  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** SSE 5  
**Instrument:** TVA-2020  
**Calibration:** Zero-500

**East Hill Verticals**

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	1.6	1.0	
2E	1.4	1.0	
3E	0.4	1.0	
4E	0.6	1.0	
5E	0.8	1.0	
6E	1.0	1.0	
7E	1.1	1.0	
8E	1.5	1.0	
9E	1.4	1.0	
10E	1.6	1.0	
11E	1.1	1.0	
12E	1.0	1.0	
13E	1.2	1.0	
14E	1.2	1.0	
15E	1.4	1.0	
16E	1.6	1.0	
17E	1.3	1.0	
18E	1.2	1.0	
19E	1.7	1.0	
20E	1.3	1.0	
21E	1.5	1.0	
22E	1.2	1.0	



**Second Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson, Ricardo Yopez, Emmanuel Paz, F  
**Date:** 4-25-24  
**Weather:** Cloudy  
 ppm = parts per million  
 NR = Not Required

**Temperature:** 45  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** SSE 5  
**Instrument:** TVA-2020  
**Calibration:** Zero-500

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
23E	1.2	1.0	
24E	1.3	1.0	
25E	1.2	1.0	
26E	1.0	1.0	
27E	0.6	1.0	
28E	0.7	1.0	
29E	1.2	11.0	
30E	1.6	1.0	
31E	1.3	1.0	
32E	1.7	1.0	
33E	1.0	1.0	
34E	1.2	1.0	
35E	1.0	1.0	
36E	1.3	1.0	

**West Hill Horizontals**

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	1.4	1.0	
2W	1.4	1.0	
3W	0.7	0.7	

**Second Quarter 2024  
City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson, Ricardo Yopez, Emmanuel Paz, F  
**Date:** 4-25-24  
**Weather:** Cloudy  
 ppm = parts per million  
 NR = Not Required

**Temperature:** 45  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** SSE 5  
**Instrument:** TVA-2020  
**Calibration:** Zero-500

**West Hill Verticals**

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	1.0	1.0	
2W	1.3	1.0	
3W	1.2	1.0	
4W	0.7	1.0	
5W	0.4	1.0	
6W	1.2	1.0	
7W	1.4	1.0	
8W	1.3	1.0	
9W	1.3	1.0	
10W	1.4	1.0	
11W	1.3	1.0	
12W	0.6	1.0	
13W	1.3	1.0	
14W	1.3	1.0	
15W	1.2	1.0	
16W	1.6	1.0	
17W	1.3	1.0	
18W	1.3	1.0	
19W	1.0	1.0	
20W	1.1	1.0	
21W	1.2	1.0	



**Second Quarter 2024**  
**City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson, Ricardo Yopez, Emmanuel Paz, F  
**Date:** 4-25-24  
**Weather:** Cloudy  
 ppm = parts per million  
 NR = Not Required

**Temperature:** 45  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** SSE 5  
**Instrument:** TVA-2020  
**Calibration:** Zero-500

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
22W	1.4	1.0	
23W	1.4	1.0	
24W	1.0	1.0	
25W	1.3	1.0	
26W	0.4	1.0	
27W	1.1	1.0	
28W	1.2	1.0	
29W	1.6	1.0	
30W	1.1	1.0	

July 3, 2024  
File No. 01200220.07

Ms. Silvana Ruiz  
City of Sunnyvale  
Post Office Box 3707  
Sunnyvale, California 94086

Subject: Second Quarter 2024 Power Generation Facility (PGF) and Landfill Gas (LFG) Flare System Component Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Ms. Ruiz:

This letter provides results of the second quarter 2024 PGF and LFG flare system component leak/emissions monitoring as required by Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34 and the Landfill Methane Rule (LMR). All work was performed by SCS Field Services (SCS) in accordance with City-approved Purchase Order.

## **CONCLUSIONS AND RECOMMENDATIONS**

On April 25, 2024, PGF and LFG flare positive pressure component (e.g., leak/emissions) monitoring showed no exceedances of BAAQMD Regulation 8, Rule 34 or LMR threshold of 1000 and 500 parts per million (ppm), respectively with the exception of the PGF Engine Turbos Nos. 1, 2 and 3 (up to 6800 ppm) as noted below. SCS performed the required 10-day retesting on May 1, 2024, with these locations returning to compliance. Therefore, no additional testing is recommended until the third quarter 2024.

## **BACKGROUND**

The Sunnyvale Landfill site is an inactive 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, 40 to 50 percent carbon dioxide, and trace amounts of various other gases, some of which are odorous. The Sunnyvale property contains a system to control the combustible gases generated in the landfill.

The gases produced in the landfill will either vent vertically to the atmosphere or migrate horizontally through subsurface soil to locations on adjacent properties. If the soil surrounding a landfill consists of permeable materials, there is a greater likelihood that the LFG will migrate to offsite locations. If the methane gas component of LFG is allowed to accumulate in a confined area (i.e., utility lines, irrigation valve boxes, vaults, basements, wall spaces, etc.) and is exposed to an ignition source, it can be explosive at concentrations between 5 and 15 percent by volume. At higher concentrations, methane gas is flammable. However, the presence of methane gas in site soil does not mean there is an immediate threat of explosion because flames cannot typically propagate through soil.



## **LFG COMPONENT EMISSIONS MONITORING**

On April 25, 2024, PGF and Flare landfill gas component leak/emissions monitoring was performed at the subject site. The intent of the monitoring was to identify any specific locations at the PGF with organic compound concentrations exceeding BAAQMD, Regulation 8, Rule 34 and LMR threshold limit value of 1000 ppmv or 500 ppmv, respectively measured as methane.

## **TESTING INSTRUMENTATION/CALIBRATION**

Instruments used to perform the LFG component leak/emissions testing consisted of the following:

- Thermo-Scientific TVA-2020 (TVA). This instrument measures methane in air over a range of 1 to 50,000 ppmv. The TVA-2020 meets BAAQMD requirements and was calibrated in accordance with manufacturer specifications and EPA Method 21.

## **LFG COMPONENT EMISSIONS MONITORING PROCEDURES**

LFG component leak/emissions monitoring was conducted in accordance with BAAQMD Regulation 8, Rule 34 and the LMR. Monitoring was performed with the TVA-2020 inlet held within 1 to 2 centimeters above all/accessible PGF system components under positive pressure including valves, flanges, blower seals, etc.

## **TESTING RESULTS**

On April 25, 2024, quarterly LFG component/leak emissions testing of the PGF and LFG Flare Station were performed as required by the BAAQMD (see attached data table). No location of the LFG flare tested exceeded the Rule 8-34 1000 ppmv limit and LMR 500 ppmv limit during our monitoring event with the exception of Engine Turbo Inlet Nos. 1, 2 and 3 (up to 6800 ppm). SCS understands that WPCP staff performed necessary repairs on April 26, 2024. Upon retesting of this location by SCS on May 1, 2024, PGF Engine Turbo Inlet Nos. 1, 2 and 3 returned to compliance. Therefore, the next required quarterly testing for all components is due by the end of September 2024.

## **STANDARD PROVISIONS**

This report addresses conditions of the subject site on the test date only. Accordingly, we assume no responsibility for any changes that may occur subsequent to our testing which could affect the emissions at the subject site.

Ms. Silviana Ruiz

July 3, 2024

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Should you have any questions, do not hesitate to contact either of the undersigned.

Sincerely,



Rebecca L. Lucero  
Project Coordinator  
SCS Field Services



Stephen Harquail  
Project Manager  
SCS Field Services

cc: Melody Tovar  
Bryan Berdeen  
Julie Choun  
Sunanda Katragadda

**Second Quarter 2024**  
**City of Sunnyvale - Component Emissions Testing**

**Technician:** Don Gibson  
**Date:** 04-25-24  
**Weather:** Cloudy  
**ppm = parts per million**  
**NR = Not Required**

**Temp:** 68  
**Barometric Pressure:** 30  
**Wind Speed/Direction:** NW 6  
**Instrument:** TVA-2020  
**Calibration:** 04-25-24

**Flare Station**

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Blowers	2		
Valves	1		
Piping	1		
Flanges	1		

**Power Generation Facility**

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm) (5-1-24)	Comments
Compressor	2.1		
Valves	2.6		
Piping	2.3		
Flanges	2.7		
Blowers	2.8		
<b>Engines:</b>			The turbo inlets on Engine Nos.1 and 2
Turbo Inlet No. 1	6800	11.3	The turbo inlets on Engine Nos.1 and 2
Turbo Inlet No. 2	4200	4.1	The turbo inlets on Engine Nos.1 and 2
Turbo Inlet No. 3	800	402.0	The turbo inlets on Engine Nos.1 and 2



## Appendix C – Title V Semi-Annual Report (with Certification)

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>SITE:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>FACILITY ID#:</b> A5905
<b>REPORTING PERIOD:</b> <i>from 01/1/2024 through 6/30/2024</i>	

### 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:

*Ramana Chinnakotla*

**07/17/2024**

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

\_\_\_\_\_  
Date

Ramana Chinnakotla

Name of Responsible Official (please print)

Director of Environmental Services

Title of Responsible Official (please print)

### **Mail to:**

*Director of Compliance and Enforcement*

*BAAQMD*

*375 Beale Street*

*San Francisco, CA 94105*

*Attn: Title V reports*

## City of Sunnyvale Landfill and SMaRT Station®

### TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-8 Sunnyvale Landfill with Gas Collection System and A-9 Landfill Gas Flare	<b>Reporting Period:</b> <i>from 01/1/2024 through 06/30/2024</i>

<b>SITE:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>FACILITY ID#:</b> A5905
<b>REPORTING PERIOD:</b> <i>from 01/1/2024 through 06/30/2024</i>	

#### List of Permitted Sources and Abatement Device

Permit Unit Number	Equipment Description
<b>S-#</b>	<b>Description</b>
S-1	Solid Waste Transfer Station
S-2	Wood Waste Unloading Operation
S-3*	Wood Shredder
S-4*	Conveyor
S-5	Wood Chip Processing
S-6**	Wood Chip Screening
S-7	Diesel Engine (Emergency Standby Generator)
S-8	Gas Collection System: 66 Vertical Extraction Wells and 13 Horizontal Collectors
S-10****	Wood Shredder
S-11****	Conveyor
A-1	Wet Suppression System
A-5	Bag House Dust Collector
A-8***	Landfill Gas Flare, 45 MM BTU/hr
A-9	Landfill Gas Flare, 600 SCFM of waste gas, 18 MM BTU/hr

Notes: \*S-3 was replaced by S-10 and S-4 was replaced by S-11 per application #26967. Permit to Operate (PTO) issued August 6, 2015.

\*\*S-6 was taken out of service permanently on 12/5/2016.

\*\*\*A-8 was taken out of service permanently on 9/3/13; A-9 was started up on 9/3/13

\*\*\*\*S-10 and S-11 were included in the PTO issued January 21, 2022

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-8 Sunnyvale Landfill with Gas Collection System and A-9 Landfill Gas Flare	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

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 (gas flow meters and temperature monitors)	Periodic/ Daily	BAAQMD 1-523.1 and 1-523.2	Inoperation < 24 hours; ≤ 15 consecutive days per incident and ≤ 30 calendar days per 12-month period	Continuous	N/A
Opacity	None	NA	None	BAAQMD 6-1-301 and SIP 6-301	Ringelmann No. 1 for < 3 minutes in any hour (applies to flare)	Continuous	N/A
FP	None	NA	None	BAAQMD 6-1-310 and SIP 6-310	≤ 0.15 grains/dscf (applies to flare)	Continuous	N/A
Continuous Operation	BAAQMD 8-34-501.1, 8-34-501.2, 8-34-501.10, 8-34-508 and BAAQMD Condition # 11586, Parts 3, 6, and 7	Gas Flow Meter and Recorder (every 15 minutes)  Records of Landfill Gas Flow Rates, Collection and Control Systems Downtime and Collection System Components	Continuous	BAAQMD 8-34-301 and 301.1 and BAAQMD Condition #11586, Parts 2-7	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system.	Intermittent	Six unplanned shutdowns of the GCCS occurred on February 4, 5, 12, 20, and 23, 2024. RCA Notification Forms and follow-up reports were submitted by the City and breakdown relief was requested. Submittals are provided in Attachment D.
Collection and Control Systems Shutdown Time	BAAQMD 8-34-501.1	Operating Records	Periodic/ Daily	BAAQMD 8-34-113.2	≤ 240 hours per year and ≤ 5 consecutive days	Continuous	N/A

## City of Sunnyvale Landfill and SMaRT Station®

### TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-8 Sunnyvale Landfill with Gas Collection System and A-9 Landfill Gas Flare	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Well Shutdown Limits	BAAQMD 8-34-117.6 and 501.1	Records	Periodic/ Daily	BAAQMD 8-34-117.4	No more than 5 wells at a time or 10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-501.6 and 503	Records	Periodic/ Daily	BAAQMD 8-34-117.5	≤ 24 hours per well	Continuous	N/A
TOC (Total Organic Compounds Plus Methane)	BAAQMD 8-34-501.6 and 503	Quarterly Inspection of collection and control system components with portable analyzer and Records	Periodic/ Quarterly	BAAQMD 8-34-301.2	Component Leak Limit: ≤ 1,000 ppmv as methane	Continuous	N/A
TOC	BAAQMD 8-34-415, 416, 501.4, 501.6, and 510	Monthly visual inspection of cover, quarterly inspection of surface with portable analyzer, various re-inspection times for leaking areas, and records	Periodic/ Monthly, Quarterly, and Event basis	BAAQMD 8-34-303	Surface Leak Limit ≤ 500 ppmv as methane at 2 inches above surface	Continuous	N/A
Non-Methane Organic Compounds (NMOC)	BAAQMD 8-34-501.4 and BAAQMD Condition # 11586, Part 12	Annual Source Tests and Records	Periodic/ Annual	BAAQMD 8-34-301.3 and BAAQMD Condition # 11586, Part 10	Flare Destruction Efficiency: > 98% removal by weight OR Flare Outlet Concentration: < 30 ppmv, expressed as methane, dry basis @ 3% O <sub>2</sub>	Continuous	N/A

## City of Sunnyvale Landfill and SMaRT Station®

### TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-8 Sunnyvale Landfill with Gas Collection System and A-9 Landfill Gas Flare	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
SO <sub>2</sub>	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min., and ≤ 0.05 ppm for 24 hours	Continuous	N/A
SO <sub>2</sub>	BAAQMD Condition # 11586, Parts 12-13	Source Tests, Sulfur analysis of landfill gas and Records	Periodic/ Annual	BAAQMD 9-1-302	For Flare: ≤ 300 ppm (dry basis)	Continuous	N/A
H <sub>2</sub> S	None	N/A	None	BAAQMD 9-2-301	Property Line Ground Level Limits: ≤ 0.06 ppm averaged over 3 min. and ≤ 0.03 ppm for 60 min.	Continuous	N/A
NO <sub>x</sub>	BAAQMD Condition # 11586, Part 12	Annual Source Test and Records (upon start-up of A-9 Flare).	Periodic/ Annual	BAAQMD Condition # 11586, Part 8	A-9 Flare: < 0.06 pounds NO <sub>x</sub> (calculated as NO <sub>2</sub> ) per MM BTU	Continuous	N/A
CO	BAAQMD Condition # 11586, Part 12	Annual Source Test and Records (upon start-up of A-9 Flare).	Periodic/ Annual	BAAQMD Condition # 11586, Part 9	A-9 Flare: ≤ 0.20 pounds CO per MM BTU	Continuous	N/A
Source Test Submittal	BAAQMD Condition # 11586, Part 12	Report Submittal	Annual	BAAQMD Condition # 11586, Part 12	60 days after testing performed	Continuous	N/A

## City of Sunnyvale Landfill and SMaRT Station®

### TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-8 Sunnyvale Landfill with Gas Collection System and A-9 Landfill Gas Flare	<b>Reporting Period:</b> <i>from 01/1/2024 through 06/30/2024</i>

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, 8-34-507, and BAAQMD Condition # 11586, Part 11	Temperature Sensor and Recorder (continuous)	Continuous	BAAQMD Condition # 11586, Part 11	Flare CT: $\geq 1400$ °F, averaged over any 3-hour period	Continuous	N/A
Shut Down Date	BAAQMD Condition # 11586, Part 14	Notification and Records	Periodic/Event Basis	BAAQMD Condition # 11586, Part 14	Deleted after A-8 was removed from service	N/A	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-10 Wood Shredder and A-5 Baghouse Dust Collector	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Periods of In-operation for Parametric Monitors	BAAQMD 1-523.4	Operating Records for All Parametric Monitors (manometer at baghouse)	Periodic/ Event Based	BAAQMD 1-523.2	≤ 15 consecutive days per incident and ≤ 30 calendar days per 12-month period	Continuous	N/A
Opacity	BAAQMD Condition # 5369, Parts 5 and 6	Continuous Pressure Drop Across Baghouse, Weekly Inspections, and Records	Continuous and Periodic/ Weekly	BAAQMD Regulation 6-301 and SIP 6-301	≤ Ringelmann No. 1 for 3 minutes/hour	Continuous	N/A
Filterable Particulate (FP)	None	N/A	None	BAAQMD 6-1-310 and SIP 6-310	≤ 0.15 grains/dscf	Continuous	N/A
Particulate Matter (PM)	BAAQMD Condition # 5369, Part 7	Calculations and Records	Periodic/ Daily	BAAQMD 6-1-311 and SIP 6-311	E = 0.026(P) <sup>0.67</sup> where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P > 57,320 lb/hr (or P > 28.66 tons/hr)	Continuous	N/A
Wood Waste Throughput	BAAQMD Condition # 5369, Part 7	Records	Periodic/ Daily	BAAQMD Condition # 5369, Part 3	< 255 tons per calendar day	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-11 CONVEYOR AND S-5 WOOD CHIP PROCESSING HOPPERS	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD Condition # 5370, Part 3	Visual Observation of Operations	Periodic / Event basis	BAAQMD Regulation 6-301 and SIP 6-301	≤ Ringelmann No. 1 for 3 minutes/hour	Continuous	N/A
PM	BAAQMD Condition # 5370, Part 2	Calculations and Records	Periodic/ Daily	BAAQMD 6-1-311 and SIP 6-311	$E = 0.026(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P > 57,320 lb/hr (or P > 28.66 tons/hr)	Continuous	N/A
Wood Waste Throughput	BAAQMD Condition # 5370, Part 1	Records	Periodic / Daily	BAAQMD Condition # 5370, Part 2	≤ 255 tons per calendar day	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-6 WOOD CHIP SCREENING OPERATION	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD Condition # 5371, Part 3	Visual Observation of Operations	Periodic / Event basis	BAAQMD Regulation 6-301 and SIP 6-301	$\leq$ Ringelmann No. 1 for 3 minutes/hour	Continuous	N/A
PM	BAAQMD Condition # 5371, Part 4	Calculations and Records	Periodic/ Daily	BAAQMD 6-1-311 and SIP 6-311	$E = 0.026(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P > 57,320 lb/hr (or P > 28.66 tons/hr)	Continuous	NA
Wood Waste Throughput	BAAQMD Condition # 5371, Part 4	Records	Periodic / Daily	BAAQMD Condition # 5371, Part 1	$\leq$ 255 tons per calendar day	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	None	N/A	None	BAAQMD 6-1-303 and SIP 6-303	≤ Ringelmann 2.0 for 3 minutes in any hour	Continuous	N/A
FP	None	N/A	None	BAAQMD 6-1-310 and SIP 6-310	≤ 0.15 grains/dscf	Continuous	N/A
SO <sub>2</sub>	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 minutes and ≤ 0.05 ppm for 24 hours	Continuous	N/A
SO <sub>2</sub>	CCR Title 13 Title 13, Section 2281(a) (2 and 5), CCR, Title 17, Sections 93115.5 and 93115.10	CARB Diesel Fuel Sulfur Content Limits, Sales Restrictions, Usage Requirement and Records	Periodic / Event basis	BAAQMD 9-1-302	≤ 300 ppm (dry basis)	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Liquid Fuel Sulfur Content	CCR Title 13 Title 13, Section 2281(a) (2 and 5), CCR, Title 17, Sections 93115.5 and 93115.10	CARB Diesel Fuel Sulfur Content Limits, Sales Restrictions, Usage Requirement and Records	Periodic / Event basis	BAAQMD 9-1-304	< 0.5 % sulfur by weight	Continuous	N/A
Liquid Fuel Sulfur Content	CCR, Title 17, Sections 93115.5 and 93115.10	CARB Diesel Fuel Sulfur Content Limits, Sales Restrictions, Usage Requirement and Records	Periodic / Event basis	CCR Title 17, Section 93115.5 (b) and CCR, Title 13, Section 2281(a) (2 and 5)	Standby Engines must use CARB Diesel Fuel or other CARB Approved Alternative Fuel, which has Fuel Sulfur Limits of: ≤ 15 ppmw of S	Continuous	N/A
Operating Hours	BAAQMD 9-8-530 and CCR, Title 17, Section 93115.10 (d)(1) and (f)(1) and BAAQMD Condition # 22820, Parts 3-4	Hour Meter and Records	Continuous and Periodic/ Monthly	BAAQMD 9-8-330.3 and CCR, Title 17, Section 93115.6 (b)(3)(A) (1)(a) and BAAQMD Condition # 22820, Part 1	Operating Hours for Reliability-Related Activities: ≤ 20 hours in a calendar year	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Operating Hours	40 CFR 63.6625(f) and 63.6655(f)(2)	Hour Meter and Records		40 CFR 63.6640 (f)(1)(ii)	Operating Hours for Maintenance Checks, Readiness Testing, and Other Non-Emergency Operation: ≤ 100 hours in a calendar year	Continuous	N/A
Operating Hours	40 CFR 63.6625(f) and 63.6655(f)(2)	Hour Meter and Records		40 CFR 63.6640 (f)(1)(iii)	Operating Hours for Non-Emergency Operation: ≤ 50 hours in a calendar year	Continuous	N/A
Idle Time	None	N/A	None	40 CFR 63.6625(h)	≤ 30 minutes for start-up	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Maintenance Events	40 CFR 63.6655(e)	Records	Periodic/ Event Basis	40 CFR, Part 63, Subpart ZZZZ, Table 2d 4.a.	Change Oil and Filter: Every 500 hours of operation or annually, whichever comes first	Continuous	N/A
Maintenance Events	40 CFR 63.6655(e)	Records	Periodic/ Event Basis	40 CFR, Part 63, Subpart ZZZZ, Table 2d 4.b.	Inspect Air Cleaner: Every 1,000 hours of operation or annually, whichever comes first	Continuous	N/A
Maintenance Events	40 CFR 63.6655(e)	Records	Periodic/ Event Basis	40 CFR, Part 63, Subpart ZZZZ, Table 2d 4.c.	Inspect Hoses and Belts and (if necessary) Replace Hoses and Belts: Every 500 hours of operation or annually, whichever comes first	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-1 SOLID WASTE TRANSFER STATION AND A-1 WET SUPPRESSION SYSTEM	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD Condition # 5367, Part 3	Visual Observation of Operations	Periodic / Event basis	BAAQMD 6-1-301, SIP 6-301, and BAAQMD Condition # 5367, Part 2	≤ Ringelmann No. 1 for 3 minutes/hour	Continuous	N/A
Refuse Throughput	BAAQMD Condition # 5367, Part 4	Records	Periodic / Daily	BAAQMD Condition # 5367, Part 1	≤ 1500 tons per calendar day	Continuous	N/A

# City of Sunnyvale Landfill and SMaRT Station®

## TITLE V SEMI-ANNUAL MONITORING REPORT

<b>Site:</b> City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	<b>Facility ID#:</b> A5905
<b>Permitted Unit:</b> S-2 WOOD WASTE UNLOADING OPERATION	<b>Reporting Period:</b> from 01/1/2024 through 06/30/2024

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	BAAQMD Condition # 5368, Part 5	Visual Observation of Operations	Periodic / Event basis	BAAQMD 6-1-301 and SIP 6-301	≤ Ringelmann No. 1 for 3 minutes/hour	Continuous	N/A
Wood Waste Throughput	BAAQMD Condition # 5368, Part 6	Records	Periodic / Daily	BAAQMD Condition # 5368, Part 3	≤ 298 tons per calendar day	Continuous	N/A

## Appendix D - RCA Forms and Deviation Reports



Sunnyvale

SMaRT Station®

301 Carl Road

Sunnyvale, CA 94089

TDD/TYY 408-730-7501

[sunnyvale.ca.gov](http://sunnyvale.ca.gov)

February 14, 2024

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905 - RCA #200138, #200140, #200147 (Breakdown Relief), and RCA #200139, #200141, #200148 (Monitor Indicates Excess Emission or Excursion).**

To whom it may concern,

This Deviation Report is submitted in compliance with Provision I.F of the Title V-Major Facility Review Permit for Plant #A5905, which states that, “...*all instances of non-compliance with permit shall be reported in writing to the District’s Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions.*” This report is intended to serve as the 10-day and 30-day Deviation Report, and the 30-day RCA report requirements for RCA #200138, #200140, #200147 (Breakdown Relief) and RCA #200139, #200141, #200148 (Monitor Indicates Excess Emission or Excursion). The subject incident involves three, related, shutdowns of the Sunnyvale Landfill (Source S-8) gas collection and control system (GCCS).

### **Background Information**

The City of Sunnyvale Water Pollution Control Plant (WPCP) is permitted by BAAQMD as Facility No. A0733. The WPCP has a Power Generation Facility (PGF) consisting of two engine generators that use landfill gas (LFG), blended with digester gas and air-blended natural gas as fuel sources that together can generate up to 1.6 megawatts of electricity. The PGF is connected to the PG&E’s utility distribution network to allow for export of the excess electricity generated by the PGF to the PG&E power grid. This connection also allows for PG&E to provide power to the WPCP and to the GCCS control equipment. The GCCS control equipment is located inside the WPCP facility and includes but not limited to:

- two landfill gas blowers (operated alternately) that provide vacuum to the GCCS to collect LFG

- abatement device (A-9) Landfill Gas Flare (LFGF).

## Incident Description

Extreme winter storms from 2/2/24 through 2/4/24 caused Pacific Gas& Electric (PG&E) power outages across the State of California. On 2/4/24, at approximately 12:22, loss of power from PG&E utility resulted in loss of vacuum to the GCCS. Once PG&E utility power was restored and following the implementation of crucial WPCP systems, WPCP Operations staff placed the LFGF in service on 2/4/24 at approximately 19:00, ending the first event. The total downtime for collection of LFG from the landfill was 7.63 hours for RCA #200138.

On 2/4/24, at approximately 21:36, a second PG&E utility power outage resulted in loss of vacuum to the GCCS. Once PG&E utility power was restored and following the implementation of crucial WPCP systems, WPCP Operations staff placed the LFGF in service on 2/5/24 at approximately 00:17, ending the second event. The total downtime for collection of LFG from the landfill was 2.68 hours for RCA#200140.

On 2/5/24, at approximately 11:34, a third PG&E utility power outage resulted in loss of vacuum to the GCCS. Once PG&E utility was restored and following the implementation of crucial WPCP systems, WPCP Operations staff placed the LFGF in service on 2/5/24 at approximately 12:24, ending the third event. The total downtime for collection of LFG from the landfill was 0.83 hours for RCA#200147.

A significant amount of rainfall, approximately 1.2" (inches), from 2/2/24 to 2/4/24 (per California Irrigation Management Information System (CIMIS)) prior to the events resulted in a less permeable landfill cover. It is judged to be unlikely that there was a measurable release of LFG from the landfill.

The WPCP is undergoing major construction and rehabilitation and it is anticipated to take 20 years to complete. As part of the project, portions of the WPCPs' electrical system, which includes the electrical components of the GCCS control equipment, is planned to be upgraded. A long-term solution to future PG&E power outages will be to connect the LFGF control panel to the WPCPs' future standby backup generator power supply. The conduits and wires have already been installed.



Sunnyvale

Sincerely,

*Shikha Gupta*

[Shikha Gupta \(Feb 14, 2024 14:39 PST\)](#)

Shikha Gupta

Solid Waste Programs Division Manager

cc: Joe Muehleck (BAAQMD), email

Attachment A: Flow Charts

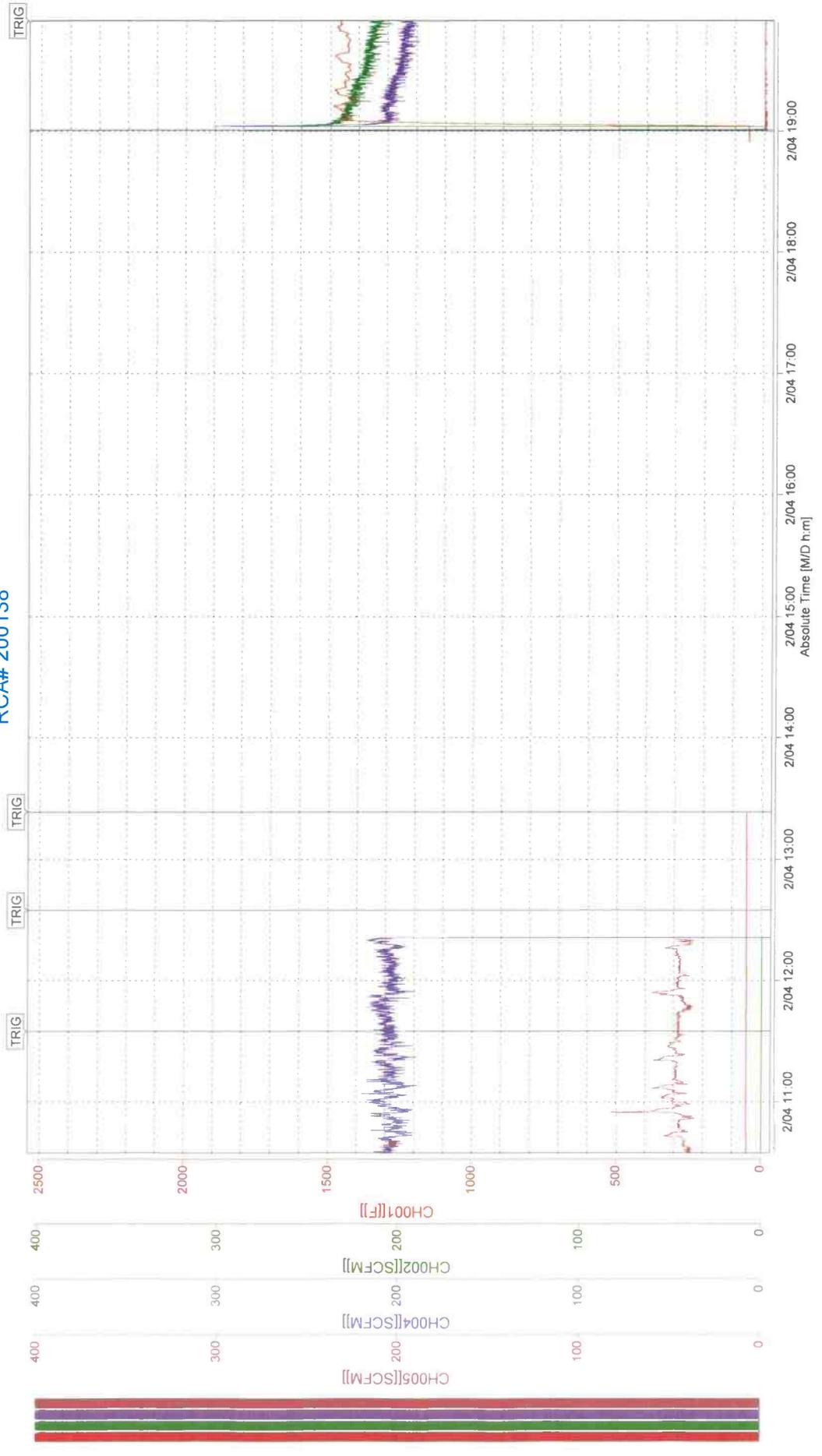
Attachment B: RCA Notification Forms

File Message  
 File Name : 090488\_240204\_103454.DAD.....090491\_240204\_185412.DAD  
 Device Type : DX1000  
 Serial No. : S5N408394  
 Time Correction : None  
 Starting Condition : Auto  
 Dividing Condition : Auto  
 Meas Ch. : 6  
 Math Ch. : 0  
 Ext Ch. : 0

Data Count : 16779  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/04 10:34:54.000  
 Stop Time : 2024/02/04 19:54:10.000  
 Trigger Time : 2024/02/04 19:54:10.000  
 Trigger No. : 16778  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

Printed Group : GROUP 1  
 Printed Range : 2024/02/04 10:34:54.000 - 2024/02/04 19:54:10.000  
 Comment :

2/4/24  
 RCA# 200138

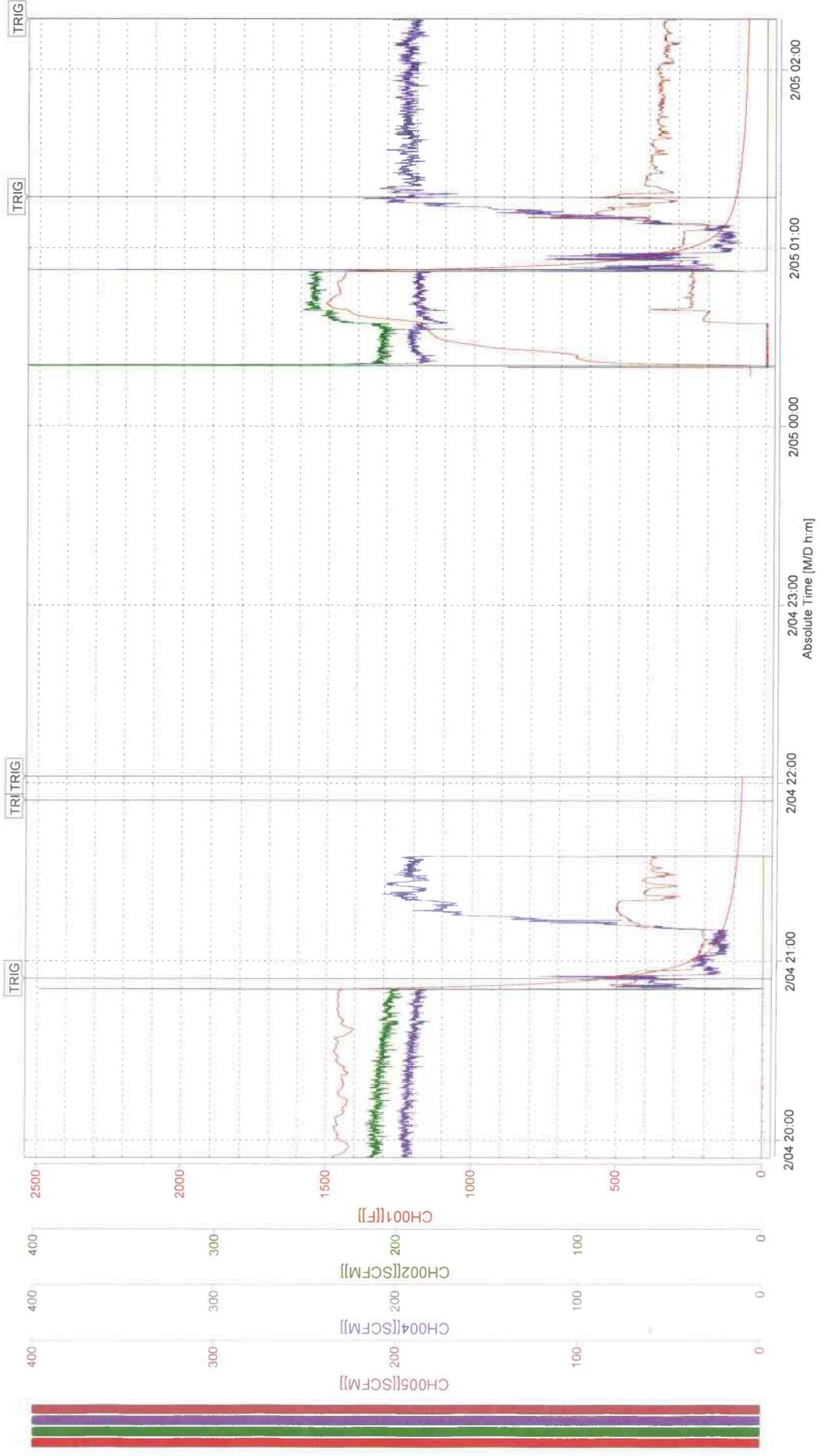


File Message : 090492\_240204\_195412.DAD .....090496\_240205\_011706.DAD  
 File Name : DX1000  
 Device Type : S5N408394  
 Serial No. : None  
 Time Correction : Auto  
 Starting Condition : Auto  
 Dividing Condition : 6  
 Meas Ch. : 0  
 Math Ch. : 0  
 Ext Ch. : 0

Data Count : 11487  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/04 19:54:12.000  
 Stop Time : 2024/02/05 02:17:04.000  
 Trigger Time : 2024/02/05 02:17:04.000  
 Trigger No. : 11486  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

Printed Group : GROUP 1  
 Printed Range : 2024/02/04 19:54:12.000 - 2024/02/05 02:17:04.000  
 Comment :

2/4/24 - 2/5/24  
 RCA #200140

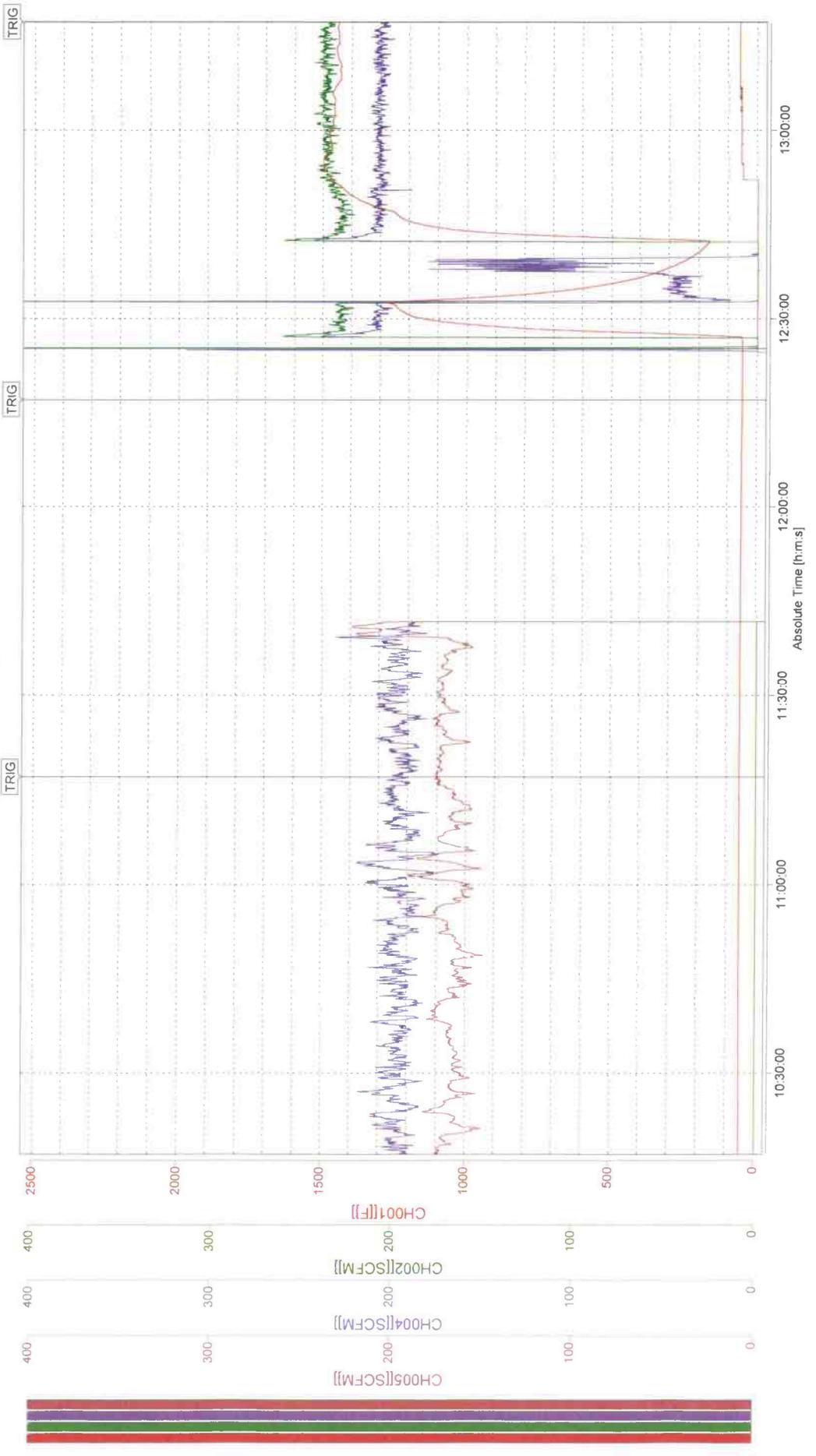


File Message  
 File Name : 090505\_240205\_101706.DAD.....090507\_240205\_121706.DAD  
 Device Type : DX1000  
 Serial No. : S5N408394  
 Time Correction : None  
 Starting Condition : Auto  
 Dividing Condition : Auto  
 Meas Ch. : 6  
 Math Ch. : 0  
 Ext Ch. : 0

Data Count : 5400  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/05 10:17:06.000  
 Stop Time : 2024/02/05 13:17:04.000  
 Trigger Time : 2024/02/05 13:17:04.000  
 Trigger No. : 5399  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

Printed Group : GROUP 1  
 Printed Range : 2024/02/05 10:17:06.000 - 2024/02/05 13:17:04.000  
 Comment :

2/5/24  
 RCA #200147





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

[See back of form for instructions](#) →

1.  **BREAKDOWN RELIEF: *District Use Only* BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: *District Use Only* REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: *District Use Only* REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): *District Use Only* PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408 730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	12:22; 4 February 2024	Clear Time	19:00; 4 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ H <sub>2</sub> S
<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	<input type="checkbox"/> ▶ TRS
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
<input type="checkbox"/> ▶ Flow			

#### Event Description:

On 2/4/24 at 12:22, loss of power from PG&E utility resulting in loss of Landfill Gas Collection System (LFGCS). Power restored and landfill gas flare started at 19:00. Total LFGCS downtime was approximately 7.63 hours.

[Due to the power outage, facility lost vacuum to the LGCS and power to the Flare. Details will be included with the 10-day report.](#)

#### *District Use Only*

Received by

Date

Time

### General Instructions

- ✓ Check the Box numbers 1- 4 that apply to the RCA you are trying to report or request and read the detailed instructions.
- ✓ You will receive an ID # for each RCA you submit. In the case of a request for Breakdown Relief where multiple monitors are affected, you do not need to submit multiple forms, as long as all necessary information is given on one form. RCA reported during other than core business hours will be assigned an ID # the following working day. If you do not receive an ID #, it is your responsibility to contact the BAAQMD to get one.
- ✓ You may submit only one request for breakdown relief per form. However, you may submit multiple indicated excess, inoperative monitors and PRD reports on one form, provided that the start and end times given for the events in the required information section is inclusive of all events. Information on parameters exceeded, units of measurement and allowable limits can be provided in the event description box or when contacted by District staff with questions.
- ✓ Fill out the "Site Information and Description Information Required" areas of this form and email to [rca@baaqmd.gov](mailto:rca@baaqmd.gov)
- ✓ **A 30-day written follow-up report is required for Breakdown Requests and PRD Releases.** Reports for these types of RCA must contain a quantification of emissions, the calculations used to derive the emissions, and their duration. Reference [Breakdown Admissions Advisory dated 12/3/04](#). Send 30-day report letters to: BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT, 375 Beale Street, Ste. 600 San Francisco, CA 94105. NOTE: **You may have additional report requirements under Title V.**

## Detailed Instructions

### **Box 1: To Request Breakdown Relief (Regulations 1-112, 1-113, 1-208, 1-431, 1-432)**

If you have an equipment malfunction (e.g.; breakdown) that leads to the release of air pollutants above the regulatory or your permitted levels, you may request relief from BAAQMD enforcement action.

- Check Box #1.
- **NOTE: Start and end times given for these events in the required information section must be inclusive of all events.**
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Requests for breakdown relief may not be withdrawn and must be called in or faxed to the BAAQMD immediately upon discovery of an equipment malfunction.
- Receipt of an RCA ID# for a breakdown does not mean relief has been granted. An Inspector will visit your facility to determine compliance.

### **Box 2: Monitor Indicates Excess Emission or Excursion (Regulation 1-522.7, 1-523.3, 1-542)**

When a BAAQMD-required monitor indicates an excess or excursion, you must report it to the BAAQMD.

- Check Box #2.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Any excess emission indicated by a CEM or excursion of a parametric monitor, shall be reported to the BAAQMD within 96 hours.
- Area concentration excesses over the limits prescribed in District regulations shall be reported to the BAAQMD within the next normal working day following the examination of data.

### **Box 3: Monitor Is Inoperative (Regulations 1-522, 1-523, 1-530)**

When a BAAQMD-required monitor is inoperative for greater than 24 hours, you must report it to the BAAQMD.

- Check Box #3 only if inoperative for greater than 24 hours.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All reports of inoperative monitors must be reported by the following BAAQMD working day and additionally be cleared by a notification of resumption of monitoring. To notify the BAAQMD regarding the resumption of monitoring, do not send in a separate RCA form; call (415) 749-4979 and give the RCA ID #, date, and the time of resumption.
- Inoperative monitors (except parametric monitors) with downtime greater than 15 days must furnish proof of expedited repair in a follow-up report.

### **Box 4: Pressure Relief Device (PRD) Is Released (Regulation 8-28-401)**

When a PRD at your refinery/chemical plant vents to the atmosphere, you must report it to the BAAQMD.

- Check Box #4 only if a pressure relief device is released.
- Separate RCA ID #'s can be applied to monitor(s) affected by a PRD by also checking Box #2 if other monitors record an excess or excursion.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All PRD release reports must be reported by the following BAAQMD working day.

Email to ► [rca@baaqmd.gov](mailto:rca@baaqmd.gov) - Telephone ► 415.749.4979 (M-F 8:30 am – 5:00 pm) - After core business hours, email or call ► 415.749.4666

Form Revision Dated: 12-12-18



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

[See back of form for instructions](#) →

1.  **BREAKDOWN RELIEF: *District Use Only* BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: *District Use Only* REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: *District Use Only* REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): *District Use Only* PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408 730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	21:36; 4 February 2024	Clear Time	00:17, 5 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ TRS
<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	<input type="checkbox"/> ▶ NH <sub>3</sub>
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
<input type="checkbox"/> ▶ Gauge Pressure	<input checked="" type="checkbox"/> ▶ Flow		

#### Event Description:

On 2/4/24 at 21:36, loss of power from PG&E utility resulting in loss of Landfill Gas Collection System (LFGCS). Power restored and landfill gas flare started at 00:17 on 2/5/24. Total LFGCS downtime was approximately 2.63 hours.

High winds and the storm resulted in a power outage and the facility lost vacuum to the LGCS and power to the Flare.

Details will be included with the 10-day report.

#### *District Use Only*

Received by

Date

Time

### General Instructions

- ✓ Check the Box numbers 1- 4 that apply to the RCA you are trying to report or request and read the detailed instructions.
- ✓ You will receive an ID # for each RCA you submit. In the case of a request for Breakdown Relief where multiple monitors are affected, you do not need to submit multiple forms, as long as all necessary information is given on one form. RCA reported during other than core business hours will be assigned an ID # the following working day. If you do not receive an ID #, it is your responsibility to contact the BAAQMD to get one.
- ✓ You may submit only one request for breakdown relief per form. However, you may submit multiple indicated excess, inoperative monitors and PRD reports on one form, provided that the start and end times given for the events in the required information section is inclusive of all events. Information on parameters exceeded, units of measurement and allowable limits can be provided in the event description box or when contacted by District staff with questions.
- ✓ Fill out the "Site Information and Description Information Required" areas of this form and email to [rca@baaqmd.gov](mailto:rca@baaqmd.gov)
- ✓ **A 30-day written follow-up report is required for Breakdown Requests and PRD Releases.** Reports for these types of RCA must contain a quantification of emissions, the calculations used to derive the emissions, and their duration. Reference [Breakdown Admissions Advisory dated 12/3/04](#). Send 30-day report letters to: BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT, 375 Beale Street, Ste. 600 San Francisco, CA 94105. NOTE: **You may have additional report requirements under Title V.**

## Detailed Instructions

### **Box 1: To Request Breakdown Relief (Regulations 1-112, 1-113, 1-208, 1-431, 1-432)**

If you have an equipment malfunction (e.g.; breakdown) that leads to the release of air pollutants above the regulatory or your permitted levels, you may request relief from BAAQMD enforcement action.

- Check Box #1.
- **NOTE: Start and end times given for these events in the required information section must be inclusive of all events.**
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Requests for breakdown relief may not be withdrawn and must be called in or faxed to the BAAQMD immediately upon discovery of an equipment malfunction.
- Receipt of an RCA ID# for a breakdown does not mean relief has been granted. An Inspector will visit your facility to determine compliance.

### **Box 2: Monitor Indicates Excess Emission or Excursion (Regulation 1-522.7, 1-523.3, 1-542)**

When a BAAQMD-required monitor indicates an excess or excursion, you must report it to the BAAQMD.

- Check Box #2.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Any excess emission indicated by a CEM or excursion of a parametric monitor, shall be reported to the BAAQMD within 96 hours.
- Area concentration excesses over the limits prescribed in District regulations shall be reported to the BAAQMD within the next normal working day following the examination of data.

### **Box 3: Monitor Is Inoperative (Regulations 1-522, 1-523, 1-530)**

When a BAAQMD-required monitor is inoperative for greater than 24 hours, you must report it to the BAAQMD.

- Check Box #3 only if inoperative for greater than 24 hours.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All reports of inoperative monitors must be reported by the following BAAQMD working day and additionally be cleared by a notification of resumption of monitoring. To notify the BAAQMD regarding the resumption of monitoring, do not send in a separate RCA form; call (415) 749-4979 and give the RCA ID #, date, and the time of resumption.
- Inoperative monitors (except parametric monitors) with downtime greater than 15 days must furnish proof of expedited repair in a follow-up report.

### **Box 4: Pressure Relief Device (PRD) Is Released (Regulation 8-28-401)**

When a PRD at your refinery/chemical plant vents to the atmosphere, you must report it to the BAAQMD.

- Check Box #4 only if a pressure relief device is released.
- Separate RCA ID #'s can be applied to monitor(s) affected by a PRD by also checking Box #2 if other monitors record an excess or excursion.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All PRD release reports must be reported by the following BAAQMD working day.

Email to ► [rca@baaqmd.gov](mailto:rca@baaqmd.gov) - Telephone ► 415.749.4979 (M-F 8:30 am – 5:00 pm) - After core business hours, email or call ► 415.749.4666

Form Revision Dated: 12-12-18



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

[See back of form for instructions](#) →

1.  **BREAKDOWN RELIEF: District Use Only BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: District Use Only REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: District Use Only REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): District Use Only PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408-730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	11:34; 5 February 2024	Clear Time	12:24; 5 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ H <sub>2</sub> S
<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	<input type="checkbox"/> ▶ TRS
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
<input type="checkbox"/> ▶ Gauge Pressure	<input checked="" type="checkbox"/> ▶ Flow		

#### Event Description:

On 2/5/24 at 11:34, loss of power from PG&E utility resulting in loss of vacuum to the Landfill Gas Collection System (LFGCS) and power to Flare. Power was restored and landfill gas flare started at 12:24. Total LFGCS downtime was approximately 0.83 hours.

Details will be included with the 10-day report.

#### District Use Only

Received by

Date

Time

### General Instructions

- ✓ Check the Box numbers 1- 4 that apply to the RCA you are trying to report or request and read the detailed instructions.
- ✓ You will receive an ID # for each RCA you submit. In the case of a request for Breakdown Relief where multiple monitors are affected, you do not need to submit multiple forms, as long as all necessary information is given on one form. RCA reported during other than core business hours will be assigned an ID # the following working day. If you do not receive an ID #, it is your responsibility to contact the BAAQMD to get one.
- ✓ You may submit only one request for breakdown relief per form. However, you may submit multiple indicated excess, inoperative monitors and PRD reports on one form, provided that the start and end times given for the events in the required information section is inclusive of all events. Information on parameters exceeded, units of measurement and allowable limits can be provided in the event description box or when contacted by District staff with questions.
- ✓ Fill out the “Site Information and Description Information Required” areas of this form and email to [rca@baaqmd.gov](mailto:rca@baaqmd.gov)
- ✓ **A 30-day written follow-up report is required for Breakdown Requests and PRD Releases.** Reports for these types of RCA must contain a quantification of emissions, the calculations used to derive the emissions, and their duration. Reference [Breakdown Admissions Advisory dated 12/3/04](#). Send 30-day report letters to: BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT, 375 Beale Street, Ste. 600 San Francisco, CA 94105. NOTE: **You may have additional report requirements under Title V.**

## Detailed Instructions

### **Box 1: To Request Breakdown Relief (Regulations 1-112, 1-113, 1-208, 1-431, 1-432)**

If you have an equipment malfunction (e.g.; breakdown) that leads to the release of air pollutants above the regulatory or your permitted levels, you may request relief from BAAQMD enforcement action.

- Check Box #1.
- **NOTE: Start and end times given for these events in the required information section must be inclusive of all events.**
- Fill out all the information in the “Site Information and Description Information (Required)” area of the form.
- Requests for breakdown relief may not be withdrawn and must be called in or faxed to the BAAQMD immediately upon discovery of an equipment malfunction.
- Receipt of an RCA ID# for a breakdown does not mean relief has been granted. An Inspector will visit your facility to determine compliance.

### **Box 2: Monitor Indicates Excess Emission or Excursion (Regulation 1-522.7, 1-523.3, 1-542)**

When a BAAQMD-required monitor indicates an excess or excursion, you must report it to the BAAQMD.

- Check Box #2.
- Fill out all the information in the “Site Information and Description Information (Required)” area of the form.
- Any excess emission indicated by a CEM or excursion of a parametric monitor, shall be reported to the BAAQMD within 96 hours.
- Area concentration excesses over the limits prescribed in District regulations shall be reported to the BAAQMD within the next normal working day following the examination of data.

### **Box 3: Monitor Is Inoperative (Regulations 1-522, 1-523, 1-530)**

When a BAAQMD-required monitor is inoperative for greater than 24 hours, you must report it to the BAAQMD.

- Check Box #3 only if inoperative for greater than 24 hours.
- Fill out all the information in the “Site Information and Description Information (Required)” area of the form.
- All reports of inoperative monitors must be reported by the following BAAQMD working day and additionally be cleared by a notification of resumption of monitoring. To notify the BAAQMD regarding the resumption of monitoring, do not send in a separate RCA form; call (415) 749-4979 and give the RCA ID #, date, and the time of resumption.
- Inoperative monitors (except parametric monitors) with downtime greater than 15 days must furnish proof of expedited repair in a follow-up report.

### **Box 4: Pressure Relief Device (PRD) Is Released (Regulation 8-28-401)**

When a PRD at your refinery/chemical plant vents to the atmosphere, you must report it to the BAAQMD.

- Check Box #4 only if a pressure relief device is released.
- Separate RCA ID #'s can be applied to monitor(s) affected by a PRD by also checking Box #2 if other monitors record an excess or excursion.
- Fill out all the information in the “Site Information and Description Information (Required)” area of the form.
- All PRD release reports must be reported by the following BAAQMD working day.

Email to ► [rca@baaqmd.gov](mailto:rca@baaqmd.gov) - Telephone ► 415.749.4979 (M-F 8:30 am – 5:00 pm) - After core business hours, email or call ► 415.749.4666

Form Revision Dated: 12-12-18

# Deviation Report for S-8 City of Sunnyvale

Final Audit Report

2024-02-14

Created:	2024-02-14
By:	McKendra Lafferty (MLafferty@sunnyvale.ca.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAZx9ANUIsqjz49j9W3GR61QFOZJFrzP3r

## "Deviation Report for S-8 City of Sunnyvale" History

 Document created by McKendra Lafferty (MLafferty@sunnyvale.ca.gov)  
2024-02-14 - 4:00:23 PM GMT

 Document emailed to sgupta@sunnyvale.ca.gov for signature  
2024-02-14 - 4:01:26 PM GMT

 Email viewed by sgupta@sunnyvale.ca.gov  
2024-02-14 - 10:39:09 PM GMT

 Signer sgupta@sunnyvale.ca.gov entered name at signing as Shikha Gupta  
2024-02-14 - 10:39:39 PM GMT

 Document e-signed by Shikha Gupta (sgupta@sunnyvale.ca.gov)  
Signature Date: 2024-02-14 - 10:39:41 PM GMT - Time Source: server

 Agreement completed.  
2024-02-14 - 10:39:41 PM GMT



Sunnyvale

SMaRT Station®  
301 Carl Road  
Sunnyvale, CA 94089  
TDD/TYY 408-730-7501  
sunnyvale.ca.gov

February 21, 2024

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905 - RCA #200172 (Breakdown Relief), and RCA #200173 (Monitor Indicates Excess Emission or Excursion).**

To whom it may concern,

This Deviation Report is submitted in compliance with Provision I.F of the Title V-Major Facility Review Permit for Plant #A5905, which states that, “...*all instances of non-compliance with permit shall be reported in writing to the District’s Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions.*” This report is intended to serve as the 10-day and 30-day Deviation Report, and the 30-day RCA report requirements for RCA #200172 (Breakdown Relief) and RCA #200173 (Monitor Indicates Excess Emission or Excursion). The subject incident involves shutdown of the Sunnyvale Landfill (Source S-8) gas collection and control system (GCCS).

### **Background Information**

The City of Sunnyvale Water Pollution Control Plant (WPCP) is permitted by BAAQMD as Facility No. A0733. The WPCP has a Power Generation Facility (PGF) consisting of two engine generators that use landfill gas (LFG), blended with digester gas and air-blended natural gas as fuel sources that together can generate up to 1.6 megawatts of electricity. The PGF is connected to the PG&E’s utility distribution network to allow for export of the excess electricity generated by the PGF to the PG&E power grid. This connection also allows for PG&E to provide power to the WPCP and to the GCCS control equipment. The GCCS control equipment is located inside the WPCP facility and includes but not limited to:

- two landfill gas blowers (operated alternately) that provide vacuum to the GCCS to collect LFG

- abatement device (A-9) Landfill Gas Flare (LFGF).

## Incident Description

On 2/12/24, at approximately 17:49, it appears a Pacific Gas & Electric (PG&E) line voltage fluctuation tripped the WPCP relay and caused loss of power from PG&E utility. This resulted in loss of vacuum to the GCCS. Implementation of crucial WPCP systems were made. At 19:02, WPCP Maintenance staff closed 52-0, the main breaker that is connected to the main utility power (PG&E). At 19:33, Maintenance staff reset the SCADA system, which restored communication/control to the LFGF, and the LFGF was placed in service, ending the event. The total downtime for collection of LFG from the landfill was 1.73 hours.

Approximately 0.82” (inches) of rainfall, from 2/5/24 to 2/6/24 (per California Irrigation Management Information System (CIMIS)) prior to the event resulted in a less permeable landfill cover. It is judged to be unlikely that there was a measurable release of LFG from the landfill.

The WPCP is undergoing major construction and rehabilitation and it is anticipated to take 20 years to complete. As part of the project, portions of the WPCPs’ electrical system, which includes the electrical components of the GCCS control equipment, is planned to be upgraded. A long-term solution to future PG&E power outages will be to connect the LFGF control panel to the WPCPs’ future standby backup generator power supply. The conduits and wires have already been installed.

Sincerely,

*Shikha Gupta*

[Shikha Gupta \(Feb 21, 2024 11:58 PST\)](#)

Shikha Gupta

Solid Waste Programs Division Manager

cc: Joe Muehleck (BAAQMD), email

Attachment A: Flow Chart

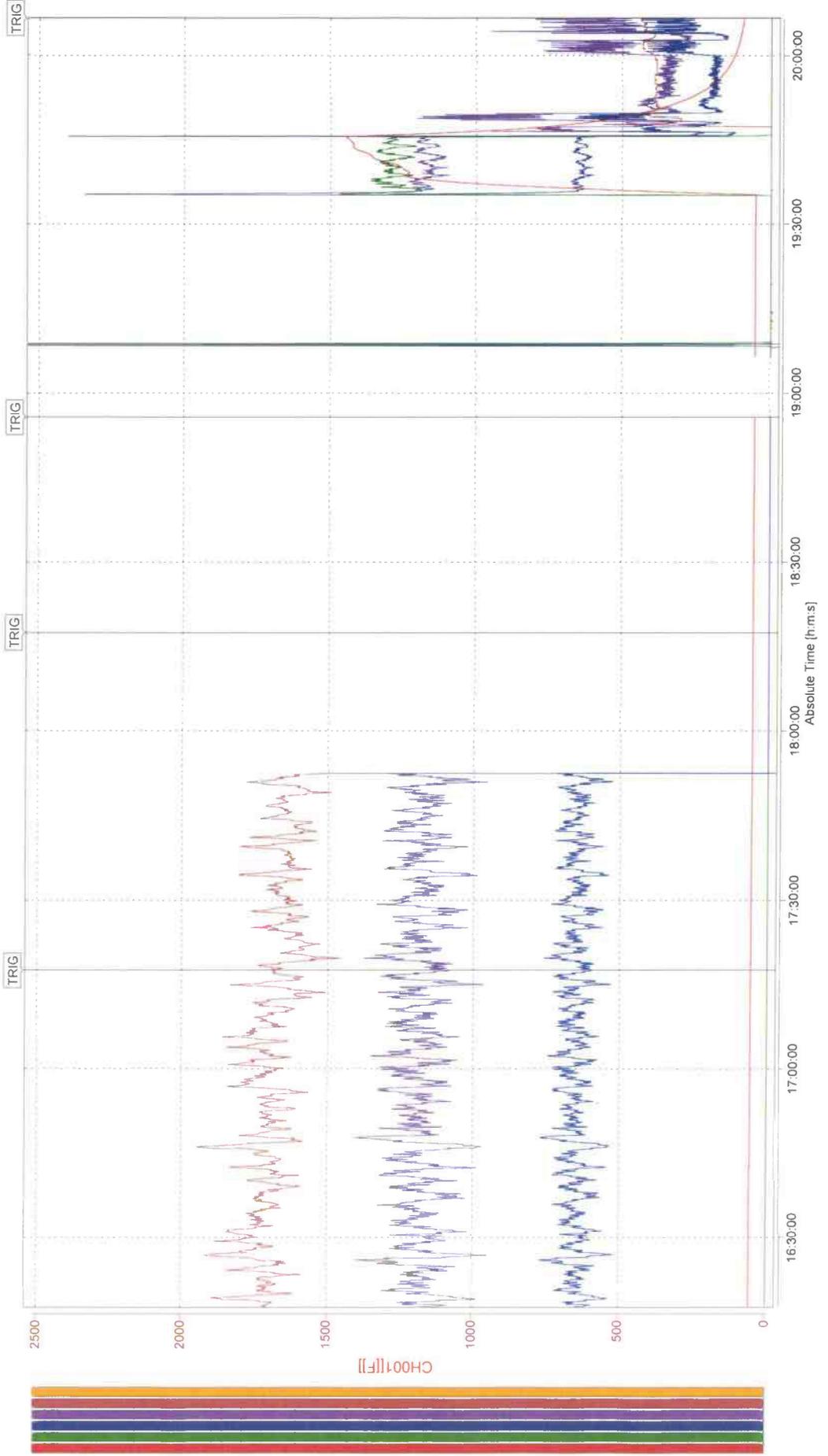
Attachment B: RCA Notification Form

File Message : 090679\_240212\_161732.DAD.....090682\_240212\_190634.DAD  
 File Name : DX1000  
 Device Type : S5N408394  
 Serial No. : None  
 Time Correction : Auto  
 Starting Condition : Auto  
 Dividing Condition : 6  
 Meas Ch. : 0  
 Math Ch. : 0  
 Ext Ch. : 0

Data Count : 6871  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/12 16:17:32.000  
 Stop Time : 2024/02/12 20:06:32.000  
 Trigger Time : 2024/02/12 20:06:32.000  
 Trigger No. : 6870  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

Printed Group : GROUP 1  
 Printed Range : 2024/02/12 16:17:32.000 - 2024/02/12 20:06:32.000  
 Comment :

2/12/24  
 RCA# 200172





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

[See back of form for instructions](#) →

1.  **BREAKDOWN RELIEF: *District Use Only* BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: *District Use Only* REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: *District Use Only* REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): *District Use Only* PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408-730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	17:49; 12 February 2024	Clear Time	19:33; 12 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ H <sub>2</sub> S
<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	<input type="checkbox"/> ▶ TRS
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
			<input checked="" type="checkbox"/> ▶ Flow

#### Event Description:

On 2/12/24 at 17:49, loss of power from PG&E utility resulting in loss of vacuum to the Landfill Gas Collection and Control System (GCCS). Power restored and landfill gas flare (part of the GCCS) started at 19:33. Total GCCS downtime was approximately 0.73 hours.

Details will be included with the 10-day report.

#### *District Use Only*

Received by

Date

Time

### General Instructions

- ✓ Check the Box numbers 1- 4 that apply to the RCA you are trying to report or request and read the detailed instructions.
- ✓ You will receive an ID # for each RCA you submit. In the case of a request for Breakdown Relief where multiple monitors are affected, you do not need to submit multiple forms, as long as all necessary information is given on one form. RCA reported during other than core business hours will be assigned an ID # the following working day. If you do not receive an ID #, it is your responsibility to contact the BAAQMD to get one.
- ✓ You may submit only one request for breakdown relief per form. However, you may submit multiple indicated excess, inoperative monitors and PRD reports on one form, provided that the start and end times given for the events in the required information section is inclusive of all events. Information on parameters exceeded, units of measurement and allowable limits can be provided in the event description box or when contacted by District staff with questions.
- ✓ Fill out the "Site Information and Description Information Required" areas of this form and email to [rca@baaqmd.gov](mailto:rca@baaqmd.gov)
- ✓ **A 30-day written follow-up report is required for Breakdown Requests and PRD Releases.** Reports for these types of RCA must contain a quantification of emissions, the calculations used to derive the emissions, and their duration. Reference [Breakdown Admissions Advisory dated 12/3/04](#). Send 30-day report letters to: BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT, 375 Beale Street, Ste. 600 San Francisco, CA 94105. NOTE: **You may have additional report requirements under Title V.**

## Detailed Instructions

### **Box 1: To Request Breakdown Relief (Regulations 1-112, 1-113, 1-208, 1-431, 1-432)**

If you have an equipment malfunction (e.g.; breakdown) that leads to the release of air pollutants above the regulatory or your permitted levels, you may request relief from BAAQMD enforcement action.

- Check Box #1.
- **NOTE: Start and end times given for these events in the required information section must be inclusive of all events.**
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Requests for breakdown relief may not be withdrawn and must be called in or faxed to the BAAQMD immediately upon discovery of an equipment malfunction.
- Receipt of an RCA ID# for a breakdown does not mean relief has been granted. An Inspector will visit your facility to determine compliance.

### **Box 2: Monitor Indicates Excess Emission or Excursion (Regulation 1-522.7, 1-523.3, 1-542)**

When a BAAQMD-required monitor indicates an excess or excursion, you must report it to the BAAQMD.

- Check Box #2.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- Any excess emission indicated by a CEM or excursion of a parametric monitor, shall be reported to the BAAQMD within 96 hours.
- Area concentration excesses over the limits prescribed in District regulations shall be reported to the BAAQMD within the next normal working day following the examination of data.

### **Box 3: Monitor Is Inoperative (Regulations 1-522, 1-523, 1-530)**

When a BAAQMD-required monitor is inoperative for greater than 24 hours, you must report it to the BAAQMD.

- Check Box #3 only if inoperative for greater than 24 hours.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All reports of inoperative monitors must be reported by the following BAAQMD working day and additionally be cleared by a notification of resumption of monitoring. To notify the BAAQMD regarding the resumption of monitoring, do not send in a separate RCA form; call (415) 749-4979 and give the RCA ID #, date, and the time of resumption.
- Inoperative monitors (except parametric monitors) with downtime greater than 15 days must furnish proof of expedited repair in a follow-up report.

### **Box 4: Pressure Relief Device (PRD) Is Released (Regulation 8-28-401)**

When a PRD at your refinery/chemical plant vents to the atmosphere, you must report it to the BAAQMD.

- Check Box #4 only if a pressure relief device is released.
- Separate RCA ID #'s can be applied to monitor(s) affected by a PRD by also checking Box #2 if other monitors record an excess or excursion.
- Fill out all the information in the "Site Information and Description Information (Required)" area of the form.
- All PRD release reports must be reported by the following BAAQMD working day.

Email to ► [rca@baaqmd.gov](mailto:rca@baaqmd.gov) - Telephone ► 415.749.4979 (M-F 8:30 am – 5:00 pm) - After core business hours, email or call ► 415.749.4666

Form Revision Dated: 12-12-18

# Feb 21 Deviation Report

Final Audit Report

2024-02-21

Created:	2024-02-21
By:	McKendra Lafferty (MLafferty@sunnyvale.ca.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAURIL-piKdWQHqz5vbOnUYC3zwxI8kSTb

## "Feb 21 Deviation Report" History

-  Document created by McKendra Lafferty (MLafferty@sunnyvale.ca.gov)  
2024-02-21 - 7:28:29 PM GMT
-  Document emailed to sgupta@sunnyvale.ca.gov for signature  
2024-02-21 - 7:29:13 PM GMT
-  Email viewed by sgupta@sunnyvale.ca.gov  
2024-02-21 - 7:29:49 PM GMT
-  Signer sgupta@sunnyvale.ca.gov entered name at signing as Shikha Gupta  
2024-02-21 - 7:58:28 PM GMT
-  Document e-signed by Shikha Gupta (sgupta@sunnyvale.ca.gov)  
Signature Date: 2024-02-21 - 7:58:30 PM GMT - Time Source: server
-  Agreement completed.  
2024-02-21 - 7:58:30 PM GMT



Sunnyvale

SMaRT Station®  
301 Carl Road  
Sunnyvale, CA 94089  
TDD/TYY 408-730-7501  
sunnyvale.ca.gov

March 1, 2024

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905 - RCA #200186, #200200 (Breakdown Relief), and RCA #200187, #200201 (Monitor Indicates Excess Emission or Excursion).** This report also includes follow-up information related to the 10-day/30-day deviation reports submitted for incidents that occurred on 2/4/24, 2/5/24 and 2/12/24.

To whom it may concern,

This Deviation Report is submitted in compliance with Provision I.F of the Title V-Major Facility Review Permit for Plant #A5905, which states that, “...*all instances of non-compliance with permit shall be reported in writing to the District’s Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions.*” This report is intended to serve as the 10-day and 30-day Deviation Report, and the 30-day RCA report requirements for RCA #200186, #200200 (Breakdown Relief) and RCA #200187, #200201 (Monitor Indicates Excess Emission or Excursion) and includes follow-up information for previous incidents 2/4/24, 2/5/24 and 2/12/24. The subject incidents involve shutdown of the Sunnyvale Landfill (Source S-8) gas collection and control system (GCCS).

### **Background Information**

The City of Sunnyvale Water Pollution Control Plant (WPCP) is permitted by BAAQMD as Facility No. A0733. The WPCP has a Power Generation Facility (PGF) consisting of two engine generators that use landfill gas (LFG), blended with digester gas and air-blended natural gas as fuel sources that together can generate up to 1.6 megawatts of electricity. The PGF is connected to the PG&E’s utility distribution network to allow for export of the excess electricity generated by the PGF to the PG&E power grid. This connection also allows for PG&E to

provide power to the WPCP and to the GCCS control equipment. The GCCS control equipment is located inside the WPCP facility and includes but not limited to:

- two landfill gas blowers (operated alternately) that provide vacuum to the GCCS to collect LFG
- abatement device (A-9) Landfill Gas Flare (LFGF).

The WPCP is undergoing major construction and rehabilitation and it is anticipated to take 20 years to complete. As part of the project, portions of the WPCPs' electrical system, which includes the electrical components of the GCCS control equipment, are being upgraded in phases.

Facility commissioning of the WPCP New Headworks/Primary Facility (NH/PF) began on January 16, 2024, and the 45-day Process Operational Testing will end March 1, 2024 (Attachment C). This is testing of the equipment to confirm performance specifications per design. The operations were led by the contractor, and City staff was trained during this period. If successful, after the end of this 45-day period, operations will be turned over to City staff, and the City will have beneficial occupancy. After this event, there will be a 45-day fine tuning period where equipment performance will be further optimized. The NH/PF is Package 2 (a phase) of the overall rehabilitation project at the WPCP.

### **Incident Description**

On 2/20/24 and 2/23/24, a power outage occurred at the WPCP. It appears a Pacific Gas & Electric (PG&E) line undervoltage tripped the new commissioning NH/PF relay and caused loss of power from PG&E utility. This resulted in loss of vacuum to the GCCS.

On 2/20/24, at approximately 19:55 a power outage occurred at the WPCP. At 21:20, WPCP maintenance closed 52-0, the main breaker that is connected to the main utility power (PG&E). Implementation of crucial WPCP systems were made. At 21:31 the LFGF was placed into service, ending this incident.

On 2/23/20, at approximately 10:57 a power outage occurred at the WPCP. The WPCP contractor and WPCP staff started investigating the power outage and identified the outages were caused by the NH/PF relay equipment. At 11:55 the equipment was reset at the NH/PF and WPCP maintenance closed 52-0, the main breaker that is connected to the main utility power (PG&E). At 11:59, the LFGF was placed in service, ending this incident.

The following is a summary, provided by WPCP contractor, of the power outage investigation performed by the NH/PF subcontractors (Perc Water, Pacific Power & Testing, ASCO) on 2/23/24:

- A power outage was observed at around 11am. This was the first event that Perc was onsite to observe the entire restart process and Perc systematically walked through the process with Plant staff. This restart did take longer as they were taking time to log their observations, explain the process to plant staff, and so that the manual restart procedures can be updated based on actual conditions.
- Following the outage, Pacific Power and Testing (PPT) was onsite and downloaded the event logs from the SEL programmable relays at each Utility Main Breaker in the new Main Switchgear 363. The last power outages were confirmed as Undervoltage Conditions recorded and generated by the SEL relay. The undervoltage events were recorded for a fraction of a second.
- The SEL relays have an output to the ASCO switchgear/generator controls, i.e. OUT301. The output relays utility healthy, defined as voltage between 88% and 110% of rated voltage. It was observed through the SEL logs that the OUT301 would alarm immediately when the voltage dropped outside the window and once it was back inside the window it would wait 10 seconds to indicate the utility was healthy. Note that the ASCO equipment waits 1 second for the OUT301 alarm to clear before switching to standby power.
- ASCO, PPT, and Psomas Electrical Subcontractor agreed that the 10 second timer in the SEL relay was the issue and it was removed from the relay. Now the voltage changes outside the noted window will have to last for more than 1 second before the system goes to standby power. With the changes to the relays, ASCO's system will not react to the voltage events that last a fraction of second.

Previous to this investigation, it was believed to be PG&E power outages that caused the loss of power at the WPCP, as reported in the 10-day/30-day deviation reports submitted for 2/4/24, 2/5/24 and 2/12/24. While PG&E undervoltage was involved with triggering the switchgear/generator control OUT301 to trip, it was the setting on the SEL relay that caused the actual outage (this setting is intended to protect the equipment). The WPCP has not observed a power outage since the subcontractor changed the setting on the SEL relay.

The total downtime for the collection of LFG from the landfill was 1.6 hours for the 2/20/24 incident and 1.03 hours for the 2/23/24 incident.

Approximately 3.79” (inches) of rainfall, from 2/2/24 – 2/20/24 (per California Irrigation Management Information System (CIMIS)) resulted in a less permeable landfill cover. It is judged to be unlikely that there was a measurable release of LFG from the landfill.

The City requests that the District consider the following in considering this request for breakdown relief:

- The NH/PF is under commissioning. Please reference Attachment C for information related to the commissioning (fine tuning, identifying issues and making corrections).
- The LFGF control panel is planned to be connected to the WPCP standby backup generator power supply at the NH/PF, scheduled for 3/6/24. This is to provide power to the LFGF control panel during future PG&E power outages, minimizing the downtime of the GCCS equipment and subsequently, landfill gas collection.

Thank you for your time and attention to this matter. Please feel free to call me at (408) 730-7707 to discuss this matter.

Sincerely,

Shikha Gupta

Shikha Gupta (Mar 1, 2024 13:57 PST)

Shikha Gupta

Solid Waste Programs Division Manager

cc: Joe Muehleck (BAAQMD), email

Attachment A: Flow Charts

Attachment B: RCA Notification Forms

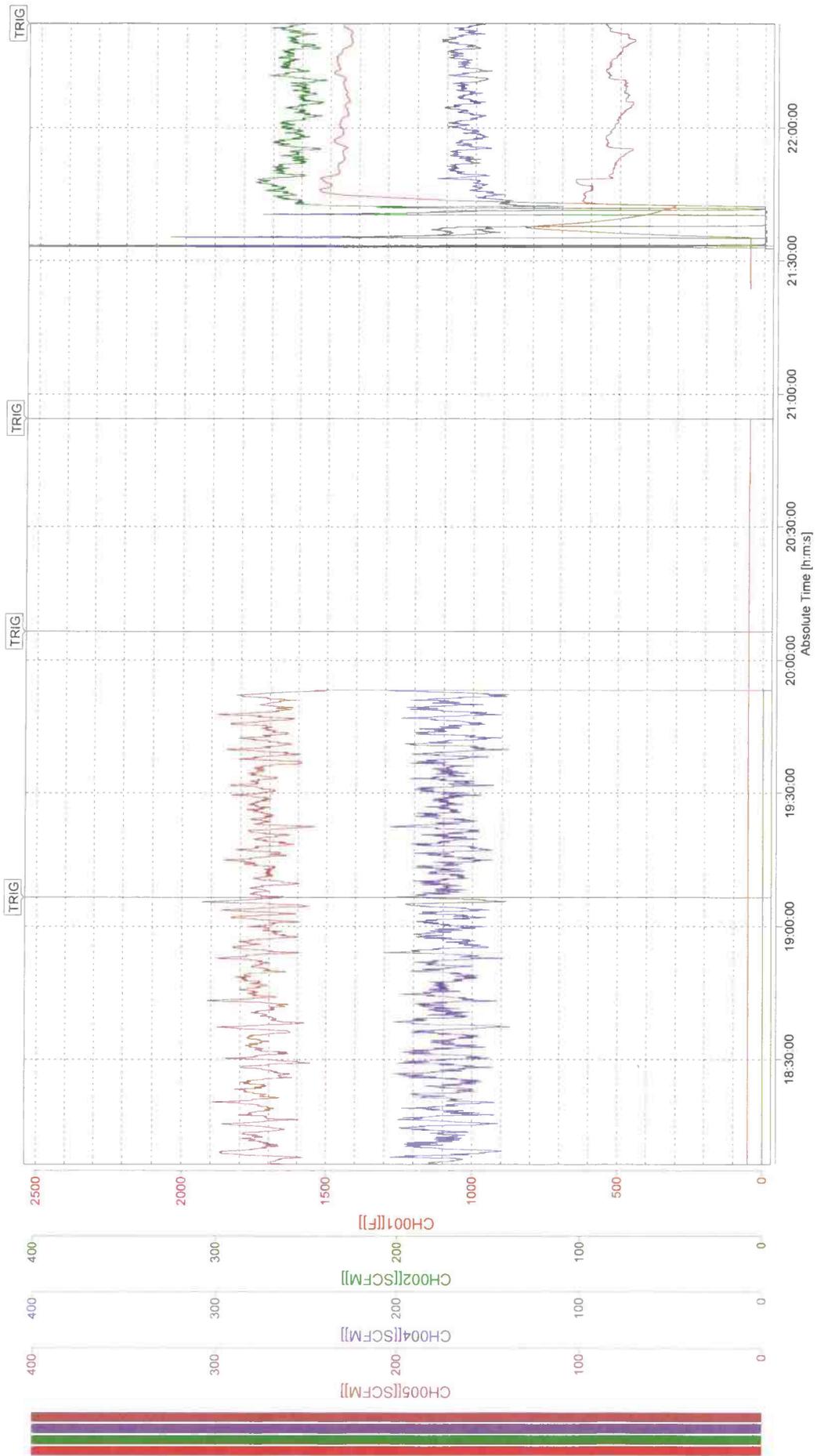
Attachment C: Sunnyvale Primary Treatment Facility Process Start-Up Plan

File Message  
 File Name : 090873\_240220\_180634.DAD.....090876\_240220\_212334.DAD  
 Device Type : DX1000  
 Serial No. : S5N408394  
 Time Correction : None  
 Starting Condition : Auto  
 Dividing Condition : 6  
 Meas Ch. : 0  
 Math Ch. : 0  
 Ext Ch. : 0

Printed Group : GROUP 1  
 Printed Range : 2024/02/20 18:06:34.000 - 2024/02/20 22:23:32.000  
 Comment :

2/20/24  
 RCA#200186

Data Count : 7710  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/20 18:06:34.000  
 Stop Time : 2024/02/20 22:23:32.000  
 Trigger Time : 2024/02/20 22:23:32.000  
 Trigger No. : 7709  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

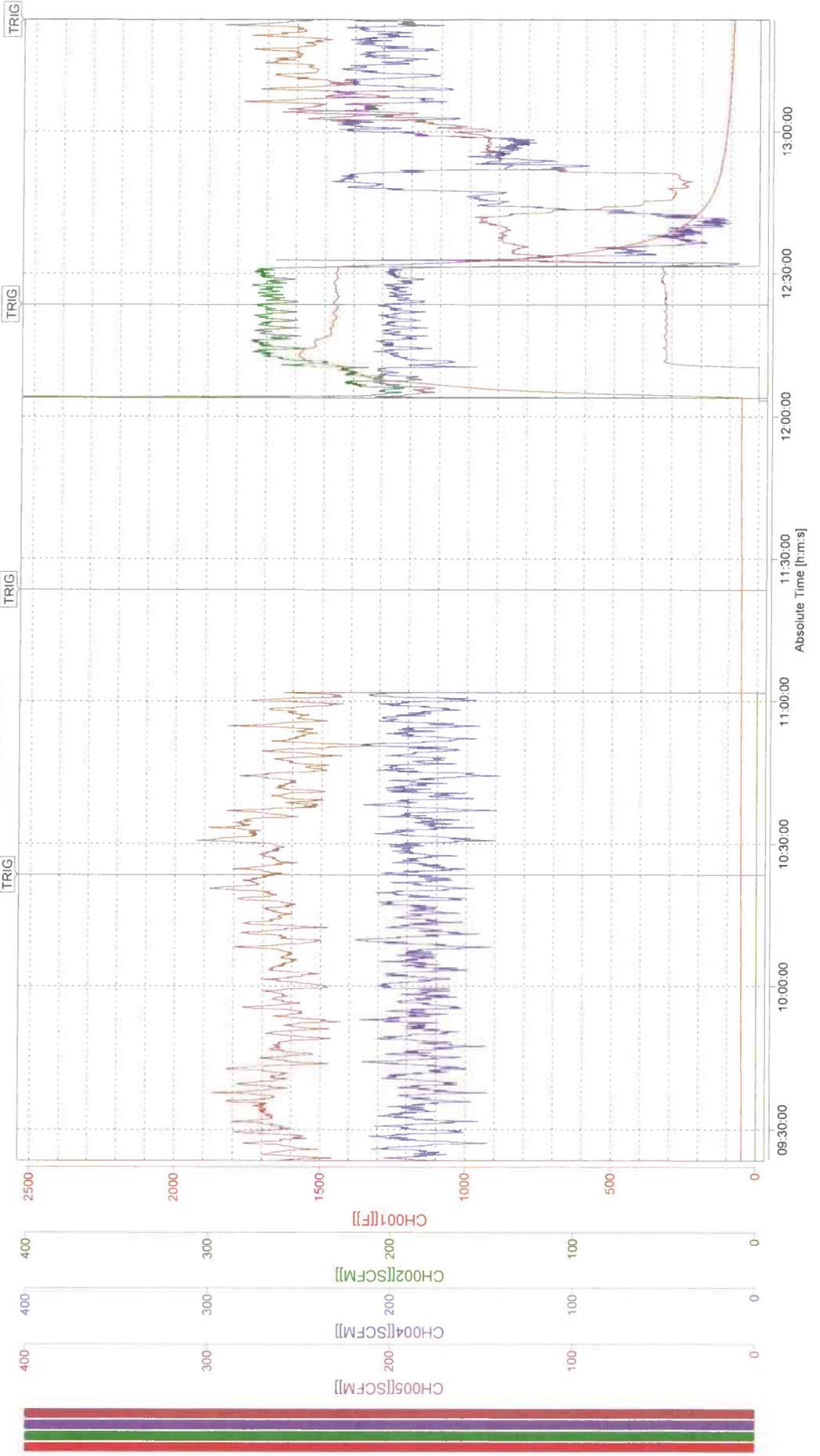


File Message : 090936\_240223\_092334.DAD ..... 090939\_240223\_122334.DAD  
 File Name : DX1000  
 Device Type : S5N408394  
 Serial No. : None  
 Time Correction : Auto  
 Starting Condition : Auto  
 Dividing Condition : 6  
 Meas Ch. : 0  
 Math Ch. : 0  
 Ext Ch. : 0

Data Count : 7200  
 Sampling Interval : 2.000 sec  
 Start Time : 2024/02/23 09:23:34.000  
 Stop Time : 2024/02/23 13:23:32.000  
 Trigger Time : 2024/02/23 13:23:32.000  
 Trigger No. : 7199  
 Damage Check : Not Damaged  
 Started by : [ Key In ]  
 Stopped by : [ Running ]

Printed Group : GROUP 1  
 Printed Range : 2024/02/23 09:23:34.000 - 2024/02/23 13:23:32.000  
 Comment :

2/23/24  
 RCA#200200





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

See back of form for instructions →

1.  **BREAKDOWN RELIEF: District Use Only BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: District Use Only REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: District Use Only REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): District Use Only PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408-730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	19:55; 20 February 2024	Clear Time	21:31; 20 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ H <sub>2</sub> S
<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	<input type="checkbox"/> ▶ TRS
Unit(s) of Measurement			
<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
		<input type="checkbox"/> ▶ Other (describe)	<input checked="" type="checkbox"/> ▶ Flow

#### Event Description:

On 2/20/24 at 19:55, a power glitch from PG&E utility resulted in loss of vacuum to the Landfill Gas Collection and Control System (GCCS). Power restored and landfill gas flare (part of the GCCS) started at 21:31. Total GCCS downtime was approximately 1.6 hours.

Details will be included with the 10-day report.

#### District Use Only

Received by

Date

Time

### General Instructions



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## COMPLIANCE & ENFORCEMENT DIVISION

### Notification Form

Reportable  
Compliance  
Activity (RCA)

See back of form for instructions →

1.  **BREAKDOWN RELIEF: District Use Only BREAKDOWN REFERENCE #:**

2.  **MONITOR EXCESS EMISSION or EXCURSION: District Use Only REFERENCE #:**

3.  **MONITOR IS INOPERATIVE: District Use Only REFERENCE #:**

4.  **PRESSURE RELIEF DEVICE (PRD): District Use Only PRD REFERENCE #:**

### SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	City of Sunnyvale, ESD, Solid Waste	Site #	5905
Address	Borregas Avenue and Caribbean Drive	Source #	S-8
Reported by	Silviana Ruiz	Phone #	408-730-7545
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	10:57; 23 February 2024	Clear Time	11:59; 23 February 2024
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input type="checkbox"/> ▶ Non-monitor		

Monitor description(s)

Parameter(s) exceeded or not functioning due to inoperation

<input type="checkbox"/> ▶ NO <sub>x</sub>	<input type="checkbox"/> ▶ SO <sub>2</sub>	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> S	<input type="checkbox"/> ▶ TRS	<input type="checkbox"/> ▶ NH <sub>3</sub>
<input type="checkbox"/> ▶ O <sub>2</sub>	<input type="checkbox"/> ▶ H <sub>2</sub> O	<input type="checkbox"/> ▶ Opacity	<input type="checkbox"/> ▶ Lead	<input type="checkbox"/> ▶ Gauge Pressure	<input checked="" type="checkbox"/> ▶ Flow	
<input type="checkbox"/> ▶ Hydrocarbon Breakthrough (VOC)	<input type="checkbox"/> ▶ Temperature	<input type="checkbox"/> ▶ Wind Speed	<input type="checkbox"/> ▶ Wind Direction	<input type="checkbox"/> ▶ Steam	<input type="checkbox"/> ▶ Other (describe)	

Unit(s) of Measurement

<input type="checkbox"/> ▶ ppm	<input type="checkbox"/> ▶ ppb	<input type="checkbox"/> ▶ min/hr > 20%	<input type="checkbox"/> ▶ inches H <sub>2</sub> O	<input type="checkbox"/> ▶ mmHg
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ Other (describe)	

Event Description:

On 2/23/24 at 10:57, the Water Pollution Control Plant had a power glitch resulting in loss of vacuum to the Landfill Gas Collection and Control System (GCCS). Power restored and landfill gas flare (part of the GCCS) started at 11:59. Total GCCS downtime was approximately 1.03 hours.

Details will be included in the 10-day report.

### District Use Only

Received by

Date

Time

### General Instructions

## 1. Process Start-Up Phase

The Process Start-Up Phase will follow on from Clean Water Facility Testing once it is verified that all the components of each subsystem have been fully pre-commissioned, tested and optimized with clean water, when appropriate operator training has taken place, and the Design Consultant and Owner have approved of all pre-requisites.

The purpose of the Process Start-Up Phase is to operate the Facility to verify performance meets the Contract Document requirements and to demonstrate the new Headworks and Primary Treatment Facility will operate as an integrated system under normal operating conditions while using wastewater and wastewater solids. The Process Start-Up Phase is considered complete when the system operates continuously without significant interruption for 45 days during the Process Operational Period as defined in Section 01756.1.07.C.3 and after an additional 45 days during the Instrumentation and Controls Performance Testing and Fine-Tuning Phase to identify issues and make corrections with the controls system as defined in Section 17950. The Process Start-Up Phase will be led by the approved Commissioning and Start-Up Coordinator (CSC). As needed, CSC Assistants will provide help to the CSC and Commissioning Team to maintain the new Facility's operation and performance.

There are four major components to the Process Start-Up Phase:

1. Pre-Start-Up Activities
2. Facility Process Start-Up
3. Process Operational Period
4. Instrumentation and Control Performance Testing and Fine Tuning

This Process Start-Up Plan describes the sequences and requirements during these major components of the Process Start-Up Phase the Commissioning Team will implement to perform the final verification testing.

# 10-day30-day Deviation Report for S-8

Final Audit Report

2024-03-01

Created:	2024-03-01
By:	McKendra Lafferty (MLafferty@sunnyvale.ca.gov)
Status:	Signed
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## "10-day30-day Deviation Report for S-8" History

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2024-03-01 - 8:25:41 PM GMT

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Signature Date: 2024-03-01 - 9:57:32 PM GMT - Time Source: server

 Agreement completed.

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