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

Prepared for:



Sunnyvale

City of Sunnyvale
Environmental Services Department
456 West Olive Avenue
PO Box 3707
Sunnyvale, CA 94088-3707

For Submittal to:

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

SCS ENGINEERS

01200220.07 Tasks 55 - 57 | July 2020

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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 2020, 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, 2020 through June 30, 2020 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**.

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 seven occasions for a total elapsed time of 15.25 hours.

The WPCP, on 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. Approximately 12 hours of the total downtime were due to planned maintenance of the GCCS and the ongoing WPCP construction project during the reporting period.

All of the downtime events involved the shutdown of the ECS or of the entire GCCS, and four were deemed by the City to meet the Rule 8-34-113 exemption criteria for downtime for maintenance and inspection. These downtime events, totaling 14.01 hours, are summarized in **Table 1** (attached).

In addition, it is the City's understanding that three unplanned shutdowns did not meet the District's Rule 8-34-113 exemption criteria, and the City submitted Reportable Compliance Activity (RCA) Notification Forms, requesting Breakdown relief for each occurrence. These events occurred on January 17, February 20, and June 1, 2020, with resulting downtimes of 30, 29, and 14 minutes, respectively.

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, however, neither the flare nor the PGF has been operated without LFG to date.

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 18.68 hours and all downtime was allowable under Rule 8-34-113. Total GCCS downtime for the first half of calendar year 2020 was 13.90 hours, well within the Rule limit of 240 hours per calendar year. All downtime events during the reporting period involved pre-programmed or manual system shutdowns for inspection, maintenance, and/or repair, prior to any non-compliant operation, as allowed by Rule 8-34-113 in accordance with the BAAQMD November 5, 2018 Compliance Advisory. In the case of automatic shutdowns, the system is programmed to shut down when parametric indicators (e.g., flow and temperature sensors) detect conditions predictive of equipment failure or non-compliant operation. For such pre-programmed shutdowns, the affected equipment is inspected as soon as possible after the shutdown.

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 was one gap during the reporting period that was due to maintenance on the video-graphic recorder. According to the City, the signal was interrupted to the video-graphic recorders and the OPTO during this interval due to disconnect of power to the meter to replace the gas meter in the flare station. The gap occurred on February 21, 2020 from 12:15 to 12:57, for a total duration of 42 minutes. Per District Rule 1-523.1, no District notification is required for periods of inoperation of parametric monitors of less than 24 hours. Monitoring data from the video-graphic recorder and the OPTO are available for inspection at the site.

3.2 COMPONENT LEAK QUARTERLY MONITORING

3.2.1 First Quarter 2020 Monitoring

The Landfill GCCS components and the PGF were both tested on January 17, 2020 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 summary of the data from SCSFS for the 2020 first quarter monitoring event can be found in **Appendix B**.

3.2.2 Second Quarter 2020 Monitoring

The Landfill GCCS components and the PGF were both tested on May 5, 2020, 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, no component leaks in excess of 500 ppmv were detected in the Landfill GCCS components or the PGF, and therefore compliance was demonstrated. A summary of the data from SCSFS for the 2020 second quarter monitoring 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 October 3, 2018. The Source Test report dated October 24, 2018, 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 October 2021.

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).

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. On June 8, 2020, approximately 40 cubic yards of dredged sediment was dredged from the NASA/Ames boat ramp area during the low tidal conditions and deposited into the monofill. 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, 2020 through June 30, 2020 reporting period.

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

The full Title V Semi-Annual Report, including certification by a responsible official, is provided as **Appendix 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)

2020 Reporting Period (January 1, 2020 - June 30, 2020)

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
1/21/20			X	Contractor working in vicinity of LFGF voluntarily keeping LFGF blowers offline during construction due to safety concerns under BAAQMD Reg 8-34-113.	10:32	15:43	5.18	234.82
5/22/20			X	Contractor work at LFGF station - pulling pilings.	7:15	11:38	4.23	230.59
6/13/20	X			Maintenance replacing MG valve at LFGF.	6:54	10:00	3.10	227.49
1/2/20			X	PGF offline due to no cooling water. LFG attempted to autostart but failed due to sensor indicating purge blower low pressure, predictive of unsafe flare operating conditions.	20:42	22:12	1.50	225.99

Total Time Off-Line 14.01

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, 2020 through June 30, 2020**

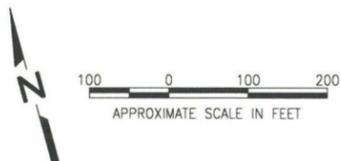
Well No.	Date Off-Line	Reason for Improvement	Corrective Action	Date On-Line	Offline (hours)
EW-10W-w	2/20/20	Inspect lateral and lateral/header connection with camera.	No correction action needed at this time.	2/20/20	0.17
EW-26W-w	2/20/20	Inspect well casing with camera.	No correction action needed at this time.	2/20/20	0.1
EW-24W-w	2/20/20	Inspect well casing with camera.	No correction action needed at this time.	2/20/20	0.23
ET-2W-w	6/3/20	Slight disconnect between lateral-header connection.	Removed lateral-header pipe connection and replaced with new piping connections (welding).	6/3/20	4.93
EW-28W-w	6/24/20	Abandon old lateral.	Connect to new lateral.	6/24/20	0.4
EW-21W-w	6/25/20	Abandon old lateral.	Connect to new lateral.	6/25/20	0.12
EW-24W-w	6/25/20	Abandon old lateral.	Connect to new lateral.	6/25/20	0.12
EW-26W-w	6/25/20	Abandon old lateral.	Connect to new lateral.	6/25/20	0.2
EW-20W-w	6/25/20	Abandon old lateral.	Connect to new lateral.	6/25/20	0.25
EW-23W-w	6/25/20	Abandon old lateral.	Connect to new lateral.	6/25/20	0.4

Appendix A – GCCS Drawings



- 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
Z 8.37	SURVEY BENCHMARK ELEVATION
EW-15E-V●	LFG WELLHEAD/VALVE
EW-15E-H●	LFG WELLHEAD
GR-6▲	LEACHATE WELL
GR-6-CON▼	CONNECTION POINT FOR LEACHATE WELL EXTRACTION
V-14▲/▼	BUTTERFLY GATE VALVE
CT-4E○	CONDENSATE TRAP (VERTICAL TYPE)
CT-5E○	CONDENSATE TRAP (HORIZONTAL TYPE)
SWM-2■	SURFACE WATER QUALITY MONITORING POINT
SG-6□	SURFACE WATER ELEVATION STAFF GAUGE
G-32□	GROUNDWATER ELEVATION MONITORING WELL
G-16□	GROUNDWATER QUALITY MONITORING WELL
29◇	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
UTL	UTILITY TRANSMISSION LINE
UP	UTILITY POWER POLE
MH	MAN HOLE
EH-1	EXTRACTION TRENCH
EH-1	STORM WATER SAMPLE LOCATION
---	LFG CONDENSATE LINES & AIR LINES
---	CONDENSATE & AIR LINE CHECK/ CONTROL VALVE



Rev.	Description	Date

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

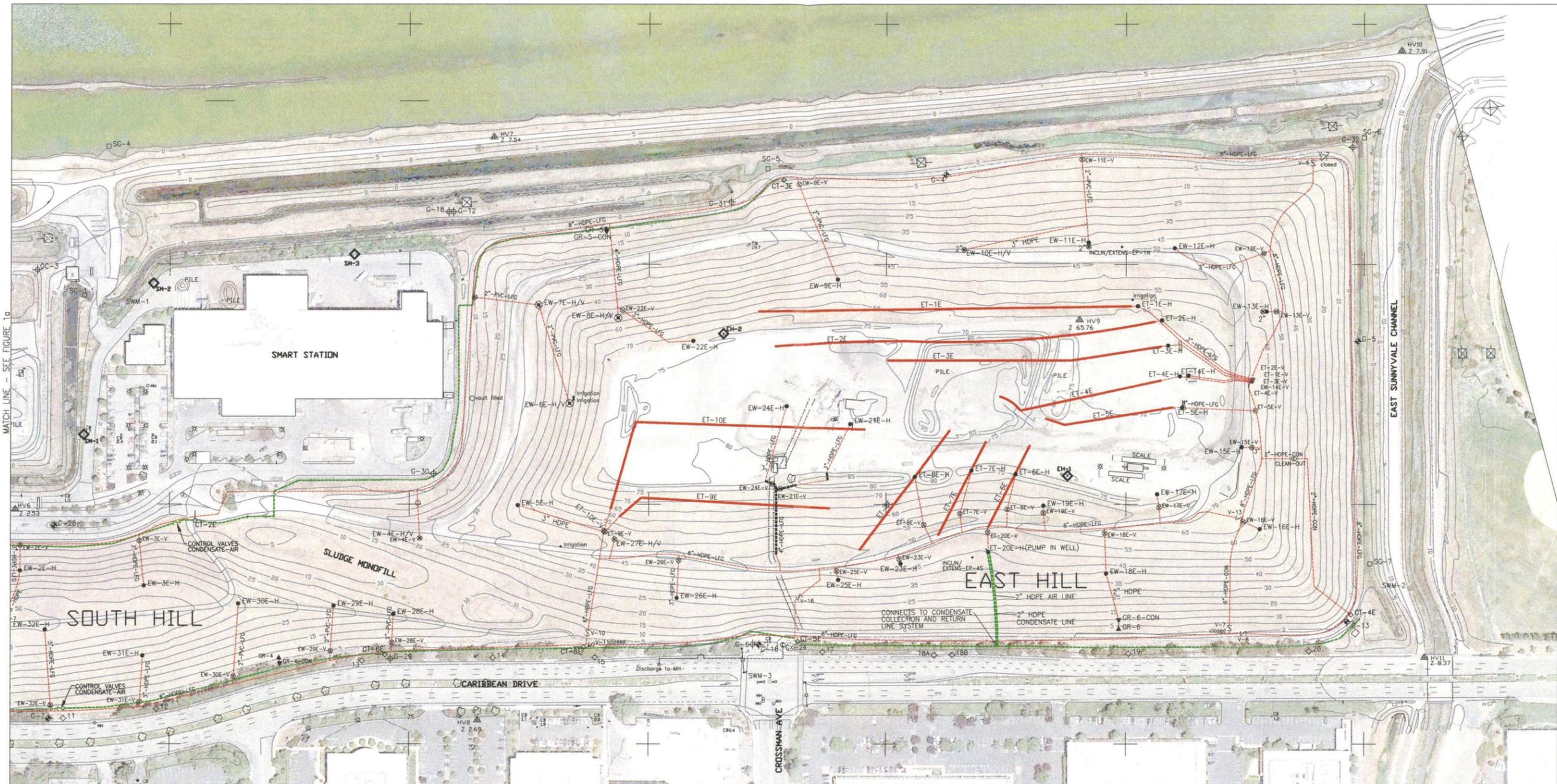
SHEET TITLE: **SITE PLAN WEST**

PROJECT TITLE: **LANDFILL GAS AND OTHER ENVIRONMENTAL MONITORING AND CONTROL SYSTEMS SUNNYVALE LANDFILL**

City of Sunnyvale
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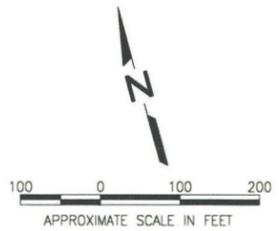
Date: 5/4/2012

Drawing No. 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	SURVEY BENCHMARK
Z 8.37	SURVEY BENCHMARK ELEVATION
EW-15E-V	LFG WELLHEAD/VALVE
EW-15E-H	LFG WELLHEAD
GR-6	LEACHATE WELL
GR-6-CON	CONNECTION POINT FOR LEACHATE WELL EXTRACTION
V-14	BUTTERFLY GATE VALVE
CT-4E	CONDENSATE TRAP (VERTICAL TYPE)
CT-5E	CONDENSATE TRAP (HORIZONTAL TYPE)
SWM-2	SURFACE WATER QUALITY MONITORING POINT
SG-6	SURFACE WATER ELEVATION STAFF GAUGE
G-32	GROUNDWATER ELEVATION MONITORING WELL
G-16	GROUNDWATER QUALITY MONITORING WELL
29	PERIMETER LFG MIGRATION COMPLIANCE PROBE
CX-24	GROUNDWATER EXTRACTION WELL
---	LFG EXTRACTION PIPING (BELOW GROUND)
---	LFG EXTRACTION PIPING (ABOVE GROUND)
---	FENCE
CB	CATCH BASIN
---	STREET LIGHT
---	UTILITY TRANSMISSION LINE
---	UTILITY POWER POLE
---	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

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Scale:	AS SHOWN
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

March 24, 2020
File No. 07218240.00

Mr. William Theyskens
City of Sunnyvale
Environmental Services Department
456 West Olive Avenue
Post Office Box 3707
Sunnyvale, California 94086

Subject: First Quarter 2020 Landfill Gas (LFG) Collection System Component Leak/Emissions
Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Mr. Theyskens:

This letter provides results of the landfill gas collection system component leak/emissions monitoring for the first quarter of 2020 (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 January 17, 2020, 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 2020.

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 January 17, 2020, 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.

Instrument calibration logs are attached to this report.

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 January 17, 2020, 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 2020.

STANDARD PROVISIONS

This report addresses conditions of the subject site on the test dates 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.

Mr. William Theyskens
March 24, 2020
Page 3

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

Sincerely,



Rebecca L. Lucero
Project Coordinator
SCS Field Services



Arthur E. Jones, Jr.
Senior PM / Vice President
SCS Field Services

cc Silviana Ruiz
Cameron Kostigen Mumper

**First Quarter 2020
City of Sunnyvale - Component Emissions Testing**

Technician: Ryan Haslam
 Date: 1-17-20
 Weather: Clear
 ppm = parts per million
 NR = Not Required

Temperature: 50
 Barometric Pressure: 29.9
 Wind Speed/Direction: 4 West
 Instrument: TVA-2020
 Calibration: 1-17-20

East Hill Horizontals

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	2.0	3.0	
2E	4.0	2.0	
3E	6.0	2.0	
4E	5.0	2.0	
5E	4.0	1.0	
6E	3.0	2.0	
7E	5.0	2.0	
8E	1.0	2.0	
9E	2.0	2.0	

**First Quarter 2020
City of Sunnyvale - Component Emissions Testing**

Technician: Ryan Haslam
 Date: 1-17-20
 Weather: Clear
 ppm = parts per million
 NR = Not Required

Temperature: 50
 Barometric Pressure: 29.9
 Wind Speed/Direction: 4 West
 Instrument: TVA-2020
 Calibration: 1-17-20

East Hill Verticals

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	2.0	1.0	
2E	3.0	1.0	
3E	2.0	1.0	
4E	3.0	1.0	
5E	4.0	2.0	
6E	5.0	2.0	
7E	3.0	2.0	
8E	2.0	2.0	
9E	3.0	1.0	
10E	2.0	1.0	
11E	2.0	1.0	
12E	3.0	2.0	
13E	2.0	1.0	
14E	3.0	2.0	
15E	1.0	2.0	
16E	4.0	1.0	
17E	3.0	2.0	
18E	2.0	1.0	
19E	2.0	2.0	
20E	1.0	2.0	
21E	3.0	2.0	
22E	3.0	2.0	

First Quarter 2020
City of Sunnyvale - Component Emissions Testing

Technician: Ryan Haslam
Date: 1-17-20
Weather: Clear
ppm = parts per million
NR = Not Required

Temperature: 50
Barometric Pressure: 29.9
Wind Speed/Direction: 4 West
Instrument: TVA-2020
Calibration: 1-17-20

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
23E	4.0	2.0	
24E	3.0	2.0	
25E	3.0	2.0	
26E	2.0	1.0	
27E	2.0	1.0	
28E	1.0	2.0	
29E	4.0	1.0	
30E	2.0	2.0	
31E	2.0	2.0	
32E	2.0	2.0	
33E	3.0	3.0	
34E	3.0	3.0	
35E	3.0	3.0	
36E	3.0	3.0	

West Hill Horizontals

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	2.0	1.0	
2W	3.0	1.0	
3W	3.0	1.0	

First Quarter 2020
City of Sunnyvale - Component Emissions Testing

Technician: Ryan Haslam
Date: 1-17-20
Weather: Clear
ppm = parts per million
NR = Not Required

Temperature: 50
Barometric Pressure: 29.9
Wind Speed/Direction: 4 West
Instrument: TVA-2020
Calibration: 1-17-20

West Hill Verticals

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	1.0	2.0	
2W	3.0	1.0	
3W	2.0	1.0	
4W	2.0	2.0	
5W	4.0	1.0	
6W	2.0	2.0	
7W	5.0	2.0	
8W	2.0	2.0	
9W	3.0	2.0	
10W	2.0	1.0	
11W	2.0	1.0	
12W	2.0	1.0	
13W	4.0	1.0	
14W	5.0	1.0	
15W	3.0	2.0	
16W	2.0	2.0	
17W	3.0	3.0	
18W	2.0	2.0	
19W	1.0	3.0	
20W	1.0	3.0	
21W	3.0	3.0	

**First Quarter 2020
City of Sunnyvale - Component Emissions Testing**

Technician: Ryan Haslam
 Date: 1-17-20
 Weather: Clear
 ppm = parts per million
 NR = Not Required

Temperature: 50
 Barometric Pressure: 29.9
 Wind Speed/Direction: 4 West
 Instrument: TVA-2020
 Calibration: 1-17-20

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
22W	2.0	3.0	
23W	2.0	3.0	
24W	3.0	3.0	
25W	2.0	2.0	
26W	2.0	1.0	
27W	5.0	2.0	
28W	4.0	1.0	
29W	4.0	1.0	
30W	2.0	2.0	

March 24, 2020
File No. 07218240.00

Mr. Cameron Kostigen Mumper
City of Sunnyvale
Post Office Box 3707
Sunnyvale, California 94086

Subject: First Quarter 2020 Power Generation Facility (PGF) and Landfill Gas (LFG) Flare System Component Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Mr. Kostigen Mumper:

This letter provides results of the first quarter 2020 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 dated September 27, 2018.

CONCLUSIONS AND RECOMMENDATIONS

On January 17, 2020, 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 2020.

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 January 17, 2020, 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



Mr. Cameron Kostigen Mumper
March 24, 2020
Page 2

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 manufacture 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 January 17, 2020, 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 tested exceeded the Rule 8-34 1000 ppmv limit and LMR 500 ppmv limit during our monitoring. Therefore, the next required quarterly testing is due by the end of June 2020.

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.

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

Sincerely,



Rebecca L. Lucero
Project Coordinator
SCS Field Services



Arthur E. Jones, Jr.
Senior PM / Vice President
SCS Field Services

cc William Theyskens
Melody Tovar
Bryan Berdeen

First Quarter 2020
City of Sunnyvale - Component Emissions Testing

Technician: Ryan Haslam
 Date: 1-17-20
 Weather: Clear
 ppm = parts per million
 NR = Not Required

Temperature: 50
 Barometric Pressure: 29.9
 Wind Speed/Direction: 4 West
 Instrument: TVA-2020

Flare Station

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Blowers	4		
Valves	3		
Piping	4		
Flanges	3		

Power Generation Facility

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Compressor	2		
Valves	3		
Piping	4		
Flanges	3		
Blowers	2		
Engines	3		

July 6, 2020
File No. 07218240.00

Mr. William Theyskens
City of Sunnyvale
Environmental Services Department
456 West Olive Avenue
Post Office Box 3707
Sunnyvale, California 94086

Subject: Second Quarter 2020 Landfill Gas (LFG) Collection System Component
Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Mr. Theyskens:

This letter provides results of the landfill gas collection system component leak/emissions monitoring for the second quarter of 2020 (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 May 5, 2020, 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 2020.

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 May 5, 2020, 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.

Instrument calibration logs are attached to this report.

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 May 5, 2020, 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 2020.

STANDARD PROVISIONS

This report addresses conditions of the subject site on the test dates 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.

Mr. William Theyskens
July 6, 2020
Page 3

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

Sincerely,



Rebecca L. Lucero
Project Coordinator
SCS Field Services



Arthur E. Jones, Jr.
Senior PM / Vice President
SCS Field Services

cc Silviana Ruiz
Cameron Kostigen Mumper

Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California

Technician: Don Gibson
 Date: 5-5-2020
 Weather: Sunny
 ppm = parts per million
 NR = Not Required

Temperature: 70
 Barometric Pressure: 30.2
 Wind Speed/Direction: 5 South
 Instrument: TVA-2020
 Calibration: 5-5-2020

East Hill Horizontals

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	3.1	2.0	
2E	3.2	3.0	
3E	3.1	2.1	
4E	3.2	2.4	
5E	3.3	2.4	
6E	3.1	2.6	
7E	2.7	2.1	
8E	3.1	2.3	
9E	2.4	2.2	

**Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California**

Technician: Don Gibson
 Date: 5-5-2020
 Weather: Sunny
 ppm = parts per million
 NR = Not Required

Temperature: 70
 Barometric Pressure: 30.2
 Wind Speed/Direction: 5 South
 Instrument: TVA-2020
 Calibration: 5-5-2020

East Hill Verticals

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1E	2.1	2.0	
2E	3.3	1.6	
3E	3.1	2.1	
4E	2.8	2.4	
5E	3.8	2.3	
6E	3.6	2.2	
7E	3.2	2.1	
8E	3.1	2.4	
9E	3.2	2.3	
10E	3.0	2.2	
11E	2.4	2.4	
12E	3.3	1.7	
13E	2.1	1.8	
14E	3.1	2.1	
15E	2.3	2.1	
16E	3.3	1.8	
17E	2.8	2.2	
18E	3.0	2.1	
19E	3.4	1.4	
20E	2.9	2.4	
21E	3.1	2.3	
22E	3.2	2.1	

Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California

Technician: Don Gibson
Date: 5-5-2020
Weather: Sunny
ppm = parts per million
NR = Not Required

Temperature: 70
Barometric Pressure: 30.2
Wind Speed/Direction: 5 South
Instrument: TVA-2020
Calibration: 5-5-2020

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
23E	4.2	2.2	
24E	2.3	1.4	
25E	2.1	1.3	
26E	2.3	1.8	
27E	2.7	2.1	
28E	3.1	1.7	
29E	3.2	2.3	
30E	2.7	2.4	
31E	2.4	2.1	
32E	3.0	2.0	
33E	2.3	2.2	
34E	2.4	2.4	
35E	2.2	2.7	
36E	2.3	2.5	

West Hill Horizontals

Monitoring Location (ET's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	2.4	1.7	
2W	2.5	1.4	
3W	2.2	2.3	

**Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California**

Technician: Don Gibson
 Date: 5-5-2020
 Weather: Sunny
 ppm = parts per million
 NR = Not Required

Temperature: 70
 Barometric Pressure: 30.2
 Wind Speed/Direction: 5 South
 Instrument: TVA-2020
 Calibration: 5-5-2020

West Hill Verticals

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
1W	2.4	2.1	
2W	2.7	2.2	
3W	2.3	1.7	
4W	2.3	1.9	
5W	3.1	1.4	
6W	3.2	1.4	
7W	2.4	1.7	
8W	2.4	1.6	
9W	2.5	2.2	
10W	2.1	2.1	
11W	2.5	2.1	
12W	3.1	2.0	
13W	3.4	2.3	
14W	2.8	1.7	
15W	3.1	2.1	
16W	2.3	1.4	
17W	2.4	1.8	
18W	2.6	2.3	
19W	2.3	2.4	
20W	2.4	2.0	
21W	2.3	2.4	

**Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California**

Technician: Don Gibson
 Date: 5-5-2020
 Weather: Sunny
 ppm = parts per million
 NR = Not Required

Temperature: 70
 Barometric Pressure: 30.2
 Wind Speed/Direction: 5 South
 Instrument: TVA-2020
 Calibration: 5-5-2020

Monitoring Location (EW's)	Control Valve Vault (ppm)	Wellhead Vault (ppm)	Retesting Results
22W	2.6	2.1	
23W	2.4	1.7	
24W	2.5	1.4	
25W	2.8	1.7	
26W	2.4	1.5	
27W	3.2	2.1	
28W	3.1	1.3	
29W	2.8	1.4	
30W	2.7	1.6	

July 6, 2020
File No. 07218240.00

Mr. Cameron Kostigen Mumper
City of Sunnyvale
Post Office Box 3707
Sunnyvale, California 94086

Subject: Second Quarter 2020 Power Generation Facility (PGF) and Landfill Gas (LFG) Flare System Component Leak/Emissions Testing at the Sunnyvale Landfill, Sunnyvale, California

Dear Mr. Kostigen Mumper:

This letter provides results of the second quarter 2020 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 dated September 27, 2018.

CONCLUSIONS AND RECOMMENDATIONS

On May 5, 2020, 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 third quarter 2020.

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 May 5, 2020, 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



Mr. Cameron Kostigen Mumper
July 6, 2020
Page 2

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 manufacture 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 May 5, 2020, 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 tested exceeded the Rule 8-34 1000 ppmv limit and LMR 500 ppmv limit during our monitoring. Therefore, the next required quarterly testing is due by the end of September 2020.

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.

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

Sincerely,



Rebecca L. Lucero
Project Coordinator
SCS Field Services



Arthur E. Jones, Jr.
Senior PM / Vice President
SCS Field Services

cc William Theyskens
Melody Tovar
Bryan Berdeen

**Second Quarter 2020
Component Emissions Testing
Sunnyvale Landfill, Sunnyvale, California**

Technician: Don Gibson
 Date: 5-5-2020
 Weather: sunny
 ppm = parts per million
 NR = Not Required

Temperature: 70
 Barometric Pressure: 30.2
 Wind Speed/Direction: 5S
 Instrument: TVA-2020
 Calibration: 5-5-20

Flare Station

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

Power Generation Facility

Monitoring Location	Testing Results (ppm)	Retesting Results (ppm)	Comments
Compressor	3		
Valves	2		
Piping	2		
Flanges	4		
Blowers	2		
Engines	3		

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

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: City of Sunnyvale Landfill and SMaRT Station*, Environmental Services Department	FACILITY ID#: A5905
REPORTING PERIOD: from 01/1/2020 through 06/30/2020	

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

Jul 28, 2020

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

Pages from App C_Sunnyvale Title V-SA Report_7-28-20_DRAFT

Final Audit Report

2020-07-28

Created:	2020-07-28
By:	Jody Badiei (jbadiei@sunnyvale.ca.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAQ1rcI5gxdpbgLyYPA3Tk_DWj3-vImnB-

"Pages from App C_Sunnyvale Title V-SA Report_7-28-20_DRAFT" History

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Adobe Sign

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

SITE: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	FACILITY ID#: A5905
REPORTING PERIOD: <i>from 01/1/2020 through 06/30/2020</i>	

List of Permitted Sources and Abatement Device

Permit Unit Number	Equipment Description
S-#	Description
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
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*

The changes noted above have not yet been incorporated into the Title V permit. Compliance with monitoring requirements associated with the PTOs for S-10 and S-11 have been reviewed, and both sources were in compliance throughout the reporting period.

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-8 Sunnyvale Landfill with Gas Collection System; and A-8 and A-9 Landfill Gas Flares	Reporting Period: from 01/01/2020 through 06/30/2020

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 1-523.2	≤ 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
Gas Flow	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 Periodic/ Daily	BAAQMD 8-34-301 and 301.1; and, BAAQMD Condition #11586, Parts 2-5	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Intermittent	Unplanned Shutdowns of the Gas Collection and Control System on 3 occasions, on January 17, February 25, and June 1, 2020, with downtimes of 30, 29, and 14 minutes, respectively. RCA Notification Forms submitted by the City for each occurrence, and breakdown relief was requested. Documentation associated with these events is attached.
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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-8 Sunnyvale Landfill with Gas Collection System; and A-8 and A-9 Landfill Gas Flares	Reporting Period: from 01/01/2020 through 06/30/2020

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

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-8 Sunnyvale Landfill with Gas Collection System; and A-8 and A-9 Landfill Gas Flares	Reporting Period: from 01/01/2020 through 06/30/2020

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
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 ₂	Continuous	N/A
SO ₂	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min., and ≤ 0.05 ppm for 24 hours	Continuous	N/A
SO ₂	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 ₂ 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

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-8 Sunnyvale Landfill with Gas Collection System; and A-8 and A-9 Landfill Gas Flares	Reporting Period: from 01/01/2020 through 06/30/2020

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
NO _x	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 _x (calculated as NO ₂) 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
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: ≥ 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	A-8 Shall Be Permanently Shut Down Within 90 days of Start-up of A-9	Continuous	N/A

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-3 Wood Shredder and A-5 Baghouse Dust Collector	Reporting Period: from 01/01/2020 through 06/30/2020

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	$E = 0.026(P)^{0.67}$ 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 # 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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-4 CONVEYOR AND S-5 WOOD CHIP PROCESSING HOPPERS	Reporting Period: from 01/01/2020 through 06/30/2020

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	\leq 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	\leq 255 tons per calendar day	Continuous	N/A

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-6 WOOD CHIP SCREENING OPERATION	Reporting Period: from 01/01/2020 through 06/30/2020

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	≤ 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	≤ 255 tons per calendar day	Continuous	N/A

City of Sunnyvale Landfill and SMaRT Station®

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	Reporting Period: from 01/01/2020 through 06/30/2020

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 ₂	None	N/A	None	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 minutes and ≤ 0.05 ppm for 24 hours	Continuous	N/A
SO ₂	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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	Reporting Period: from 01/01/2020 through 06/30/2020

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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	Reporting Period: from 01/01/2020 through 06/30/2020

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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR	Reporting Period: from 01/01/2020 through 06/30/2020

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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-1 SOLID WASTE TRANSFER STATION AND A-1 WET SUPPRESSION SYSTEM	Reporting Period: from 01/01/2020 through 06/30/2020

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

Site: City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department	Facility ID#: A5905
Permitted Unit: S-2 WOOD WASTE UNLOADING OPERATION	Reporting Period: from 01/01/2020 through 06/30/2020

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

ATTACHMENTS

RCA Downtime Documentation

William Theyskens

From: William Theyskens
Sent: Monday, January 27, 2020 10:07 AM
To: rca@baaqmd.gov
Cc: Fchan@baaqmd.gov; jmuehleck@baaqmd.gov; Jim McHargue; Deepti Jain
Subject: Combined 10-day/30-day Deviation and RCA Report for S-8 City of Sunnyvale Sanitary Landfill, Facility # A5905
Attachments: Scan_William Theyskens_09_56_27-01-2020.pdf

Attn: BAAQMD Compliance and Enforcement Division

To whom it may concern:

Attached is the Combined 10-day/30-day Deviation and RCA Report for S-8 City of Sunnyvale Sanitary Landfill, Facility # A5905, including one graph and one table. Feel free to call me (408 730-7718) or Jim McHargue (408 730-7711), the City's new Solid Waste Programs Division Manager, if you have any questions regarding this report.



Sunnyvale

William Theyskens, CEG, CHG
Environmental Engineering Geologist
Environmental Services Dept.

Phone: 408 730-7718

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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 Street and Caribbean Avenue	Source #	8
Reported by	William Theyskens	Phone #	408 730-7718
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	01/17/20, 8:35	Clear Time	01/17/20, 9:05
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input checked="" type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO _x	<input type="checkbox"/> ▶ SO ₂	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO ₂
<input type="checkbox"/> ▶ O ₂	<input type="checkbox"/> ▶ H ₂ 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 ₂ 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 ₂ O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg
<input type="checkbox"/> ▶ Flow			

Event Description: Gas Collection and Control System blowers' sensors were tripped due to significant vibrations due to the driving of a nearby sheet pile associated with Water Pollution Control Plant construction activities. Sensors were reset and ignition of the LFG Flare was attempted repeatedly, unsuccessfully, at which time one of the two PGF generators were successfully started.

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 fax to (415) 928-0338
- ✓ **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, 939 Ellis Street, San Francisco, CA 94109. 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.



Sunnyvale

City Hall
456 West Olive Avenue
Sunnyvale, CA 94088-3707
TDD/TYY 408-730-7501
sunnyvale.ca.gov

January 23, 2020

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

Attn: Title V Reports

Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905

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 the 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 requirement for RCA #07R42. The subject incident involves a short-term shutdown of the Sunnyvale Landfill (Source S-8) gas collection and control system (GCCS).

Incident Description

The start of the period of non-compliance for S-8 was on January 17, 2020, at approximately 08:35, when the blowers for the landfill's GCCS that had been providing fuel to the Power Generation Facility (PGF) automatically shut down, due to excessive vibration, and causing the shutdown of the PGF #2 genset. A construction crew at the Water Pollution Control Plant (Plant), at which the Landfill Gas (LFG) Flare Station is located, was driving sheet piles associated with installation of a very deep 66-inch sewer line that passes very near the Flare Station (the Flare Station contains the LFG Flare, the GCCS's blowers, and associated instrumentation and equipment). The sheet piles located closest to the Flare Station are located only two to three feet north of the Flare Station. While sheet piles have previously been driven at many locations on the site, there had been no prior issues associated with vibration from the driving of the sheet piles. However, during the driving of the sheet piles immediately adjacent to the Flare Station, a significant increase in resistance, judged likely to be due to the presence of a hard stratum, resulted in excessive vibration in the immediate area of the sheet piles. The excessive



vibration of the Flare Station's concrete floor, the concrete pedestals the blowers are mounted on, and the blowers themselves triggered the tripping of the active LFG blower's vibration sensor, causing the LFG blower to shut down.

This excessive vibration and resulting tripping of the active LFG blower's vibration sensor were judged to pose a significant safety risk to personnel in the general area of the blowers, and a risk to the integrity of the LFG blowers. Accordingly, pile driving was stopped to bring the PGF back online. The PGF had shut down along with the blower at approximately 8:35 and restarted at approximately 9:05, causing a loss of vacuum to the GCCS for approximately 30 minutes (see Attached Flow Chart).

A significant rainfall event the night prior to this event (the rainfall gauge at the Flare Station recorded 0.55 inches as the daily total on January 16, 2020) resulted in a less permeable landfill cover. As the GCCS downtime was only 0.5 hours, it is judged to be unlikely that there was a measurable release of LFG from the landfill (see attached Rainfall Chart).

If you have questions regarding this report, please contact William Theyskens at (408) 730-7718 or me at (408) 730-7711.

Sincerely,

A handwritten signature in blue ink that reads "Jim McHargue". The signature is fluid and cursive, with a long horizontal line extending to the right.

Jim McHargue
Solid Waste Programs Division Manager

cc: Joe Muehleck (BAAQMD), email

Attachments:

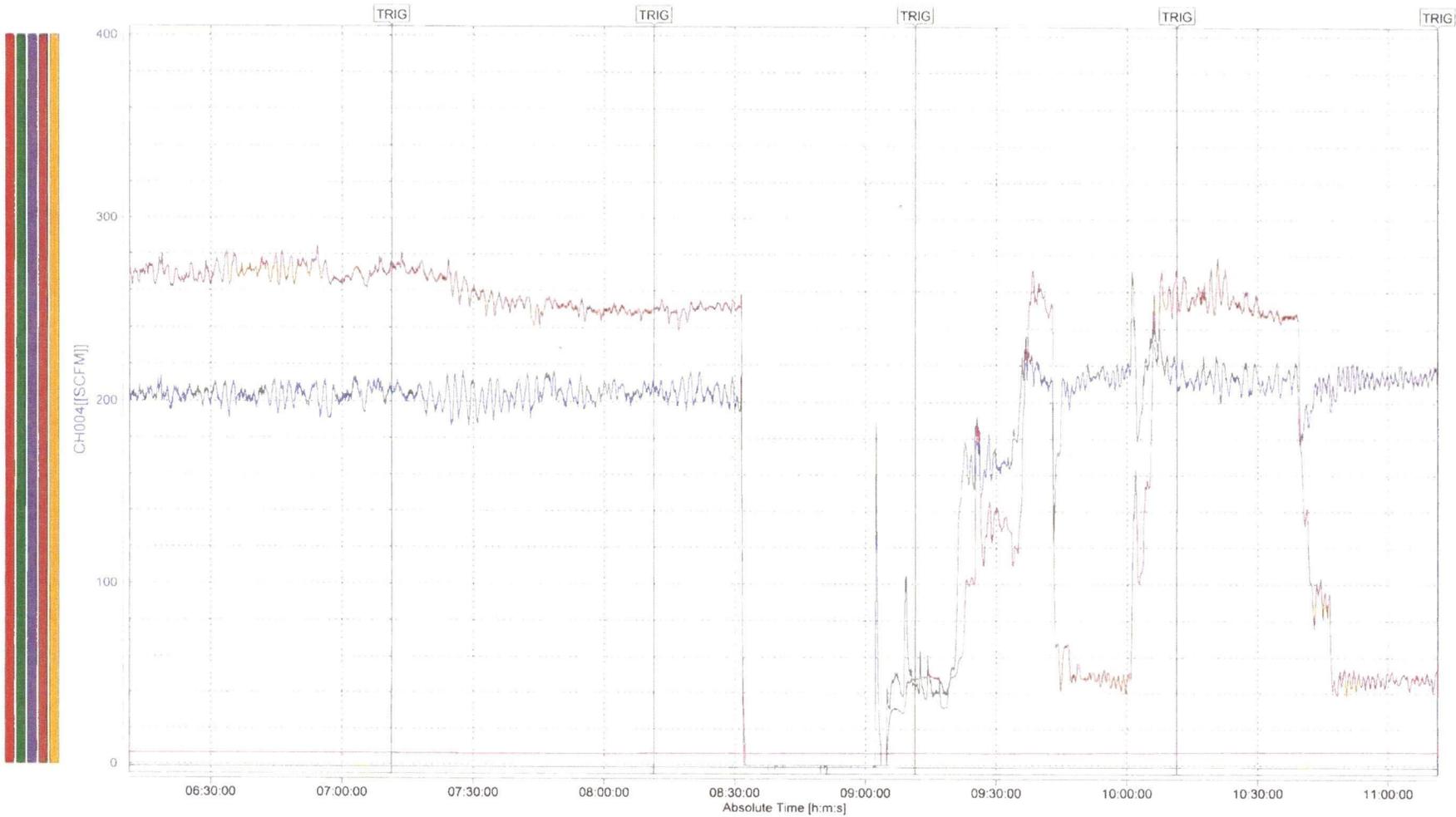
- Flow Chart
- Rainfall Chart

File Message :
File Name : 054987_200117_061126.DAD.....054991_200117_101126.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 : 9000
Sampling Interval : 2.000 sec
Start Time : 2020/01/17 06:11:26.000
Stop Time : 2020/01/17 11:11:24.000
Trigger Time : 2020/01/17 11:11:24.000
Trigger No. : 8999
Damage Check : Not Damaged
Started by : [Key In]
Stopped by : [Running]

1/17/20
RCA# 07R42

Printed Group : GROUP 1
Printed Range : 2020/01/17 06:11:26.000 - 2020/01/17 11:11:24.000
Comment :



- Rainfall Report for City Of Sunnyvale -
 Pretreatment System
 Wednesday, January 01, 2020 to Thursday, January 23, 2020

- Rainfall Reports -

Device	Num	Station	Date	Mid - 2 AM	2-4 AM	4-6 AM	6-8 AM	8-10 AM	10 - Noon	Noon - 2 PM	2-4 PM	4-6 PM	6-8 PM	8-10 PM	10 - Mid	Daily Total	Running Total
32929	01	Pretreatment System	Thu 1/16/20	0.00"	0.00"	0.00"	0.00"	0.04"	0.33"	0.06"	0.07"	0.01"	0.01"	0.02"	0.01"	0.55"	0.74"
32929	01	Pretreatment System	Tue 1/14/20	0.00"	0.02"	0.00"	0.02"	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.04"	0.19"
32929	01	Pretreatment System	Mon 1/13/20	0.02"	0.01"	0.00"	0.00"	0.01"	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.04"	0.15"
32929	01	Pretreatment System	Thu 1/9/20	0.00"	0.00"	0.01"	0.04"	0.01"	0.00"	0.00"	0.00"	0.02"	0.00"	0.00"	0.00"	0.08"	0.11"
32929	01	Pretreatment System	Wed 1/8/20	0.00"	0.00"	0.00"	0.00"	0.00"	0.00"	0.01"	0.00"	0.02"	0.00"	0.00"	0.00"	0.03"	0.03"
			Averages	0.00"	0.01"	0.00"	0.01"	0.01"	0.07"	0.01"	0.01"	0.01"	0.00"	0.00"	0.00"	0.15"	0.74"

Report prepared by OmniSite
 www.omnisisite.com
 Created 1/23/2020 at 8:31 AM

From: William Theyskens
WTheyskens@sunnyvale.ca.gov
Subject: FW: Combined 10-day/30-day Deviation and
RCA Report for S-8 Sunnyvale Sanitary
Landfill
Date: Jul 15, 2020 at 12:32:42 PM
To: wgrovert@sbcglobal.net

From: William Theyskens
Sent: Friday, March 06, 2020 1:50 PM
To: rca@baaqmd.gov
Cc: Fchan@baaqmd.gov; Joseph Muehleck <jmuehleck@baaqmd.gov>; Jim McHargue
<JMcHargue@sunnyvale.ca.gov>; Deepti Jain <DJain@sunnyvale.ca.gov>
Subject: Combined 10-day/30-day Deviation and RCA Report for S-8 Sunnyvale Sanitary
Landfill

Attn: BAAQMD Compliance and Enforcement Division

To whom it may concern,

Attached is the Combined 10-day/30-day Deviation and RCA Report for S-8 City of Sunnyvale Sanitary Landfill, Facility # A5905. Feel free to call me ([408 730-7718](tel:4087307718)) or Jim McHargue ([408 730-7711](tel:4087307711)), the City's new Solid Waste Programs Division Manager, if you have any questions regarding this report.



William Theyskens, CEG, CHG
Environmental Engineering Geologist
Environmental Services Dept.

Phone: [408 730-7718](tel:4087307718)

Follow us on:



Sunnyvale.ca.gov



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, ESP, Solid Waste	Site #	5905
Address	Barregas Avenue + Caribbean Ave.	Source #	
Reported by	William Theyskens	Phone #	408 730-7718
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	2/25/20, 0915 hrs.	Clear Time	2/25/20, 0944 hrs.
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input checked="" type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			

Parameter(s) exceeded or not functioning due to inoperation

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

Unit(s) of Measurement

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

Event Description:

During maintenance of the contents of a panel within the Landfill Gas Flare Station a SCADA landfill vacuum signal wire was disconnected, causing the mixed gas (MG) control valve (CV) to close, which resulted in the Power Generation Facility to shut down.

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
- ✓ **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 - 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



Sunnyvale

March 6, 2020

City Hall
455 West Olive Avenue
Sunnyvale, CA 94088-3707
TDD/TTY 408-730-7501
sunnyvale.ca.gov

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

Attn: Title V Reports

Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905

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 the 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 requirement for RCA #07S24. The subject incident resulted in a short-term shutdown of the Water Pollution Control Plant's PGF, and the associated shutdown of the Sunnyvale Landfill's (Source S-8) gas collection and control system (GCCS).

Incident Description

The start of the period of non-compliance for S-8 was on February 25, 2020, at approximately 09:15. As part of the ongoing, massive, 20-year construction/renovation project that is taking place concurrent with the ongoing operation of the Water Pollution Control Plant, electrical wiring, Programmable Logic Controllers (PLCs) and other utilities have to be replaced, rewired, re-routed, etc. New (replacement) wiring runs are required to be routed, and tested, prior to removal of the old wire runs that are being replaced. If an issue is discovered with the new wiring runs, the old runs are re-energized pending the investigation of the issue(s) causing the problem.

A mechanic was performing planned maintenance on a junction panel for a new Landfill Gas Flare Station-related wiring run that was being re-routed, and when he disconnected a wire in the panel that



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 #	8
Reported by	William Theyskens	Phone #	408 730-7718
Indicated Excess		Fax #	
Allowable Limit		Averaging Time	
Start Time/Date	12:38, 6/1/2020	Clear Time	12:52, 6/1/2020
Monitor/device type(s)	<input type="checkbox"/> ▶ CEM <input type="checkbox"/> ▶ GLM <input type="checkbox"/> ▶ Parametric <input type="checkbox"/> ▶ PRD <input checked="" type="checkbox"/> ▶ Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> ▶ NO _x	<input type="checkbox"/> ▶ SO ₂	<input type="checkbox"/> ▶ CO	<input type="checkbox"/> ▶ CO ₂
<input type="checkbox"/> ▶ O ₂	<input type="checkbox"/> ▶ H ₂ 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 ₂ 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 ₂ O
<input type="checkbox"/> ▶ psig	<input type="checkbox"/> ▶ pH	<input type="checkbox"/> ▶ °Fahrenheit	<input type="checkbox"/> ▶ mmHg

Event Description: PG&E power outage resulted in 52-0 opening, and PGF shutting down. At 12:52 power was restored and the LFG Flare was started. The PGF was restarted at 13:05, and the LFG Flare was secured. The Operations Manager is checking with PG&E for an explanation of what happened.

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.
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NOTE: You may have additional report requirements under Title V.

Detailed Instructions

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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.
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- 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.
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- 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 - 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



Sunnyvale

June 10, 2020

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

City Hall
456 West Olive Avenue
Sunnyvale, CA 94088-3707
TDD/TYY 408-730-7501
sunnyvale.ca.gov

Attn: Title V Reports

Re: 10-day/30-day Deviation Report for S-8 City of Sunnyvale Sanitary Landfill, Facility #A5905

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 the 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 requirement for RCA #07T57. The subject incident involves a short-term shutdown of the Sunnyvale Landfill (Source S-8) gas collection and control system (GCCS).

Incident Description

The start of the period of non-compliance for S-8 was On June 1, 2020, at approximately 12:38 hours. Due to a PG&E power outage, S-8 went into non-compliance for 14 minutes. As a result of the PG&E power outage, both Power Generation Facility (PGF) engines that power the blowers to create vacuum for the Sunnyvale Landfill GCCS shut down. At 12:52 hours PG&E power was restored, enabling the startup of the blower, the Landfill Gas Flare (LFGF) and the GCCS. At 13:05 hours the PGF was started and the LFGF was secured.

As the power outage and shutdown of the PGF occurred at 12:38, and the LFGF, blower and GCCS were started at 12:52, the PG&E outage resulted in a loss of vacuum to the GCCS for approximately 14 minutes (see Attached Flow Chart).



As the GCCS downtime was only 14 minutes, it is highly unlikely that in that time the GCCS would have gone to a positive pressure sufficient to have allowed a measurable release of LFG from the landfill.

If you have questions regarding this report, please contact William Theyskens at (408) 730-7718 or me at (408) 730-7785.

Sincerely,

A handwritten signature in blue ink that reads "Ramana".

Ramana Chinnakotla
Director, Environmental Services Department

cc: Joe Muehleck (BAAQMD), email

Attachments:

Flow Chart

File Message

File Name 058255_200601_111126 DAD_ 058257_200601_131126 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 2020/06/01 11 11 26 000
Stop Time 2020/06/01 14 11 24 000
Trigger Time 2020/06/01 14 11 24 000
Trigger No 5399
Damage Check Not Damaged
Started by [Key In]
Stopped by [Running]

Printed Group GROUP 1
Printed Range 2020/06/01 11 11 26 000 - 2020/06/01 14 11 24 000
Comment

