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1. RECEIVED IN ENFORCEMENT: 11/24/2021

Tri-Cities Recycling and Recovery Facility
7010 Auto Mall Parkway, Fremont, CA 94538

November 24, 2021

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SUBJECT: Combined Title V Semi-Annual and Partial 8-34 Annual Report
40 CFR 63 Subpart AAAA Semi-Annual Report
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway, Fremont, CA 94538
Plant Number A2246

Dear Sir or Madam:

The Tri-Cities Recycling and Disposal Facility (TCRDF) is pleased to submit the attached Combined Title V Semi-Annual and Partial 8-34 Annual Report for the period of May 1, 2021 to October 31, 2021 to the Bay Area Air Quality Management District (BAAQMD) and the United States Environmental Protection Agency (USEPA), Region IX. As required by 40 CFR Part 63 Subpart AAAA, the Semi-Annual Startup, Shutdown and Malfunction (SSM) Report is also enclosed. The Combined Title V Semi-Annual and Partial 8-34 Annual Report satisfies the requirements of the Title V Permit listed in Condition Number 8366, Part 19 and Standard Condition I.F.

The Title V permit was cancelled effective October 14, 2021 because TCRDF is no longer subject to the NSPS 40 CFR part 60 subpart Cf through the California Plan found in 40 CFR part 62 subpart F, nor subject to NESHAP 40 CFR part 63 subpart AAAA, and is not a major emission source. This report is the final monitoring report required by Condition I.F of the Title V permit for TCRDF.

Based on information and belief formed after reasonable inquiry, I certify under penalty of law that the statements included in this report are true, accurate, and complete.

Sincerely,

A handwritten signature in purple ink that reads "Patrick Madej". The signature is written in a cursive, flowing style.

Patrick Madej
District Manager

Attachments:
Combined Title V Semi-Annual and Partial 8-34 Annual Report

**Combined Title V Semi-Annual and
Partial 8-34 Annual Report
For the Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538
Plant Number A2246
May 1, 2021 to October 31, 2021**

Prepared for
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538

For Submittal to:
The Bay Area Air Quality Management District
375 Beale St., Ste 600
San Francisco, California 94105

and

USEPA, Region IX
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Prepared by



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1 INTRODUCTION

1.1 PURPOSE

This document is a Title V Combined Semi-Annual and Partial 8-34 Annual Report for the Tri-Cities Recycling and Disposal Facility (TCRDF), a Waste Management of Alameda County, Inc. (WMAC) facility, pursuant to Title V Permit Condition Number 8366, Part 19. This Combined Report satisfies the requirements of Bay Area Air Quality Management District's (BAAQMD) Regulation 8, Rule 34, Section 411 and Title 40 Code of Federal Regulations (CFR) Part 60 Subpart WWW, New Source Performance Standards (NSPS) for municipal solid waste (MSW) landfills (40 CFR §60.757[f]), the TCRDF Title V Standard Condition I.F, and covers compliance activities conducted from May 1, 2021 to October 31, 2021. This Combined Report also includes the semi-annual report of Start-up, Shutdown, Malfunction (SSM) Plan activities, pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, Subpart AAAA for landfills.

Section 2 of this report contains the elements required to satisfy both BAAQMD Regulation 8-34-411 and 40 CFR §60.757(f). A summary of results from the February 4, 2021 Performance Test Report that meets the requirements of both BAAQMD Regulation 8-34-413 and 40 CFR §60.758(g) is included in Appendix L. Section 4 of this Combined Report includes the semi-annual report of the SSM Plan activities, pursuant to NESHAP, 40 CFR Part 63, Subpart AAAA for landfills.

The Title V permit was cancelled effective October 14, 2021 because TCRDF is no longer subject to the NSPS 40 CFR part 60 subpart Cf through the California Plan found in 40 CFR part 62 subpart F, nor subject to NESHAP 40 CFR part 63 subpart AAAA, and is not a major emission source (see Appendix M). This report is the final monitoring report required by Condition I.F of the Title V permit for TCRDF.

The Semi-Annual Report pursuant to NESHAP 40 CFR part 63 subpart AAAA, section 1981(h) will be submitted separately.

1.2 RECORD KEEPING AND REPORTING

Records are maintained and available for inspection in accordance with BAAQMD Regulation 8-34-501.12 and 40 CFR §60.758. The primary location for records storage is at the TCRDF. Records are maintained at this location for a minimum of five years.

1.3 REPORT PREPARATION

This Combined Report has been prepared by WMAC and was based on WMAC's review of information pertaining to the site operations.

2 SEMI-ANNUAL MONITORING REPORT

In accordance with Title V Permit Standard Condition I.F (Title V cancelled on October 14, 2021) and Condition 8366, Part 19, BAAQMD Regulation 8-34-411, and 40 CFR §60.757(f) in the NSPS, this Report is a Combined Title V Semi-Annual and Partial 8-34 Annual Report that is required to be submitted by TCRDF. The report contains monitoring data for the operation of the landfill gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this report is May 1, 2021 to October 31, 2021. The following table lists the rules and regulations that are required to be included in this Combined Report.

Table 2-1 Semi-Annual Report Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.1 §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices B & C
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix B
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendix D
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this Rule.	Sections 2.4 & 2.10 Appendices E & G
8-34-501.5	Monthly landfill gas flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.5 & 2.11 Appendix J
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppmv), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Sections 2.6 & 2.7, Appendix F
8-34-501.7	Annual waste acceptance rate and current amount of waste in place.	Section 2.8,
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.9
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.10, Appendices G & H

Table 2-1 Semi-Annual Report Requirements (continued)

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.11, Appendices D & I
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records of key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of five years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.12
§60.10 (d)(5)(i)	Startup, Shutdown, Malfunction Events	Section 4, Appendices B & C

2.1 COLLECTION SYSTEM OPERATION (BAAQMD 8-34-501.1 & §60.757(F)(4))

Appendix A contains a map dated February 2, 2017 of TCRDF's GCCS. No wells were added to or removed from the collection system during the reporting period.

Appendix B includes all collection system downtimes and the reason for the shutdowns. The information contained in Section 2.1.2 and Appendix C includes the individual well shutdown times and the reason for each shutdown.

2.1.1 COLLECTION SYSTEM DOWNTIME

During the period covered in this report, the landfill gas (LFG) collection system was not shut down for more than five (5) days on any one occasion. Pursuant to BAAQMD Regulation 8-34-113, Limited Exemption, Inspection and Maintenance, the total downtime is summarized below:

Table 2-2 Collection System Downtime

PERIOD	DOWNTIME (HOURS)
January 1, 2021 – October 31, 2021	51.33
May 1, 2021 - October 31, 2021	29.58

A Flare SSM Log that lists dates, times, and lengths of shutdowns for the reporting period is included in Appendix B.

Submitted a request on June 21, 2021 for Breakdown Relief (Reportable Compliance Activity 08A23) from BAAQMD for an unplanned utility power outage on June 19, 2021. The Title V Section I.F, 10-Day/30-day written report was submitted on June 28, 2021.

The RCA 08A23 30-Day Breakdown Report was submitted on July 16, 2021. Reports are presented in Appendix M.

2.1.2 WELL DISCONNECTION LOG

During the reporting period, zero (0) wellfield SSM events occurred. In addition, zero wells (out of a possible 3) remain disconnected at the end of the reporting period, pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising).

A Wellfield SSM Log that lists dates, times, and lengths of disconnections for the reporting period is included in Appendix C.

2.2 EMISSION CONTROL DEVICE DOWNTIME (BAAQMD 8-34-501.2 & §60.757(F)(3))

The emission control system consists of the A-3 Enclosed Flare. No bypassing of the control system or emissions of raw LFG occurred. A Flare SSM Log for the A-3 Flare is included in Appendix B. Total downtime is summarized in the following table:

Table 2-3 Flare A-3 Downtime

PERIOD	DOWNTIME (HOURS)
January 1, 2021 – October 31, 2021	51.33
May 1, 2021 - October 31, 2021	29.58

2.2.1 LFG BYPASS OPERATIONS (§60.757(f)(2))

Title 40 CFR §60.757(f)(2) is not applicable at the TCRDF because no bypass line is installed. LFG cannot be diverted from the control equipment.

2.2.2 KEY EMISSION CONTROL OPERATING PARAMETERS (BAAQMD 8-34-501.11 & 8-34-509)

BAAQMD Regulations 8-34-501.11 and 8-34-509 are not applicable to the A-3 Flare because the A-3 Flare is subject to continuous temperature monitoring as required by BAAQMD Regulation 8-34-507 and §60.757(f)(1).

2.3 TEMPERATURE MONITORING RESULTS (BAAQMD 8-34-501.3, 8-34-507, & §60.757(F)(1))

The combustion zone temperature of the flare is monitored with thermocouples and recorded with a Yokogawa paperless chart recorder. There were no continuous recorder device SSM events during the reporting period. As shown in Appendix D, there were no periods of missing temperature data for the flares during the reporting period.

Title V Permit Condition Number 8366 Part 6 states that the minimum combustion zone temperature, averaged over a 3-hour period, shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50°F, provided that the minimum combustion zone temperature is not less than 1,450°F. Pursuant to Part 6, the following temperature limits applied during the reporting period:

Table 2-4 Applicable 3-Hour Temperature Limits

Source Test Date	Source Test Report Submitted	Average Temperature During Test (°F)	3-hr Minimum Temperature (°F)
2/4/2021	3/10/2021	1,594	1,544

2.4 MONTHLY COVER INTEGRITY MONITORING (BAAQMD 8-34-501.4)

The Monthly Cover Integrity Monitoring Reports are included in Appendix E. The cover integrity monitoring was performed on the following dates:

- May 25, 2021
- June 30, 2021
- July 29, 2021
- August 31, 2021
- September 20, 2021
- October 26, 2021

2.5 LESS THAN CONTINUOUS OPERATION (BAAQMD 8-34-501.5)

The TCRDF does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and therefore is not required to submit monthly LFG flow rates.

2.6 SURFACE EMISSIONS MONITORING (BAAQMD 8-34-501.6, 8-34-506, & §60.757(F)(5))

The TCRDF is a closed landfill as defined by 8-34-223. As of the First Quarter 2016 event completed March 1, 2016, the Site has achieved three consecutive quarters with no Surface Emissions Monitoring (SEM) exceedances. Therefore, the TCRDF may now reduce the frequency of SEM events to annually. The 2021 annual SEM occurred during the previous reporting period on January 12, 2021. The next SEM event is due by March 31, 2022. Any exceedance detected during annual monitoring will require the Site to revert to quarterly monitoring.

2.7 COMPONENT LEAK TESTING (BAAQMD 8-34-501.6 & 8-34-503)

Quarterly Component Leak Testing using FIDs, pursuant to 8-34-503, occurred during the reporting period on the following date:

- Second Quarter 2021 – May 4, 2021
- Third Quarter 2021 – July 27, 2021

No component leaks were discovered during either test event. Quarterly LFG Component Leak Check logs are presented in Appendix F.

2.8 WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.7)

The TCRDF is closed and all final closure documentation has been received. No degradable waste was accepted during the reporting period. The total waste in place is 12.78 million tons.

2.9 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.8)

TCRDF does not have non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.10 WELLHEAD MONITORING DATA (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed on a monthly basis pursuant to 8-34-505. The wellhead concentration readings for the reporting period are included in Appendix G. Each well was monitored in accordance with the following requirements:

- 8-34-305.1 - Each wellhead shall operate under a vacuum.
- 8-34-305.2 - The LFG temperature in each wellhead shall be less than 55 degrees Celsius (°C) (131°F).
- 8-34-305.4 - The oxygen (O₂) concentration in each wellhead shall be less than 5 percent by volume.

The wellhead monitoring was performed on the following dates:

- May 11, 18, 25, and 26, 2021
- June 8 and 22, 2021
- July 6 and 15, 2021
- August 5, 2021
- September 7, 2021
- October 5, 12, and 21, 2021

Wellhead Deviations (BAAQMD 8-34-501.9 & §60.757(f)(1))

Wellfield deviations from BAAQMD Regulation 8-34-305 during the reporting period are summarized in Table 2-5. The Wellfield Deviation Log is attached in Appendix H.

Table 2-5 Wellfield Deviation Summary

Well ID	Exceedance Date	Exceedance Value	Re-monitoring Date	Compliance Date and Reading	Days in Exceedance
No well exceedances during the reporting period.					

2.11 GAS FLOW MONITORING RESULTS (BAAQMD 8-34-501.10, 8-34-508, & §60.757(F)(1))

Flow is measured using a Kurz flow meter installed on March 12, 2015. The LFG flow is displayed and digitally recorded with a General Electric data panel and Yokogawa Digital Recorder, which records flow every two minutes. The flow data readings are saved to a compact flash card. The flow meter is maintained and calibrated pursuant to the manufacturer’s recommendations. The flare flow meter meets the requirements of BAAQMD Regulation 8-34-508 by recording at least every 15 minutes. The flow records for the flare are available for review at the TCRDF. As shown in Appendix D, no flare temperature or flow deviations occurred from May 1, 2021 to October 31, 2021.

Title V Permit Condition Number 8366, Part 11 limits daily heat input to 1,800 Million British thermal units (MMBTU) per day and annual heat input to 657,000 MMBTU. Table 2-6 below is a summary of the total LFG flow for the reporting period of May 1, 2021 to October 31, 2021. Monthly and daily flow rates are presented in Appendix I.

Table 2-6 LFG Input to A-3 Flare

Emission Control Device	Average Flow (scfm)	Average CH ₄ (%)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heat Input (MMBtu)	Max Daily Heat Input (MMBtu)
A-3 Flare	930	46.83	244,701,107	114,601,604	116,091	678

(1) The methane content was determined from the February 4, 2021 source test.

2.12 COMPLIANCE WITH §60.757(F)(6)

“The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755.”

At the end of the reporting period, the GCCS consisted of thirty-eight (38) vertical LFG collection wells. No wells were added to or removed from the collection system during the reporting period.

2.13 COMPLIANCE WITH TITLE V PERMIT CONDITION 8366, PART 12

Title V (Title V cancelled on October 14, 2021) Condition Number 8366, Part 12 requires annual monitoring for hydrogen sulfide using a Draeger tube. The 2021 Annual

sample concentration was 100 ppm_v (collected August 24, 2021). Data from the monitoring event is presented in Appendix K.

2.14 COMPLIANCE WITH TITLE V PERMIT CONDITION 2593 FOR S-24

Daily records were maintained and totaled as required by Condition 2593 Part 4. Concrete accepted at S-24 did not exceed 150,000 tons during any consecutive 12-month period. Combined concrete and asphalt accepted and removed from the site did not exceed 2,500 tons in any day. Note that Title V permit was cancelled on October 14, 2021.

3 PERFORMANCE TEST REPORT

In accordance with BAAQMD Regulation 8-34-413 and 40 CFR §60.757(g) in the NSPS, a Performance Test Report is required to be submitted for subject facilities containing performance and monitoring data for the operation of the GCCS. The operational records listed in Table 3-1 have been reviewed, summarized, and are included in this Performance Test Report.

Table 3-1 Performance Test Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-412, §60.8, §60.752(b)(2)(iii)(B), §60.754(d)	Compliance Demonstration Test	Section 3.1, Appendix L
§60.757(g)(1)	A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for future collection system expansion.	Section 3.2, Appendix A
§60.757(g)(2)	The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.	Section 3.3
§60.757(g)(3)	The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material.	Section 3.4
§60.757(g)(4)	The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area.	Section 3.5
§60.757(g)(5)	The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill.	Section 3.6
§60.757(g)(6)	The provisions for the control of off-site migration.	Section 3.7, Appendix J

3.1 FLARE COMPLIANCE DEMONSTRATION TEST RESULTS (BAAQMD 8-34-412)

The most recent A-3 Flare Annual Compliance Demonstration Test was conducted on February 4, 2021. The Source Test Report was submitted to the BAAQMD on March 10, 2021.

Table 3-3 shows the results of the A-3 2021 Flare Compliance Demonstration Test, averaged from three test runs. A summary of the results from the February 4, 2021 Compliance Demonstration Test in Appendix L.

Table 3-2 A-3 Flare Compliance Demonstration Test Results

Condition	Flare Average Results	Applicable Limit	Compliance Status
NO _x , lbs/MMBTU	0.037	< 0.06	In Compliance
CO, lbs/MMBTU	0.006	<0.30	In Compliance
NMOC (ppm _v @ 3% O ₂)	< 4.5	< 30	In Compliance

3.2 COMPLIANCE WITH §60.757(G)(1)

“A diagram of the collection system showing collection system positioning including wells, horizontal collectors...”

A map dated February 2, 2017 of the LFG collection system showing the positioning of all vertical wells, horizontal collectors, and other LFG extraction devices is included in Appendix A.

3.3 COMPLIANCE WITH §60.757(G)(2)

“The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.”

In general, the sufficient capacities of the GCCS components are based on establishing, maintaining, and documenting that the surface emissions of non-methane organic compounds (NMOCs) and subsurface LFG migration are controlled within compliance limits. Over the monitoring period covered by this Combined Report, the sufficiency of the GCCS components was based as follows:

- The existing GCCS has historically provided LFG wells and collectors spaced in accordance with standard industry practices. The installed collector density during the reporting period appears to be more than adequate for controlling surface emissions and subsurface LFG migration, based on continuous compliance and operational experience.
- The total capacity of the LFG mover equipment exceeds the current United States Environmental Protection Agency (USEPA) Model AP-42 projections of LFG generation and the historic LFG extraction rates determined to be continuously available from the landfill.

The landfill operator conducts routine monitoring in accordance with NSPS requirements. If the TCRDF GCCS does not meet the measures of performance set forth in the NSPS, the GCCS will be adjusted or modified, as required.

Demonstrating Compliance with §60.757(g)(2)

“The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.”

The Site is now closed; therefore peak generation has already occurred. LFG generation will decline over time. The existing GCCS conveyance piping has sufficient

capacity to handle all current and future LFG flow rates based on well vacuum data, LFG generation estimates, and surface emissions monitoring.

Compliance with 40 CFR §60.757(g)(2) is demonstrated by performing SEM. Refer to Section 2.6, Surface Emissions Monitoring for information pertaining to the SEM results.

3.4 COMPLIANCE WITH §60.757(G)(3)

“The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material.”

No segregated areas or accumulations of asbestos or non-degradable material are documented for the TCRDF in the GCCS Design Plan. Therefore, 40 CFR §60.757(g)(3) is not applicable.

3.5 COMPLIANCE WITH §60.757(G)(4)

“The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area.”

No non-productive areas have been excluded from the coverage of the GCCS. Therefore, 40 CFR §60.757(g)(4) is not applicable.

3.6 COMPLIANCE WITH §60.757(G)(5)

“The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill.”

The present gas mover equipment capacity is adequate to move the current LFG flow rate. The current A-3 Flare has a capacity of 2,500 scfm at 50 percent methane. Since the Site is now closed, peak generation has already occurred; therefore the current equipment is capable of moving the maximum flow rate over the remaining life of the landfill.

3.7 COMPLIANCE WITH §60.757(G)(6)

“The provisions for the control of off-site migration.”

There have been no significant LFG migration occurrences at the TCRDF. The most recent Perimeter Gas Migration Monitoring Plan (PGMMP) was updated in January 2012 to include a variance from probe monitoring requirements and recent changes to building monitoring locations. Buildings on-site at the TCRDF are monitored quarterly for LFG migration.

Quarterly Methane-In-Structure Monitoring occurred on the following dates:

- Second Quarter 2021 – May 4, 2021
- Third Quarter 2021 – July 27, 2021

All in-structure locations were in compliance with no detections above the 1.25 percent methane limit. The Methane-In-Structure Survey Reports are included in Appendix J.

Demonstrating Compliance with §60.757(g)(6)

“The provisions for the control of off-site migration.”

The landfill operator will continue monitoring in accordance with the existing plan as discussed above. If the GCCS at the TCRDF does not meet the measures of performance set forth in the NSPS, the GCCS will be adjusted or modified in accordance with the NSPS requirements.

4 STARTUP, SHUTDOWN, MALFUNCTION (SSM) REPORT

SSM Report for the GCCS at the Tri-Cities Recycling and Disposal Facility

The NESHAP contained in 40 CFR Part 63, AAAA for MSW landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semi-annual report (under 40 CFR 63.10(d)(5) of the general provisions) if an SSM event occurred during the reporting period. The reports required by 40 CFR §63.1980(a) of the NESHAP and 40 CFR §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by 40 CFR §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR Part 63, AAAA became effective on January 16, 2004. Those SSM events that occurred during the NSPS semi-annual reporting period (May 1, 2021 to October 13, 2021) are reported in this section. The Title V permit was cancelled effective October 14, 2021 because TCRDF is no longer subject to the NSPS 40 CFR part 60 subpart Cf through the California Plan found in 40 CFR part 62 subpart F, nor subject to NESHAP 40 CFR part 63 subpart AAAA, nor subject to 40 CFR part 60 subpart WWW, and is not a major emission source (see Appendix M). The following information is included as required:

- During the reporting period, 6 flare SSM events occurred. The cause, time and duration of each event are presented in the Flare SSM Log, which is contained in Appendix B.
- During the reporting period, 0 wellfield SSM events occurred to allow for active filling, repairs, and well raising. The time and duration of each event are presented in the Wellfield SSM Log, which is contained in Appendix C.
- During the reporting period, 0 recorder SSM events occurred.
- In all, 6 events were consistent with the standard operating procedures contained in the SSM Plan.
- No exceedances of any applicable emission limitation in the landfill's NESHAP (63.10(d)(5)(i)) occurred.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).

This report is the final SSM report required by the Title V permit and is no longer subject to NESHAP subpart AAAA and NSPS subpart WWW. The Semi-Annual Report pursuant to NESHAP 40 CFR part 63 subpart AAAA, section 1981(h) will be submitted separately.

I certify the following:

Based on information and belief formed after reasonable inquiry, information on the startup, shutdown, malfunction forms, all accompanying reports, and other required certifications are true, accurate, and complete.

Patrick Madej

Signature of Responsible Official

November 24, 2021

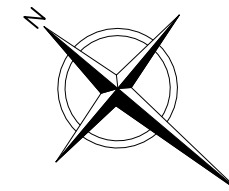
Date

Patrick Madej

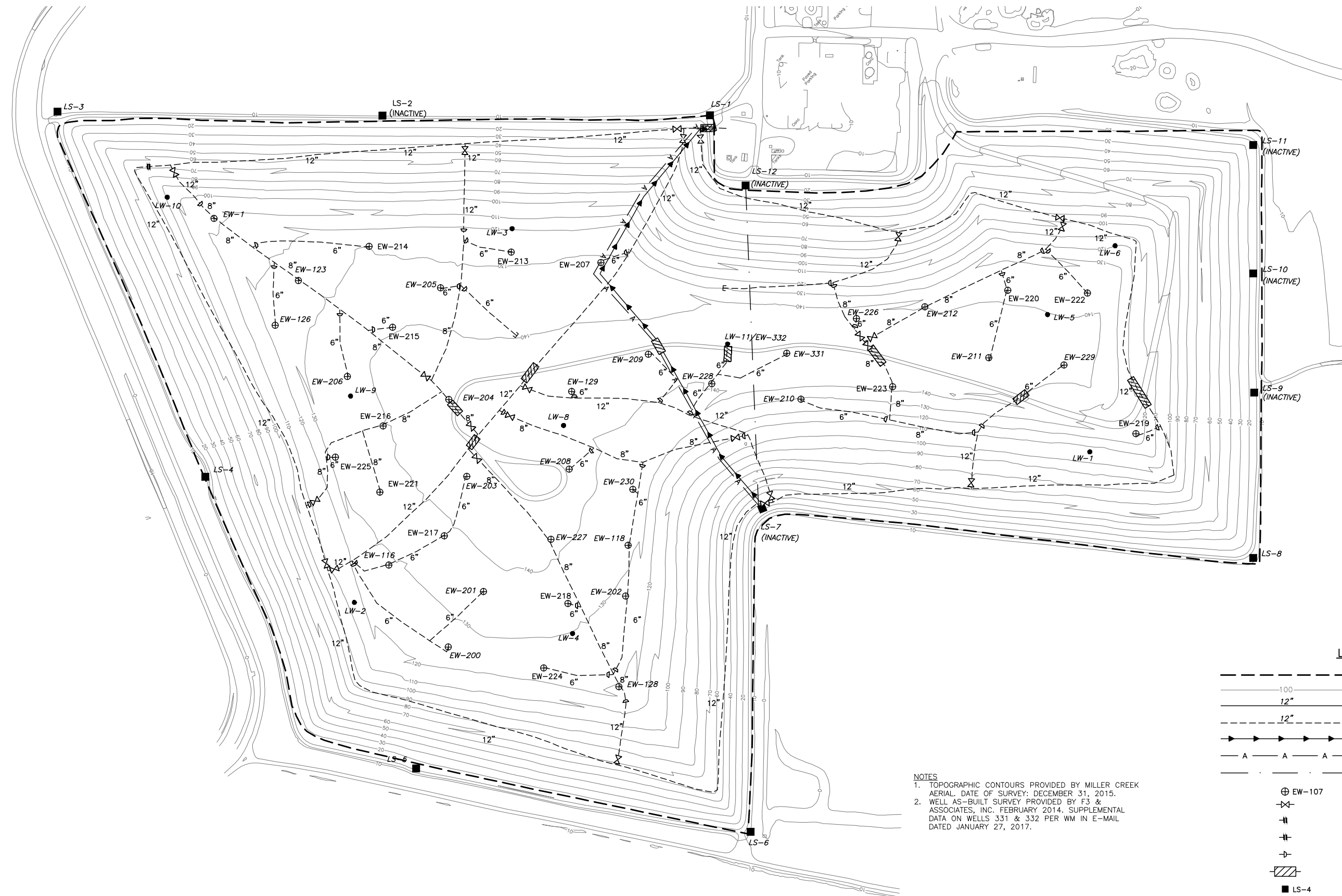
Name of Responsible Official

APPENDIX A

SITE MAP



0 150 300
SCALE IN FEET



LEGEND

- EXISTING SOLID WASTE BOUNDARY
- 100 --- EXISTING 10' CONTOUR
- 12" --- EXISTING LFG HEADER - ABOVE GROUND
- 12" --- EXISTING LFG HEADER - BELOW GROUND
- >--- EXISTING CONDENSATE FORCE MAIN
- A --- A --- A --- EXISTING AIR FORCE MAIN
- EXISTING HORIZONTAL COLLECTOR
- ⊕ EW-107 EXISTING LFG EXTRACTION WELL
- ⊗ EXISTING CONTROL VALVE
- ⊥ EXISTING BLIND FLANGE
- ⊥ EXISTING FLANGE CONNECTION
- ⊣ EXISTING REDUCER
- ▨ EXISTING ROAD CROSSING
- LS-4 EXISTING LEACHATE SUMP
- LS-2 (INACTIVE) INDICATES CURRENTLY INACTIVE LEACHATE SUMP
- LW-1 EXISTING LEACHATE LEVEL MONITORING WELL

NOTES

1. TOPOGRAPHIC CONTOURS PROVIDED BY MILLER CREEK AERIAL. DATE OF SURVEY: DECEMBER 31, 2015.
2. WELL AS-BUILT SURVEY PROVIDED BY F3 & ASSOCIATES, INC. FEBRUARY 2014. SUPPLEMENTAL DATA ON WELLS 331 & 332 PER WM IN E-MAIL DATED JANUARY 27, 2017.

Update on 6/16/2017 - EW-331 and EW-332 decommissioned

This drawing represents intellectual property of Cornerstone. Any modification to the original by other than Cornerstone personnel voids its original purpose and as such is rendered void. Cornerstone will not be held liable for any changes made to this document without express written consent of the originator.

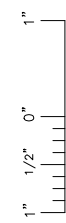
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
02	02/17			RAW	JAB	



TRI-CITIES RECYCLING AND DISPOSAL FACILITY
FREMONT, CALIFORNIA

GCCS AS-BUILT SITE PLAN

SHEET NO.
1
PROJECT NO.
170138



APPENDIX B
FLARE SSM LOG

**TRI-CITIES RECYCLING AND DISPOSAL FACILITY
CONTROL DEVICE DOWNTIME LOG**

Event No.	Check Applicable Event	Device	(1) Event Start Date/Time	(2) Event End Date/Time	(3) Duration (Hrs)	Downtime (Hrs)	(4) Cause or Reason	(5) Applicable Regulation	(6) Type of Event	(7) Procedures Used (a),(b)	(8) Did Steps Taken Vary From (7)	(9) Did Event Cause Any Emission Limit Exceedance?	(10) Describe Emission Standard(s) Exceeded (b)	Completed By	(11) Date Entry Completed
1	<input checked="" type="checkbox"/> Startup	A-3 Flare	5/5/21 14:05	5/5/21 14:07	0.03	0.67	Manual shutdown for flare station maintenance.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	5/5/2021
	<input checked="" type="checkbox"/> Shutdown		5/5/21 14:45	5/5/21 14:47	0.03			<input type="checkbox"/> 116: Well Raising	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
2	<input checked="" type="checkbox"/> Startup	A-3 Flare	6/19/21 19:00	6/19/21 19:02	0.03	16.33	All control devices were shut down due to a site-wide power outage. Inspected and manually restarted the control devices. Visual inspections and PLC checks were conducted prior to restart.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	6/20/2021
	<input checked="" type="checkbox"/> Shutdown		6/20/21 11:20	6/20/21 11:22	0.03			<input checked="" type="checkbox"/> 116: Well Raising	<input checked="" type="checkbox"/> Automatic (Go to 9)		<input type="checkbox"/> No	<input checked="" type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
3	<input checked="" type="checkbox"/> Startup	A-3 Flare	6/21/21 9:00	6/21/21 9:02	0.03	0.75	Low compressor pressure alarm shutdown. System inspected and restarted.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	6/21/2021
	<input checked="" type="checkbox"/> Shutdown		6/21/21 9:45	6/21/21 9:47	0.03			<input checked="" type="checkbox"/> 116: Well Raising	<input checked="" type="checkbox"/> Automatic (Go to 9)		<input type="checkbox"/> No	<input checked="" type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
4	<input checked="" type="checkbox"/> Startup	A-3 Flare	6/21/21 22:10	6/21/21 22:12	0.03	10.25	High liquid level in the U-sump alarm shutdown. System inspected and restarted.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	6/22/2021
	<input checked="" type="checkbox"/> Shutdown		6/22/21 8:25	6/22/21 8:27	0.03			<input checked="" type="checkbox"/> 116: Well Raising	<input checked="" type="checkbox"/> Automatic (Go to 9)		<input type="checkbox"/> No	<input checked="" type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
No flare SSM events in July 2021															
5	<input checked="" type="checkbox"/> Startup	A-3 Flare	8/16/21 9:20	8/16/21 9:22	0.03	0.25	Manual shutdown for flare station maintenance.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	8/16/2021
	<input checked="" type="checkbox"/> Shutdown		8/16/21 9:35	8/16/21 9:37	0.03			<input type="checkbox"/> 116: Well Raising	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
6	<input checked="" type="checkbox"/> Startup	A-3 Flare	8/16/21 13:00	8/16/21 13:02	0.03	1.33	Manual shutdown for flare station maintenance.	<input checked="" type="checkbox"/> 113: Inspection/Maintenance	<input type="checkbox"/> Manual (Go to 7)	Procedures 1 to 3	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)		Mike Chan	8/16/2021
	<input checked="" type="checkbox"/> Shutdown		8/16/21 14:20	8/16/21 14:22	0.03			<input checked="" type="checkbox"/> 116: Well Raising	<input checked="" type="checkbox"/> Automatic (Go to 9)		<input type="checkbox"/> No	<input type="checkbox"/> No			
	<input checked="" type="checkbox"/> Malfunction							<input checked="" type="checkbox"/> 117: Gas Collection	<input checked="" type="checkbox"/> Manual (Go to 7)	Procedures 1 to 4	<input type="checkbox"/> Yes (Go to 9)	<input type="checkbox"/> Yes (Go to 10)			
								<input checked="" type="checkbox"/> 118: Construction Activities	<input type="checkbox"/> Automatic (Go to 9)		<input checked="" type="checkbox"/> No	<input type="checkbox"/> No			
No flare SSM events in September 2021															
No flare SSM events in October 2021															

(a) STANDARD OPERATING PROCEDURES

Shutdown

- | Procedure No. | Procedure |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Ensure that there are no unsafe conditions present, contact manager immediately |
| 2. | Initiate shutdown sequence below by one or more of the following (Note date and time in Section 1 of form above) <ol style="list-style-type: none"> a. Press Emergency Stop if necessary b. Close On/Off switch(es) or Push On/Off button(s) c. Close adjacent valves if necessary |
| 3. | Observe that system achieves normal shutdown ranges for levels, pressures, and temperatures (Note date and time in Section 2 of form above) |

Startup

- | Procedure No. | Procedure |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Ensure that there are no unsafe conditions present |
| 2. | Ensure that the system is ready to start by one of the following: <ol style="list-style-type: none"> a. Valves are in correct position b. Levels, pressures, and temperatures are within normal starting range c. Alarms are cleared d. Power is on and available to control panel and ready to energize equipment. e. Emergency stop is de-energized |
| 3. | Initiate start sequence (Note time and date in section 1 of form above) |
| 4. | Observe that system achieves normal startup ranges for levels, pressures, and temperatures (Note time and date in Section 2 of form above) |

Malfunction

EQUIPMENT	PURPOSE	MALFUNCTION EVENT	COMMON CAUSES	PROCEDURE NO. - TYPICAL RESPONSE ACTIONS
LFG Collection and Control System				
Blower or Other Gas Mover Equipment	Applies vacuum to wellfield to extract LFG and transport to control device	Loss of LFG Flow/Blower Malfunction	<ul style="list-style-type: none"> -Flame arrestor fouling/deterioration -Automatic valve problems -Blower failure (e.g., belt, motor, impeller, coupling, seizing, etc.) -Loss of power -Extraction piping failure -Condensate knock-out problems -Extraction piping blockages 	<ol style="list-style-type: none"> 1. Repair breakages in extraction piping 2. Clean flame arrestor 3. Repair blockages in extraction piping 4. Verify automatic valve operation, compressed air/nitrogen supply 5. Notify power utility, if appropriate 6. Provide/utilize auxiliary power source, if necessary 7. Repair Settlement in Collection Piping 8. Repair Blower 9. Activate back-up blower, if available 10. Clean knock-up pot/demister 11. Drain knock-out pot
Extraction Wells and Collection Piping	Conduits for extractions and movement of LFG flow	Collection well and pipe failures	<ul style="list-style-type: none"> -Break/crack in header or lateral piping -Leaks at wellheads, valves, flanges, Test -Collection piping blockages -Problems due to settlement (e.g. pipe separation, deformation, development of low points) 	<ol style="list-style-type: none"> 12. Repair leaks or breaks in lines or wellheads 13. Follow procedures for loss of LFG flow/blower malfunction 14. Repair blockages in collection piping 15. Repair settlement in collection piping
Blower or Other Gas Mover Equipment And Control Device	Collection and control of LFG	Loss of electrical power	<ul style="list-style-type: none"> - Force majeure/Act of God (e.g., lightning, flood, earthquake, etc.) -Area-wide or local blackout or brown-out -Interruption in service (e.g. blown service fuse) -Electrical line failure -Breaker trip -Transformer failure -Motor starter failure/trip -Overdraw of power -Problems in electrical panel -Damage to electrical equipment from on-site operations 	<ol style="list-style-type: none"> 16. Re-install, repair, or replace piping 17. Check/reset breaker 18. Check/repair electrical panel components 19. Check/repair transformer 20. Check/repair motor starter 21. Check/repair electrical line 22. Test amperage to various equipment 23. Contact electricity supplier 24. Contact/contract electrician 25. Provide auxiliary power (if necessary)
LFG Control Device	Combusts LFG	Low temperature conditions at control device	<ul style="list-style-type: none"> -Problems with temperature-monitoring equipment -Problems/failure of -thermocouple and/or thermocouple wiring -Change of LFG flow -Change of LFG quality -Problems with air louvers -Problems with air/fuel controls -Change in atmospheric conditions 	<ol style="list-style-type: none"> 26. Check/repair temperature monitoring equipment 27. Check/repair thermocouple and/or wiring 28. Follow procedures for loss of flow/blower malfunction 29. Check/adjust louvers 30. Check/adjust air/fuel controls
LFG Control Device	Combusts LFG	Loss of Flame	<ul style="list-style-type: none"> -Problems/failure of thermocouple -Loss/change of LFG flow -Loss/change of LFG quality -Problems with air/fuel controls -Problems/failure of flame sensor -Problems with temperature monitoring equipment 	<ol style="list-style-type: none"> 31. Check/repair temperature monitoring equipment 32. Check/repair thermocouple 33. Follow procedures for loss of flow/blower malfunction 34. Check/adjust air/fuel controls 35. Check/adjust/repair flame sensor 36. Check/adjust LFG collectors
Flow Monitoring/ Recording Device	Measures and records gas flow from collection system to control	Malfunctions of Flow Monitoring/Recording Device	<ul style="list-style-type: none"> -Problems with orifice plate, pitot tube, or other in-line flow measuring device -Problems with device controls and/or wiring -Problems with chart recorder 	<ol style="list-style-type: none"> 37. Check/adjust/repair flow measuring device and/or wiring 38. Check/repair chart recorder 39. Replace paper in chart recorder
Temperature Monitoring/ Recording Device	Monitors and records combustion temperature of enclosed combustion device	Malfunctions of Temperature Monitoring/Recording Device	<ul style="list-style-type: none"> -Problems with thermocouple -Problems with device controls and/or wiring -Problems with chart recorder 	<ol style="list-style-type: none"> 40. Check/adjust/repair thermocouple 41. Check/adjust/repair controller and/or wiring 42. Check/adjust/repair electrical panel components 43. Check/repair chart recorder 44. Replace paper in chart recorder
Control Device	Combusts LFG	Other Control Device Malfunctions	<ul style="list-style-type: none"> -Control device smoking (i.e. visible emissions) -Problems with flare insulation -Problems with pilot light system -Problems with air louvers -Problems with air/fuel controllers -Problems with thermocouple -Problems with burners -Problems with flame arrestor -Alarmed malfunction conditions not covered above -Unalarmed conditions discovered during inspection not covered above 	<ol style="list-style-type: none"> 45. Site-specific diagnosis procedures 46. Site-specific responses actions based on diagnosis 47. Open manual louvers 48. Clean pitot orifice 49. Clean/drain flame arrestor 50. Refill propane supply 51. Check/repair pilot sparking system

(b) For each permit limit exceedance complete an "SSM Plan Departure Form". Notify BAAQMD verbally or by fax within 2 working days after commencing the actions that an event inconsistent with the SSM Plan and which resulted in an exceedance of an applicable emission permit has occurred. Follow up in writing to the agency within 7 working days after the end of the event.

APPENDIX C

WELLFIELD SSM LOG

**TRI-CITIES RECYCLING & DISPOSAL FACILITY
COLLECTION SYSTEM DOWNTIME LOG**

Event No.	Check Applicable Event	Device	(1) Event Start Date/Time	(2) Event End Date/Time	(3) Duration (Hrs)	Downtime (Hrs)	(4) Cause or Reason	(5) Applicable Regulation	(6) Type of Event	(7) Procedures Used (a),(b)	(8) Did Steps Taken Vary From (7)	(9) Did Event Cause Any Emission Limit Exceedance?	(10) Describe Emission Standard(s) Exceeded (b)	Completed By	(11) Date Entry Completed
No Well SSM Events in May 2021															
No Well SSM Events in June 2021															
No Well SSM Events in July 2021															
No Well SSM Events in August 2021															
No Well SSM Events in September 2021															
No Well SSM Events in October 2021															

(a) STANDARD OPERATING PROCEDURES

Shutdown

- | Procedure No. | Procedure |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Ensure that there are no unsafe conditions present, contact manager immediately |
| 2. | Initiate shutdown sequence below by one or more of the following (Note date and time in Section 1 of form above) <ul style="list-style-type: none"> a. Press Emergency Stop if necessary b. Close On/Off switch(es) or Push On/Off button(s) c. Close adjacent valves if necessary |
| 3. | Observe that system achieves normal shutdown ranges for levels, pressures, and temperatures (Note date and time in Section 2 of form above) |

Startup

- | Procedure No. | Procedure |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Ensure that there are no unsafe conditions present |
| 2. | Ensure that the system is ready to start by one of the following: <ul style="list-style-type: none"> a. Valves are in correct position b. Levels, pressures, and temperatures are within normal starting range c. Alarms are cleared d. Power is on and available to control panel and ready to energize equipment. e. Emergency stop is de-energized |
| 3. | Initiate start sequence (Note time and date in section 1 of form above) |
| 4. | Observe that system achieves normal startup ranges for levels, pressures, and temperatures (Note time and date in Section 2 of form above) |

Malfunction

EQUIPMENT	PURPOSE	MALFUNCTION EVENT	COMMON CAUSES	PROCEDURE NO. -TYPICAL RESPONSE ACTIONS
LFG Collection and Control System				
Blower or Other Gas Mover Equipment	Applies vacuum to wellfield to extract LFG and transport to control device	Loss of LFG Flow/Blower Malfunction	<ul style="list-style-type: none"> -Flame arrestor fouling/deterioration -Automatic valve problems -Blower failure (e.g., belt, motor, impeller, coupling, seizing, etc.) -Loss of power -Extraction piping failure -Condensate knock-out problems -Extraction piping blockages 	<ol style="list-style-type: none"> 1. Repair breakages in extraction piping 2. Clean flame arrestor 3. Repair blockages in extraction piping 4. Verify automatic valve operation, compressed air/nitrogen supply 5. Notify power utility, if appropriate 6. Provide/utilize auxiliary power source, if necessary 7. Repair Settlement in Collection Piping 8. Repair Blower 9. Activate back-up blower, if available 10. Clean knock-up pot/demister 11. Drain knock-out pot
Extraction Wells and Collection Piping	Conduits for extractions and movement of LFG flow	Collection well and pipe failures	<ul style="list-style-type: none"> -Break/crack in header or lateral piping -Leaks at wellheads, valves, flanges, Test ports, seals, couplings, etc. -Collection piping blockages -Problems due to settlement (e.g. pipe separation, deformation, development of low points) 	<ol style="list-style-type: none"> 12. Repair leaks or breaks in lines or wellheads 13. Follow procedures for loss of LFG flow/blower malfunction 14. Repair blockages in collection piping 15. Repair settlement in collection piping 16. Re-install, repair, or replace piping
Blower or Other Gas Mover Equipment And Control Device	Collection and control of LFG	Loss of electrical power	<ul style="list-style-type: none"> - Force majeure/Act of God (e.g., lightning, flood, earthquake, etc.) -Area-wide or local blackout or brown-out -Interruption in service (e.g. blown service fuse) -Electrical line failure -Breaker trip -Transformer failure -Motor starter failure/trip -Overdraw of power -Problems in electrical panel -Damage to electrical equipment from on-site operations 	<ol style="list-style-type: none"> 17. Check/reset breaker 18. Check/repair electrical panel components 19. Check/repair transformer 20. Check/repair motor starter 21. Check/repair electrical line 22. Test amperage to various equipment 23. Contact electricity supplier 24. Contact/contract electrician 25. Provide auxiliary power (if necessary)
LFG Control Device	Combusts LFG	Low temperature conditions at control device	<ul style="list-style-type: none"> -Problems with temperature -monitoring equipment -Problems/failure of -thermocouple and/or thermocouple wiring -Change of LFG flow -Change of LFG quality -Problems with air louvers -Problems with air/fuel controls -Change in atmospheric conditions 	<ol style="list-style-type: none"> 26. Check/repair temperature monitoring equipment 27. Check/repair thermocouple and/or wiring 28. Follow procedures for loss of flow/blower malfunction 29. Check/adjust louvers 30. Check/adjust air/fuel controls
LFG Control Device	Combusts LFG	Loss of Flame	<ul style="list-style-type: none"> -Problems/failure of thermocouple -Loss/change of LFG flow -Loss/change of LFG quality -Problems with air/fuel controls -Problems/failure of flame sensor -Problems with temperature monitoring equipment 	<ol style="list-style-type: none"> 31. Check/repair temperature monitoring equipment 32. Check/repair thermocouple 33. Follow procedures for loss of flow/blower malfunction 34. Check/adjust air/fuel controls 35. Check/adjust/repair flame sensor 36. Check/adjust LFG collectors
Flow Monitoring/Recording Device	Measures and records gas flow from collection system to control	Malfunctions of Flow Monitoring/Recording Device	<ul style="list-style-type: none"> -Problems with orifice plate, pitot tube, or other in-line flow measuring device -Problems with device controls and/or wiring -Problems with chart recorder 	<ol style="list-style-type: none"> 37. Check/adjust/repair flow measuring device and/or wiring 38. Check/repair chart recorder 39. Replace paper in chart recorder
Temperature Monitoring/Recording Device	Monitors and records combustion temperature of enclosed combustion device	Malfunctions of Temperature Monitoring/Recording Device	<ul style="list-style-type: none"> -Problems with thermocouple -Problems with device controls and/or wiring -Problems with chart recorder 	<ol style="list-style-type: none"> 40. Check/adjust/repair thermocouple 41. Check/adjust/repair controller and/or wiring 42. Check/adjust/repair electrical panel components 43. Check/repair chart recorder 44. Replace paper in chart recorder
Control Device	Combusts LFG	Other Control Device Malfunctions	<ul style="list-style-type: none"> -Control device smoking (i.e. visible emissions) -Problems with flare insulation -Problems with pilot light system -Problems with air louvers -Problems with air/fuel controllers -Problems with thermocouple -Problems with burners -Problems with flame arrestor -Alarmed malfunction conditions not covered above -Unalarmed conditions discovered during inspection not covered above 	<ol style="list-style-type: none"> 45. Site-specific diagnosis procedures 46. Site-specific responses actions based on diagnosis 47. Open manual louvers 48. Clean pilot orifice 49. Clean/drain flame arrestor 50. Refill propane supply 51. Check/repair pilot sparking system

(b) For each permit limit exceedance complete an "SSM Plan Departure Form". Notify BAAQMD verbally or by fax within 2 working days after commencing the actions that an event inconsistent with the SSM Plan and which resulted in an exceedance of an applicable emission permit has occurred. Follow up in writing to the agency within 7 working days after the end of the event.

APPENDIX D

FLARE TEMPERATURE AND FLOW DEVIATION REPORT

TRI-CITIES RECYCLING & DISPOSAL FACILITY, Fremont, CA
TEMPERATURE & FLOW DEVIATION REPORT
May 1, 2021 - October 31, 2021

REPORT PREPARED BY: Mike Chan
TEMPERATURE SENSING DEVICE: Thermocouple

DATE: November 24, 2021
MODEL: Thermo-Electric

START DATE TIME	END DATE TIME	DURATION (Hours)	TEMPERATURE (°F) / FLOW (SCFM)	CAUSE	EXPLANATION	ACTION TAKEN
No Deviations were reported in May 2021						
No Deviations were reported in June 2021						
No Deviations were reported in July 2021						
No Deviations were reported in August 2021						
No Deviations were reported in September 2021						
No Deviations were reported in October 2021						
COMMENTS: 1) The A-3 Flare 3-hour average combustion zone temperature did not drop below the 1,544°F (3/16/20 - 3/9/21) and 1,544°F (3/10/21 - present) limits established during the February 11, 2020 and February 4, 2021 source tests pursuant to 40 CFR §60.758(c)(1)(i).						

scfm - standard cubic feet per minute °F - Degrees Fahrenheit

APPENDIX E

COVER INTEGRITY RESULTS

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: May 25, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation	X		Normal for dry season
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: June 30, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation	X		Normal for dry season
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: July 29, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation	X		Normal for dry season
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: August 31, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation	X		Normal for dry season
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: September 20, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation	X		Normal for dry season
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

OPERATIONS AND MAINTENANCE SITE INSPECTION REPORT

Monthly Cover Monitoring

LOCATION: Tri-Cities Recycling and Disposal Facility
INSPECTION DATE: October 26, 2021
TECHNICIAN: Matthew Frame

COVER & VEGETATION	YES	NO	COMMENTS
Settling of cap		X	
Dead vegetation		X	
Erosion on cap system		X	
Erosion on side slopes		X	
Ponding of water on cap		X	
Surface cracking		X	
Storm water down drains clear	X		
Storm water ditches inspected	X		
Acceptable vegetation	X		
Exposed waste		X	

REPAIR AREAS:			
GPS Coordinates		Date of Repair	COMMENTS
Northing	Easting		

APPENDIX F

SURFACE EMISSIONS/COMPONENT LEAK CHECK MONITORING REPORTS



WASTE MANAGEMENT
172 98th Avenue
Oakland, CA 94603
(510) 430-8509

July 1, 2021

Mr. Patrick Madej
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538

**Re: Second Quarter 2021 Surface Emissions and Component Leak Monitoring Report
for Tri-Cities Recycling and Disposal Facility**

Dear Mr. Madej:

This monitoring report for “Tri-Cities Recycling and Disposal Facility (TCRDF)” contains the results of the Second Quarter 2021 Integrated and Instantaneous Surface Emissions Monitoring (SEM) and Component Leak Monitoring. All monitoring was performed by SCS Engineers (SCS).

APPLICABLE REQUIREMENTS

The monitoring discussed in this report was conducted in accordance with the following requirements:

Surface Emission Monitoring (SEM)

- New Source Performance Standard (NSPS), Title 40 of the Code of Federal Regulations (CFR) §60.755 (c) and (d), 40 CFR 60, Appendix A Method 21, promulgated by the United States Environmental Protection Agency (USEPA).
- California Code of Regulations (CCR) Title 17, Subchapter 10, Article 4, Subarticle 6, §95460 to §95476, known as the Assembly Bill 32 (AB32) landfill methane rule (LMR).
- Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34, Section 303 (Landfill Surface Requirements) and Section 607 (Landfill Surface Inspection procedures).

Component Leak

- BAAQMD Regulation 8, Rule 34, Section 301 (Landfill Gas Collection and Emission Control System Requirements) and Section 602 (Collection and Control System Leak Inspection procedures).
- CCR Title 17, Subchapter 10, Article 4, Subarticle 6, §95464.

TCRDF Plan and Alternative Compliance Measures

An Alternative Compliance Option (ACO) Request was submitted to the California Air Resources Board (CARB) on May 16, 2011. After receipt of comments, this ACO was amended, restated, and submitted to BAAQMD on July 1, 2016. SEM and Component Leak monitoring was conducted according to the methods outlined in the July 1, 2016 ACO.

PROCEDURES

General

The surface of the TCRDF disposal area has been divided into one-hundred-and-nine (109), approximately 50,000 square foot monitoring grids. The entire landfill surface is monitored with the exception of active portions of the Landfill, slope areas, and as requested in the approved ACO, areas containing only asbestos-containing waste, inert waste and/or non-decomposable waste which are excluded for safety as allowed by CCR Title 17 §95466.

Field personnel walked the surface of the landfill following the walking pattern as depicted the 2011 TCRDF AB-32 SEM Plan, which traverses each monitoring grid. Additionally, in accordance with the provisions of 40 CFR 60.753(d) and 60.755(c)(1-3), the entire perimeter of the landfill surface was monitored. During the event, special attention was given to monitoring unusual cover conditions (stressed vegetation, cracks, seeps, etc.) and any areas with unusual odors.

The monitoring probe was positioned 2 inches above the ground surface. While walking, the wand tip of the flame ionization detector (FID) was held within 2 inches of the landfill surface while traversing the grid. Per the approved alternative request, the wand tip of the FID was held at 2 inches of vegetation in areas where the landfill surface is covered with low-lying vegetation such as grasses while traversing the grid.

Monitoring Path

The TCRDF completed four consecutive instantaneous and integrated monitoring events with no exceedances. Pursuant to §95471(c)(1)(B)1., sites that complete four consecutive integrated and instantaneous monitoring events with no exceedances may increase the walking pattern spacing from a 25-foot spacing to a 100-foot spacing. In the event that an integrated or instantaneous exceedance cannot be remediated within 10 calendar days or an exceedance is observed during a compliance inspection, the TCRDF will be required to revert to 25-foot spacing.

Combined Instantaneous and Integrated Surface Emissions Monitoring

The instantaneous and integrated SEM were performed simultaneously by SCS using Landtec SEM-500 flame ionization detectors (FID), calibrated to 500 parts per million by volume (ppm_v) methane. The devices meet or exceed all guidelines set forth in the CCR Title 17 §95471(a) and the United States Environmental Protection Agency (USEPA) Method 21 requirements.

SCS personnel walked the surface of the landfill on a grid by grid basis. After completing the grid; the technicians also checked any surface impoundments (wells or otherwise) for leaks.

Technicians also checked any surface cracks, seeps, or other areas that show evidence of surface emissions (odors or distressed vegetation). Active and sloped areas excluded for safety were documented on field data sheets and maps.

All instantaneous surface monitoring was performed in accordance with the applicable requirements referenced in this report. Any detections of methane above 200 ppm_v (areas of concern) or 500 ppm_v (exceedances) for instantaneous were recorded, flagged, and marked on an SEM Map. Applicable corrective action and re-monitoring timelines are listed below:

- Corrective actions must be initiated within 5 days of the initial exceedance and re-monitoring shall be conducted within 10 days of the initial exceedance.
 - If the re-monitoring event shows the exceedance is corrected, the location shall be re-monitored within 1 month of the initial exceedance.
 - If the 1-month re-monitoring event shows the location is still corrected, all re-monitoring requirements have been completed.
- If either the first 10-day or 1-month re-monitoring events show a second exceedance, additional corrective actions shall be completed, and a second re-monitoring event shall be conducted within 10 days of the second exceedance.
- If the second 10-day re-monitoring event shows the second exceedance is corrected, the location shall be re-monitored within 1 month of the initial exceedance. If the 1-month re-monitoring event shows the area is still corrected, monitoring requirements have been completed.
- If any location shows three exceedances, an additional well shall be installed within 120 days of the initial exceedance.

The combined monitoring was conducted in accordance with the requirements of CCR Title 17 §95471(c)(2). Grids with integrated results greater than 25 ppm_v were recorded, marked on the SEM map, and flagged for remediation. Any grids with integrated concentrations greater than 25 ppm_v are subject to the following corrective action and re-monitoring timeline:

- Corrective actions must be initiated within 5 days of the initial exceedance and re-monitoring shall be conducted within 10 days of the initial exceedance.
- If the 10-day re-monitoring event shows the exceedance is corrected, all re-monitoring requirements have been completed.
- If the first 10-day re-monitoring event shows a second grid exceedance, additional corrective actions shall be completed, and a second re-monitoring event shall be conducted within 10 days of the second exceedance.
- If the second 10-day re-monitoring event shows the second exceedance is corrected, all re-monitoring requirements have been completed.

- The second 10-day re-monitoring event shows a third grid exceedance, an additional well shall be installed within 120 days of the initial exceedance.

Component Leak Monitoring Procedures

SCS monitored the exposed LFG components under positive pressure (pipes, well heads, valves, blowers, and other mechanical appurtenances). All component leaks measured within 0.5 inches exceeding the compliance limit of 500 ppm_v per requirements outlined in pursuant to §Section 95464(b)(1)(B) and 1,000 ppm per requirements outlined in BAAQMD 8-34-303 were recorded. Component leaks are subject to the following timelines:

- 500-999 ppm_v leaks are subject to a 10-day repair and re-monitoring deadline from §95469(b)(3).
- Leaks at or above 1000 ppm_v are subject a 7-day repair and re-monitoring deadline from BAAQMD 8-34-301.2.

SECOND QUARTER 2021 SEM AND COMPONENT LEAK RESULTS

Reduction of SEM Frequency

The TCRDF has completed four consecutive instantaneous and integrated monitoring events with no exceedances. Pursuant to §95469(2)(C), any closed or inactive areas of active MSW landfills with no integrated exceedances for four consecutive quarters may reduce the frequency of integrated and instantaneous SEM to an annual basis. In the event that an exceedance cannot be remediated within 10 calendar days or an exceedance is observed during a compliance inspection, the TCRDF will be required to revert to quarterly monitoring. The next SEM event is due by March 31, 2022.

Pursuant to 8-34-506, landfills that are closed as defined in 8-34-223 with no exceedances in three consecutive quarters may reduce the frequency of instantaneous SEM to an annual basis. Any exceedance detected during annual monitoring will require the site to revert to quarterly monitoring.

Component Leak Monitoring Results

Component leak monitoring was conducted per the applicable requirements on May 4, 2021. There were no leaks detected above 500 ppm_v. Results are summarized in Attachment A.

EQUIPMENT CALIBRATION

The portable analyzers were calibrated to meet the instrument specifications requirements of U.S. EPA Method 21. The calibration gas used was methane, diluted to a nominal concentration of 500 ppm_v in air to comply with the requirements.

All analyzers were calibrated prior to use with required response time and precision related instrument checks. Calibration records include the following: Response time test record; Response factor determination for methane; Calibration Precision test records; and Daily

Instrument Calibration and Background test records for each gas meter that was used during the quarterly monitoring event. The calibration log records are included in Attachment B.

All monitoring was completed in accordance with the applicable regulatory requirements or approved alternatives. If you have any questions regarding this report, please do not hesitate to contact me at (510) 613-2852.

Thank you,
Waste Management

A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is centered within a light gray rectangular box.

Michael Chan
Environmental Protection Air Specialist

Attachment A –Component Leak Monitoring Event Records

- Component Leak Exceedances and Monitoring Logs

Attachment B –Calibration Records

- Instrument and Gas Calibration Records

Attachment A

Component Leak Monitoring Event Records

Table A.1
AB-32 Component Leak Monitoring
Summary of Component Leaks Greater than 500 ppmv

2021 QUARTER: 2

LANDFILL NAME: Tri-Cities Recycling and Disposal Facility

Location	Initial Monitoring			Corrective Action		10-Day Remonitoring		
	Date	TOC (ppmv)	Tech	Date	Description	Date	TOC (ppmv)	Tech
May 4, 2021: No Exceedances								

Table A.2
BAAQMD Component Leak Monitoring
Summary of Component Leaks Greater than 1,000 ppmv

2021 QUARTER: 2

LANDFILL NAME: Tri-Cities Recycling and Disposal Facility

Location	Initial Monitoring			Corrective Action		7-Day Remonitoring		
	Date	TOC (ppmv)	Tech	Date	Description	Date	TOC (ppmv)	Tech
May 4, 2021: No Exceedances								

Attachment B

Calibration Records

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 5-21
Inspector(s): Liam McGinn

Site Name: Tri-Cities
Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: SE Barometric Pressure: 29.9 "Hg
Air Temperature: 50 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.7}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

Trial 1:	Trial 3:
Counts Observed for the Span= <u>123348</u>	Counts Observed for the Span= <u>123356</u>
Counters Observed for the Zero= <u>2294</u>	Counters Observed for the Zero= <u>2312</u>
Trial 2:	
Counts Observed for the Span= <u>123353</u>	
Counters Observed for the Zero= <u>2304</u>	

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm
Downwind Location Description: Grid 36 Reading: 1.4 ppm

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

**SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA**

post

Date: 5-4-21

Site Name: Tri-cities

Inspector(s): Liam McGinn

Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 9 MPH

Wind Direction: SE

Barometric Pressure: 30 "Hg

Air Temperature: 82 °F

General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223

Cal Gas Concentration: 500ppm

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

Average Difference: 1.7

*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1.7}{500} \times 100\%$$

$$= 99.7\%$$

Span Sensitivity:

Trial 1:	Trial 2:
Counts Observed for the Span= <u>124410</u>	Counts Observed for the Span= <u>124408</u>
Counters Observed for the Zero= <u>2076</u>	Counters Observed for the Zero= <u>2083</u>

Trial 3:
Counts Observed for the Span= <u>124415</u>
Counters Observed for the Zero= <u>2085</u>

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm

Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm
 Downwind Location Description: Grid 36 Reading: 1.4 ppm

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



22 Albiston Way
Auburn, ME 04210
800-292-6218
207-777-6218
Fax 207-777-6215
www.specair.com

Date: 12/23/2020

Certificate of Analysis

Customer:
QED ENVIRONMENTAL SYSTEMS

Order #: 1881326
Purchase Order #: 138961

Cylinder Size: 105L **CGA Connection:** C10 **Fill Pressure:** 1000 PSI

Analysis: Air Batch Analysis

Lot #: 4035802

Component(s):	Requested Concentration(s):	Actual Concentration(s):
Oxygen	19.5% - 23.5%	21.0%
Moisture	< 3 PPM	0.2 PPM
THC	< 0.1 PPM	0.1 PPM
CO/CO2	< 1 PPM	< 0.1 PPM

Expiration Date: 12/2023

Comments: MEETS OR EXCEEDS SPECIFICATION FOR ULTRA ZERO AIR

Approved By:

Ron Abbott

- Results are reported in mole percent, unless otherwise indicated. Mixes are prepared via partial pressure methods, or gravimetrically, using high load high sensitivity electronic scales. Prior to use, scales are verified for accuracy using applicable NIST traceable weights; analyses are calibrated against reference materials traceable to NIST weights and/or NIST gas reference materials.
- The information contained herein has been prepared at your request by qualified experts. While we believe that the information is accurate within the limits of the analytical methods employed, and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability arising out of the use of the information contained herein exceed the fee established for providing such information.
- This certifies that the instruments used for this analysis have been calibrated in compliance with the specifications in the order using SI/NIST traceable standards. When a statement of conformity is made, accept/reject decisions consider the measurement uncertainty and the specification tolerance. When the measurand and uncertainty are reported, measurement uncertainties are declared in the analytical results and the analytical results are not adjusted to consider measurement uncertainties.



22 Albiston Way
Auburn, ME 04210
800-292-6218
207-777-6218
Fax 207-777-6215
www.specair.com

Date: 02/12/2021

Certificate of Analysis

Customer:
QED ENVIRONMENTAL SYSTEMS

Order #: 1903560
Purchase Order #: 139463

Cylinder Size: 105L **CGA Connection:** C10 **Fill Pressure:** 1000 PSI

Analysis: Certified Batch Analysis

Lot #: 4104346

Component(s):	Requested Concentration(s):	Actual Concentration(s):
Methane	500 PPM	505 PPM
Air	BALANCE	BALANCE

Expiration Date: 02/2024

Comments: MIX MADE USING DIGITAL BALANCES CALIBRATED TO NIST TRACEABLE WEIGHTS / ACCURACY: +/- 2%
METHOD OF PREPARATION: GRAVIMETRIC / PRESSURE TRANSFILLING
ANALYTICAL PRINCIPLE: GC (TCD)

Approved By:

Kyle Christianson

- Results are reported in mole percent, unless otherwise indicated. Mixes are prepared via partial pressure methods, or gravimetrically, using high load high sensitivity electronic scales. Prior to use, scales are verified for accuracy using applicable NIST traceable weights; analyses are calibrated against reference materials traceable to NIST weights and/or NIST gas reference materials.
- The information contained herein has been prepared at your request by qualified experts. While we believe that the information is accurate within the limits of the analytical methods employed, and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability arising out of the use of the information contained herein exceed the fee established for providing such information.
- This certifies that the instruments used for this analysis have been calibrated in compliance with the specifications in the order using SI/NIST traceable standards. When a statement of conformity is made, accept/reject decisions consider the measurement uncertainty and the specification tolerance. When the measurand and uncertainty are reported, measurement uncertainties are declared in the analytical results and the analytical results are not adjusted to consider measurement uncertainties.



WASTE MANAGEMENT
172 98th Avenue
Oakland, CA 94603
(510) 430-8509

August 31, 2021

Mr. Patrick Madej
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538

Re: Third Quarter 2021 Surface Emissions and Component Leak Monitoring Report for Tri-Cities Recycling and Disposal Facility

Dear Mr. Madej:

This monitoring report for “Tri-Cities Recycling and Disposal Facility (TCRDF)” contains the results of the Third Quarter 2021 Integrated and Instantaneous Surface Emissions Monitoring (SEM) and Component Leak Monitoring. All monitoring was performed by SCS Engineers (SCS).

APPLICABLE REQUIREMENTS

The monitoring discussed in this report was conducted in accordance with the following requirements:

Surface Emission Monitoring (SEM)

- New Source Performance Standard (NSPS), Title 40 of the Code of Federal Regulations (CFR) §60.755 (c) and (d), 40 CFR 60, Appendix A Method 21, promulgated by the United States Environmental Protection Agency (USEPA).
- California Code of Regulations (CCR) Title 17, Subchapter 10, Article 4, Subarticle 6, §95460 to §95476, known as the Assembly Bill 32 (AB32) landfill methane rule (LMR).
- Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34, Section 303 (Landfill Surface Requirements) and Section 607 (Landfill Surface Inspection procedures).

Component Leak

- BAAQMD Regulation 8, Rule 34, Section 301 (Landfill Gas Collection and Emission Control System Requirements) and Section 602 (Collection and Control System Leak Inspection procedures).
- CCR Title 17, Subchapter 10, Article 4, Subarticle 6, §95464.

TCRDF Plan and Alternative Compliance Measures

An Alternative Compliance Option (ACO) Request was submitted to the California Air Resources Board (CARB) on May 16, 2011. After receipt of comments, this ACO was amended, restated, and submitted to BAAQMD on July 1, 2016. SEM and Component Leak monitoring was conducted according to the methods outlined in the July 1, 2016 ACO.

PROCEDURES

General

The surface of the TCRDF disposal area has been divided into one-hundred-and-nine (109), approximately 50,000 square foot monitoring grids. The entire landfill surface is monitored with the exception of active portions of the Landfill, slope areas, and as requested in the approved ACO, areas containing only asbestos-containing waste, inert waste and/or non-decomposable waste which are excluded for safety as allowed by CCR Title 17 §95466.

Field personnel walked the surface of the landfill following the walking pattern as depicted the 2011 TCRDF AB-32 SEM Plan, which traverses each monitoring grid. Additionally, in accordance with the provisions of 40 CFR 60.753(d) and 60.755(c)(1-3), the entire perimeter of the landfill surface was monitored. During the event, special attention was given to monitoring unusual cover conditions (stressed vegetation, cracks, seeps, etc.) and any areas with unusual odors.

The monitoring probe was positioned 2 inches above the ground surface. While walking, the wand tip of the flame ionization detector (FID) was held within 2 inches of the landfill surface while traversing the grid. Per the approved alternative request, the wand tip of the FID was held at 2 inches of vegetation in areas where the landfill surface is covered with low-lying vegetation such as grasses while traversing the grid.

Monitoring Path

The TCRDF completed four consecutive instantaneous and integrated monitoring events with no exceedances. Pursuant to §95471(c)(1)(B)1., sites that complete four consecutive integrated and instantaneous monitoring events with no exceedances may increase the walking pattern spacing from a 25-foot spacing to a 100-foot spacing. In the event that an integrated or instantaneous exceedance cannot be remediated within 10 calendar days or an exceedance is observed during a compliance inspection, the TCRDF will be required to revert to 25-foot spacing.

Combined Instantaneous and Integrated Surface Emissions Monitoring

The instantaneous and integrated SEM were performed simultaneously by SCS using Thermo Scientific TVA2020 flame ionization detectors (FID), calibrated to 500 parts per million by volume (ppm_v) methane. The devices meet or exceed all guidelines set forth in the CCR Title 17 §95471(a) and the United States Environmental Protection Agency (USEPA) Method 21 requirements.

SCS personnel walked the surface of the landfill on a grid by grid basis. After completing the grid; the technicians also checked any surface impoundments (wells or otherwise) for leaks. Technicians also checked any surface cracks, seeps, or other areas that show evidence of surface emissions (odors or distressed vegetation). Active and sloped areas excluded for safety were documented on field data sheets and maps.

All instantaneous surface monitoring was performed in accordance with the applicable requirements referenced in this report. Any detections of methane above 200 ppm_v (areas of concern) or 500 ppm_v (exceedances) for instantaneous were recorded, flagged, and marked on an SEM Map. Applicable corrective action and re-monitoring timelines are listed below:

- Corrective actions must be initiated within 5 days of the initial exceedance and re-monitoring shall be conducted within 10 days of the initial exceedance.
 - If the re-monitoring event shows the exceedance is corrected, the location shall be re-monitored within 1 month of the initial exceedance.
 - If the 1-month re-monitoring event shows the location is still corrected, all re-monitoring requirements have been completed.
- If either the first 10-day or 1-month re-monitoring events show a second exceedance, additional corrective actions shall be completed, and a second re-monitoring event shall be conducted within 10 days of the second exceedance.
- If the second 10-day re-monitoring event shows the second exceedance is corrected, the location shall be re-monitored within 1 month of the initial exceedance. If the 1-month re-monitoring event shows the area is still corrected, monitoring requirements have been completed.
- If any location shows three exceedances, an additional well shall be installed within 120 days of the initial exceedance.

The combined monitoring was conducted in accordance with the requirements of CCR Title 17 §95471(c)(2). Grids with integrated results greater than 25 ppm_v were recorded, marked on the SEM map, and flagged for remediation. Any grids with integrated concentrations greater than 25 ppm_v are subject to the following corrective action and re-monitoring timeline:

- Corrective actions must be initiated within 5 days of the initial exceedance and re-monitoring shall be conducted within 10 days of the initial exceedance.
- If the 10-day re-monitoring event shows the exceedance is corrected, all re-monitoring requirements have been completed.
- If the first 10-day re-monitoring event shows a second grid exceedance, additional corrective actions shall be completed, and a second re-monitoring event shall be conducted within 10 days of the second exceedance.

- If the second 10-day re-monitoring event shows the second exceedance is corrected, all re-monitoring requirements have been completed.
- The second 10-day re-monitoring event shows a third grid exceedance, an additional well shall be installed within 120 days of the initial exceedance.

Component Leak Monitoring Procedures

SCS monitored the exposed LFG components under positive pressure (pipes, well heads, valves, blowers, and other mechanical appurtenances). All component leaks measured within 0.5 inches exceeding the compliance limit of 500 ppm_v per requirements outlined in pursuant to §Section 95464(b)(1)(B) and 1,000 ppm per requirements outlined in BAAQMD 8-34-303 were recorded. Component leaks are subject to the following timelines:

- 500-999 ppm_v leaks are subject to a 10-day repair and re-monitoring deadline from §95469(b)(3).
- Leaks at or above 1000 ppm_v are subject a 7-day repair and re-monitoring deadline from BAAQMD 8-34-301.2.

THIRD QUARTER 2021 SEM AND COMPONENT LEAK RESULTS

Reduction of SEM Frequency

The TCRDF has completed four consecutive instantaneous and integrated monitoring events with no exceedances. Pursuant to §95469(2)(C), any closed or inactive areas of active MSW landfills with no integrated exceedances for four consecutive quarters may reduce the frequency of integrated and instantaneous SEM to an annual basis. In the event that an exceedance cannot be remediated within 10 calendar days or an exceedance is observed during a compliance inspection, the TCRDF will be required to revert to quarterly monitoring. The next SEM event is due by March 31, 2022.

Pursuant to 8-34-506, landfills that are closed as defined in 8-34-223 with no exceedances in three consecutive quarters may reduce the frequency of instantaneous SEM to an annual basis. Any exceedance detected during annual monitoring will require the site to revert to quarterly monitoring.

Component Leak Monitoring Results

Component leak monitoring was conducted per the applicable requirements on July 27, 2021. There were no leaks detected above 500 ppm_v. Results are summarized in Attachment A.

EQUIPMENT CALIBRATION

The portable analyzers were calibrated to meet the instrument specifications requirements of U.S. EPA Method 21. The calibration gas used was methane, diluted to a nominal concentration of 500 ppm_v in air to comply with the requirements.

All analyzers were calibrated prior to use with required response time and precision related instrument checks. Calibration records include the following: Response time test record; Response factor determination for methane; Calibration Precision test records; and Daily Instrument Calibration and Background test records for each gas meter that was used during the quarterly monitoring event. The calibration log records are included in Attachment B.

All monitoring was completed in accordance with the applicable regulatory requirements or approved alternatives. If you have any questions regarding this report, please do not hesitate to contact me at (510) 613-2852.

Thank you,
Waste Management

A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is centered within a light gray rectangular box.

Michael Chan
Environmental Protection Air Specialist

Attachment A –Component Leak Monitoring Event Records

- Component Leak Exceedances and Monitoring Logs

Attachment B –Calibration Records

- Instrument and Gas Calibration Records

Attachment A

Component Leak Monitoring Event Records

Table A.1
AB-32 Component Leak Monitoring
Summary of Component Leaks Greater than 500 ppmv

2021 QUARTER: 3

LANDFILL NAME: Tri-Cities Recycling and Disposal Facility

Location	Initial Monitoring			Corrective Action		10-Day Remonitoring		
	Date	TOC (ppmv)	Tech	Date	Description	Date	TOC (ppmv)	Tech
July 27, 2021: No Exceedances								

Table A.2
BAAQMD Component Leak Monitoring
Summary of Component Leaks Greater than 1,000 ppmv

2021 QUARTER: 3

LANDFILL NAME: Tri-Cities Recycling and Disposal Facility

Location	Initial Monitoring			Corrective Action		7-Day Remonitoring		
	Date	TOC (ppmv)	Tech	Date	Description	Date	TOC (ppmv)	Tech
July 27, 2021: No Exceedances								

Attachment B

Calibration Records

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 7-27-21
 Inspector(s): Liam McGinn

Site Name: Tri-cities
 Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NW Barometric Pressure: 30. "Hg
 Air Temperature: 63 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: 1
*Perform recalibration if average difference is greater than 10

Calibration Precision = Average Difference / Cal Gas Conc. X 100%
 = 100% - 1 / 500 x 100%
 = 99.8 %

Span Sensitivity:

Trial 1:	Trial 2:	Trial 3:
Counts Observed for the Span = <u>131484</u>	Counts Observed for the Span = <u>137336</u>	Counts Observed for the Span = <u>138408</u>
Counters Observed for the Zero = <u>3009</u>	Counters Observed for the Zero = <u>3083</u>	Counters Observed for the Zero = <u>2598</u>

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: entrance Reading: 1.2 ppm
 Downwind Location Description: Flare Reading: 1.7 ppm

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

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 7-27-21
Inspector(s): Liam McBin

POST

Site Name: Tricities
Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NW Barometric Pressure: 30 "Hg
Air Temperature: 68 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: 1
*Perform recalibration if average difference is greater than 10

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

$$= 100\% \cdot \frac{1}{500} \times 100\%$$

$$= 99.8\%$$

Span Sensitivity:

Trial 1:	Trial 3:
Counts Observed for the Span = <u>116568</u>	Counts Observed for the Span = <u>124332</u>
Counters Observed for the Zero = <u>2631</u>	Counters Observed for the Zero = <u>2619</u>
Trial 2:	
Counts Observed for the Span = <u>120848</u>	
Counters Observed for the Zero = <u>2659</u>	

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm
Downwind Location Description: Flare Reading: 1.7 ppm

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

exceeded 20 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.



22 Albiston Way
Auburn, ME 04210
800-292-6218
207-777-6218
Fax 207-777-6215
www.specair.com

Date: 11/13/2020

Certificate of Analysis

Customer:
QED ENVIRONMENTAL SYSTEM

Order #: 1858955
Purchase Order #: 138414

Cylinder Size: 105L **CGA Connection:** C10 **Fill Pressure:** 1000 PSI

Analysis: Air Batch Analysis

Lot #: 4031866

Component(s):	Requested Concentration(s):	Actual Concentration(s):
Oxygen	19.5% - 23.5%	21.0%
Moisture	< 3 PPM	0.2 PPM
THC	< 0.1 PPM	< 0.1 PPM
CO/CO2	< 1 PPM	< 0.1 PPM

Expiration Date: 11/2023

Comments: MEETS OR EXCEEDS SPECIFICATION FOR ULTRA ZERO AIR

Approved By:

Kyle Christianson



- Results are reported in mole percent, unless otherwise indicated. Mixes are prepared via partial pressure methods, or gravimetrically, using high load high sensitivity electronic scales. Prior to use, scales are verified for accuracy using applicable NIST traceable weights; analyses are calibrated against reference materials traceable to NIST weights and/or NIST gas reference materials.
- The information contained herein has been prepared at your request by qualified experts. While we believe that the information is accurate within the limits of the analytical methods employed, and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability arising out of the use of the information contained herein exceed the fee established for providing such information.
- This certifies that the instruments used for this analysis have been calibrated in compliance with the specifications in the order using SI/NIST traceable standards. When a statement of conformity is made, accept/reject decisions consider the measurement uncertainty and the specification tolerance. When the measurand and uncertainty are reported, measurement uncertainties are declared in the analytical results and the analytical results are not adjusted to consider measurement uncertainties.



22 Albiston Way
Auburn, ME 04210
800-292-6218
207-777-6218
Fax 207-777-6215
www.specair.com

Date: 02/12/2021

Certificate of Analysis

Customer:
QED ENVIRONMENTAL SYSTEMS

Order #: 1903560
Purchase Order #: 139463

Cylinder Size: 105L **CGA Connection:** C10 **Fill Pressure:** 1000 PSI

Analysis: Certified Batch Analysis

Lot #: 4104346

Component(s):	Requested Concentration(s):	Actual Concentration(s):
Methane	500 PPM	505 PPM
Air	BALANCE	BALANCE

Expiration Date: 02/2024

Comments: MIX MADE USING DIGITAL BALANCES CALIBRATED TO NIST TRACEABLE WEIGHTS / ACCURACY: +/- 2%
METHOD OF PREPARATION: GRAVIMETRIC / PRESSURE TRANSFILLING
ANALYTICAL PRINCIPLE: GC (TCD)

Approved By:

Kyle Christianson



- Results are reported in mole percent, unless otherwise indicated. Mixes are prepared via partial pressure methods, or gravimetrically, using high load high sensitivity electronic scales. Prior to use, scales are verified for accuracy using applicable NIST traceable weights; analyses are calibrated against reference materials traceable to NIST weights and/or NIST gas reference materials.
- The information contained herein has been prepared at your request by qualified experts. While we believe that the information is accurate within the limits of the analytical methods employed, and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability arising out of the use of the information contained herein exceed the fee established for providing such information.
- This certifies that the instruments used for this analysis have been calibrated in compliance with the specifications in the order using SI/NIST traceable standards. When a statement of conformity is made, accept/reject decisions consider the measurement uncertainty and the specification tolerance. When the measurand and uncertainty are reported, measurement uncertainties are declared in the analytical results and the analytical results are not adjusted to consider measurement uncertainties.

APPENDIX G

WELLFIELD MONITORING LOGS

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - May 11, 18, 25, and 26, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	5/11/2021 16:24	57.7	41.1	0.0	1.2	-48.98	88.6	-48.97	88.7
TRIC0001	5/26/2021 10:13	53.8	38.2	0.2	7.8	-48.95	76.5	-48.95	76.7
TRIC0116	5/11/2021 12:00	60.0	39.0	0.0	1.0	-36.72	89.3	-36.73	89.3
TRIC0118	5/11/2021 12:47	20.7	23.6	0.0	55.7	-0.35	95.8	-0.35	95.8
TRIC0123	5/11/2021 16:10	48.9	36.7	0.0	14.4	-17.88	119.0	-17.88	119.1
TRIC0126	5/11/2021 16:27	49.4	35.3	0.0	15.3	-6.87	111.3	-6.88	111.3
TRIC0128	5/11/2021 13:42	47.0	33.1	0.0	19.9	-9.25	113.4	-9.10	113.4
TRIC0129	5/11/2021 15:22	57.2	41.4	0.2	1.2	-35.24	94.9	-35.22	94.9
TRIC0200	5/11/2021 13:22	46.8	33.6	0.0	19.6	-7.02	112.3	-7.01	112.4
TRIC0201	5/11/2021 13:29	31.0	29.1	0.0	39.9	-0.89	105.3	-0.89	105.3
TRIC0202	5/11/2021 12:55	47.8	35.3	0.0	16.9	-10.13	117.5	-10.13	117.5
TRIC0204	5/11/2021 15:07	49.2	37.0	0.5	13.3	-9.61	127.9	-9.61	127.9
TRIC0205	5/18/2021 12:20	48.4	37.1	0.0	14.5	-15.42	124.4	-15.42	124.4
TRIC0205	5/18/2021 13:28	48.3	36.5	0.0	15.2	-15.56	124.4	-15.56	124.4
TRIC0205	5/25/2021 11:33	49.5	36.2	0.0	14.3	-15.70	124.2	-15.67	124.3
TRIC0206	5/18/2021 11:52	45.6	36.7	0.0	17.7	-4.25	123.6	-4.27	123.7
TRIC0206	5/18/2021 13:16	44.7	36.6	0.0	18.7	-3.98	123.4	-3.86	122.4
TRIC0206	5/25/2021 11:54	46.0	36.7	0.0	17.3	-3.03	120.4	-3.03	120.0
TRIC0206	5/26/2021 9:34	45.5	35.1	0.0	19.4	-5.06	123.2	-5.00	122.9
TRIC0207	5/11/2021 15:55	50.9	34.8	0.0	14.3	-19.90	120.5	-19.90	120.6
TRIC0208	5/11/2021 12:40	47.4	36.4	0.0	16.2	-24.35	123.4	-23.84	123.3
TRIC0209	5/11/2021 15:26	49.9	36.7	0.0	13.4	-45.39	118.1	-45.39	118.1
TRIC0210	5/11/2021 16:42	50.6	36.9	0.0	12.5	-1.20	118.9	-1.20	119.2
TRIC0211	5/11/2021 15:32	49.8	35.3	0.0	14.9	-20.34	119.2	-20.34	119.2
TRIC0212	5/11/2021 15:47	35.1	27.6	0.0	37.3	-0.80	98.3	-0.80	98.4
TRIC0213	5/11/2021 15:58	51.2	36.1	0.0	12.7	-2.96	115.0	-2.96	115.1
TRIC0214	5/11/2021 16:19	48.7	36.8	0.0	14.5	-1.21	116.2	-1.20	116.4
TRIC0215	5/11/2021 16:06	49.2	36.3	0.0	14.5	-46.81	125.2	-46.81	125.2
TRIC0218	5/11/2021 13:46	29.8	27.7	0.0	42.5	-1.73	100.2	-1.64	101.1
TRIC0219	5/11/2021 11:20	48.1	34.4	0.0	17.5	-0.80	110.8	-0.82	110.8
TRIC0220	5/11/2021 15:44	38.4	30.2	0.0	31.4	-1.28	90.5	-1.29	90.4
TRIC0222	5/11/2021 15:40	48.9	34.5	0.0	16.6	-7.75	115.8	-7.77	115.9
TRIC0223	5/11/2021 11:32	48.6	35.1	0.0	16.3	-3.28	119.9	-3.27	120.1
TRIC0224	5/11/2021 13:37	39.4	29.4	0.3	30.9	-1.14	90.4	-1.14	90.4
TRIC0225	5/11/2021 11:39	46.5	34.9	0.0	18.6	-5.48	117.8	-5.28	117.8
TRIC0226	5/11/2021 15:51	50.2	32.0	0.0	17.8	-1.07	117.4	-1.08	117.4
TRIC0227	5/11/2021 13:04	24.2	26.9	0.0	48.9	-0.54	91.4	-0.55	91.4
TRIC0228	5/11/2021 11:51	48.1	36.7	0.0	15.2	-1.07	114.4	-1.06	114.8
TRIC0229	5/11/2021 15:35	49.8	35.6	0.0	14.6	-3.54	115.8	-3.54	116.0
TRIC0230	5/11/2021 11:55	42.4	33.8	0.0	23.8	-1.38	126.4	-1.37	126.6
TRIC0203	5/18/2021 11:30	46.0	37.5	0.2	16.3	-1.16	114.4	-1.19	114.5
TRIC0203	5/18/2021 13:06	46.0	37.7	0.2	16.1	-1.53	115.6	-1.01	115.6
TRIC0203	5/25/2021 11:44	47.2	37.8	0.0	15.0	-1.36	111.3	-1.31	110.5
TRIC0216	5/11/2021 16:35	35.1	30.6	0.0	34.3	-1.83	101.1	-1.85	101.4
TRIC0217	5/11/2021 13:17	45.8	35.5	0.0	18.7	-4.01	120.7	-4.00	120.7
TRIC0221	5/11/2021 16:38	43.2	34.2	0.0	22.6	-0.91	113.5	-0.90	114.4

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - June 8 and 22, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	6/8/2021 13:26	47.8	38.6	0.9	12.7	-47.02	76.3	-47.07	76.4
TRIC0001	6/22/2021 13:39	56.1	41.7	0.1	2.1	-46.14	88.5	-46.20	88.6
TRIC0116	6/8/2021 14:23	56.7	38.2	0.8	4.3	-42.88	76.4	-42.88	76.4
TRIC0118	6/8/2021 15:16	21.2	26.2	0.0	52.6	-0.65	91.6	-0.66	91.7
TRIC0123	6/8/2021 13:34	45.8	35.9	0.0	18.3	-17.90	118.3	-17.33	118.3
TRIC0123	6/22/2021 14:47	46.0	36.7	0.0	17.3	-15.83	118.4	-16.26	118.5
TRIC0126	6/8/2021 13:43	45.3	35.5	0.0	19.2	-7.07	108.7	-7.07	109.0
TRIC0126	6/22/2021 14:03	45.8	35.8	0.0	18.4	-5.29	108.7	-5.40	108.9
TRIC0128	6/8/2021 14:48	47.0	34.4	0.0	18.6	-9.21	112.4	-9.20	112.5
TRIC0129	6/8/2021 15:32	41.8	33.2	4.9	20.1	-27.31	76.9	-27.81	76.9
TRIC0200	6/8/2021 14:34	46.2	34.9	0.0	18.9	-7.50	112.1	-7.49	112.1
TRIC0201	6/8/2021 14:39	28.8	28.4	0.0	42.8	-1.64	101.7	-1.64	101.9
TRIC0202	6/8/2021 15:06	46.5	35.7	0.1	17.7	-10.71	117.1	-10.70	117.0
TRIC0204	6/8/2021 14:05	46.1	37.9	0.2	15.8	-10.28	126.9	-10.17	126.9
TRIC0205	6/8/2021 13:07	46.0	36.7	0.0	17.3	-16.23	124.1	-15.52	124.2
TRIC0205	6/22/2021 14:24	47.6	36.8	0.0	15.6	-12.15	124.7	-12.69	124.7
TRIC0206	6/8/2021 13:39	43.5	36.7	0.0	19.8	-4.68	121.7	-4.68	121.9
TRIC0206	6/22/2021 14:16	48.0	37.6	0.0	14.4	-1.65	122.7	-1.70	122.8
TRIC0207	6/8/2021 12:59	49.0	35.2	0.0	15.8	-20.35	120.1	-20.35	120.2
TRIC0208	6/8/2021 15:02	46.4	37.2	0.0	16.4	-23.23	122.8	-23.23	122.7
TRIC0209	6/8/2021 15:35	49.4	37.1	0.0	13.5	-44.89	117.8	-44.89	117.8
TRIC0210	6/8/2021 15:42	47.5	37.1	0.0	15.4	-1.54	118.7	-1.54	118.8
TRIC0211	6/8/2021 12:04	48.9	35.8	0.0	15.3	-20.78	118.9	-20.80	119.0
TRIC0212	6/8/2021 12:44	32.2	29.1	0.0	38.7	-1.68	91.8	-1.71	91.8
TRIC0213	6/8/2021 13:03	44.8	35.5	0.0	19.7	-3.98	114.1	-3.92	114.0
TRIC0214	6/8/2021 13:22	42.4	35.6	0.0	22.0	-1.62	114.3	-1.60	114.4
TRIC0214	6/22/2021 14:29	50.3	38.7	0.0	11.0	-0.59	117.4	-0.71	118.0
TRIC0215	6/8/2021 13:11	46.5	36.6	0.0	16.9	-46.12	124.8	-46.17	124.8
TRIC0215	6/22/2021 14:20	47.4	36.9	0.0	15.7	-45.95	124.9	-45.95	124.9
TRIC0218	6/8/2021 14:53	25.2	27.4	0.0	47.4	-2.38	94.2	-2.37	95.1
TRIC0219	6/8/2021 15:51	48.3	34.4	0.0	17.3	-0.78	107.8	-0.78	108.1
TRIC0220	6/8/2021 12:36	36.2	30.9	0.3	32.6	-2.33	80.5	-2.33	80.5
TRIC0222	6/8/2021 12:18	46.5	34.8	0.0	18.7	-8.53	116.0	-8.31	116.0
TRIC0223	6/8/2021 15:47	46.1	35.0	0.4	18.5	-3.15	119.6	-3.16	119.6
TRIC0224	6/8/2021 14:43	40.2	30.6	0.0	29.2	-1.82	76.5	-1.81	76.5
TRIC0225	6/8/2021 13:49	46.5	35.5	0.0	18.0	-4.19	116.1	-4.20	116.1
TRIC0226	6/8/2021 12:53	49.8	36.8	0.0	13.4	-1.67	115.1	-1.68	115.2
TRIC0227	6/8/2021 14:59	21.6	27.1	0.0	51.3	-1.27	76.2	-1.27	76.6
TRIC0228	6/8/2021 15:26	45.7	36.2	0.0	18.1	-1.27	110.3	-1.26	111.3
TRIC0228	6/8/2021 15:39	44.0	33.4	0.0	22.6	-1.30	111.4	-1.30	111.6
TRIC0229	6/8/2021 12:31	47.3	35.9	0.0	16.8	-4.29	115.1	-4.11	115.0
TRIC0230	6/8/2021 15:21	38.9	32.5	0.0	28.6	-1.67	124.6	-1.67	124.6
TRICO203	6/8/2021 14:09	42.8	37.4	0.0	19.8	-1.72	112.4	-1.69	112.6
TRICO216	6/8/2021 13:56	30.1	29.3	0.0	40.6	-2.47	92.1	-2.46	92.7
TRICO217	6/8/2021 14:14	45.6	36.9	0.0	17.5	-4.57	119.9	-4.57	119.9
TRICO221	6/8/2021 13:59	39.3	33.8	0.0	26.9	-1.28	111.1	-1.28	111.1

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - July 6 and 15, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	7/6/2021 14:04	47.0	37.5	0.7	14.8	-46.95	81.6	-46.96	81.8
TRIC0001	7/15/2021 11:50	43.5	35.4	2.3	18.8	-47.82	83.4	-47.84	83.4
TRIC0116	7/6/2021 14:59	56.6	36.3	0.0	7.1	-43.12	83.5	-43.14	83.5
TRIC0118	7/6/2021 15:46	24.3	26.3	0.0	49.4	-0.37	93.8	-0.36	94.2
TRIC0123	7/6/2021 14:08	45.2	34.9	0.0	19.9	-18.75	118.5	-18.74	118.6
TRIC0126	7/6/2021 14:17	45.1	35.1	0.0	19.8	-6.90	110.6	-6.89	110.7
TRIC0128	7/6/2021 15:29	47.4	33.9	0.0	18.7	-8.32	112.8	-8.32	112.8
TRIC0129	7/6/2021 15:54	45.4	34.6	3.8	16.2	-29.89	83.3	-29.94	83.2
TRIC0200	7/6/2021 15:02	48.5	33.3	0.0	18.2	-6.83	112.1	-6.84	112.2
TRIC0201	7/6/2021 15:05	32.0	29.2	0.0	38.8	-0.73	101.7	-0.72	102.2
TRIC0202	7/6/2021 15:44	47.1	35.3	0.5	17.1	-9.66	117.3	-9.66	117.3
TRIC0204	7/6/2021 14:42	48.3	38.2	0.1	13.4	-7.18	127.1	-7.17	127.1
TRIC0205	7/6/2021 13:54	46.0	36.1	0.0	17.9	-15.73	124.2	-15.17	124.3
TRIC0205	7/15/2021 12:02	48.9	38.1	0.0	13.0	-13.70	124.2	-13.70	124.2
TRIC0206	7/6/2021 14:14	45.0	36.0	0.0	19.0	-3.82	122.1	-3.61	122.3
TRIC0206	7/15/2021 11:56	45.5	37.8	0.0	16.7	-3.79	122.1	-3.67	121.7
TRIC0207	7/6/2021 13:48	47.9	35.1	0.0	17.0	-21.07	120.2	-21.07	120.3
TRIC0208	7/6/2021 15:40	47.3	36.6	0.0	16.1	-21.65	122.9	-21.65	122.9
TRIC0209	7/6/2021 15:57	49.4	37.3	0.0	13.3	-44.64	118.0	-44.74	118.0
TRIC0210	7/6/2021 16:05	48.5	36.8	0.0	14.7	-1.18	118.4	-1.18	118.8
TRIC0211	7/6/2021 12:53	47.0	34.7	0.0	18.3	-20.35	119.0	-20.35	119.1
TRIC0212	7/6/2021 13:41	31.1	27.2	0.0	41.7	-1.29	97.2	-1.27	97.3
TRIC0213	7/6/2021 13:51	45.9	35.4	0.0	18.7	-2.98	111.1	-2.96	111.5
TRIC0214	7/6/2021 14:01	43.6	36.1	0.0	20.3	-1.65	115.6	-1.38	115.6
TRIC0215	7/6/2021 13:58	45.7	35.6	0.0	18.7	-46.39	124.8	-46.38	124.8
TRIC0218	7/6/2021 15:32	31.2	28.9	0.0	39.9	-1.29	100.3	-1.30	101.1
TRIC0219	7/6/2021 12:48	48.8	33.9	0.0	17.3	-0.98	109.9	-0.96	109.9
TRIC0220	7/6/2021 13:39	37.1	30.4	0.0	32.5	-1.64	86.7	-1.64	86.7
TRIC0222	7/6/2021 13:23	48.1	36.4	0.0	15.5	-7.00	115.9	-6.98	115.9
TRIC0223	7/6/2021 16:09	48.0	36.0	0.0	16.0	-2.45	120.4	-2.46	120.4
TRIC0224	7/6/2021 15:25	40.6	30.2	0.0	29.2	-0.92	86.4	-0.92	86.4
TRIC0225	7/6/2021 14:31	48.8	35.3	0.0	15.9	-3.74	115.6	-3.74	115.6
TRIC0226	7/6/2021 13:45	48.2	36.8	0.0	15.0	-1.54	117.1	-1.51	117.1
TRIC0227	7/6/2021 15:37	25.6	28.1	0.0	46.3	-0.41	89.6	-0.41	89.8
TRIC0228	7/6/2021 16:01	48.1	36.9	0.0	15.0	-0.61	114.9	-0.61	114.9
TRIC0229	7/6/2021 12:57	48.2	36.2	0.0	15.6	-4.08	115.0	-4.03	115.1
TRIC0230	7/6/2021 15:49	44.8	35.4	0.0	19.8	-0.83	125.3	-0.80	126.2
TRIC0203	7/6/2021 14:53	44.3	34.4	0.0	21.3	-0.71	115.9	-0.74	116.1
TRIC0216	7/6/2021 14:34	37.0	31.5	0.0	31.5	-1.67	96.3	-1.65	96.7
TRIC0217	7/6/2021 14:55	46.5	35.7	0.0	17.8	-3.87	120.2	-3.87	120.4
TRIC0221	7/6/2021 14:46	41.9	34.4	0.0	23.7	-0.70	112.2	-0.68	113.0

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - August 5, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	8/5/2021 11:21	44.5	35.6	1.6	18.3	-47.73	87.3	-48.14	87.3
TRIC0116	8/5/2021 12:21	57.6	38.7	0.4	3.3	-44.79	84.5	-44.79	84.4
TRIC0118	8/5/2021 13:09	24.6	28.2	0.0	47.2	-0.56	94.2	-0.56	94.4
TRIC0123	8/5/2021 11:32	45.3	36.9	0.0	17.8	-19.16	117.2	-19.12	117.2
TRIC0126	8/5/2021 11:56	45.3	35.5	0.0	19.2	-6.94	105.2	-6.93	107.6
TRIC0128	8/5/2021 12:38	48.6	34.8	0.0	16.6	-8.95	111.1	-8.95	111.4
TRIC0129	8/5/2021 12:50	48.0	37.7	2.4	11.9	-25.81	80.2	-25.32	80.1
TRIC0200	8/5/2021 12:25	49.0	35.9	0.0	15.1	-7.21	109.5	-7.21	110.8
TRIC0201	8/5/2021 12:30	33.9	29.6	0.0	36.5	-0.95	99.7	-0.94	100.0
TRIC0202	8/5/2021 13:12	48.0	36.6	0.0	15.4	-10.29	115.5	-10.29	115.6
TRIC0204	8/5/2021 12:10	48.8	38.6	0.0	12.6	-7.39	124.0	-7.38	124.3
TRIC0205	8/5/2021 11:05	48.0	37.1	0.0	14.9	-13.87	122.4	-13.85	122.8
TRIC0206	8/5/2021 11:38	46.7	37.7	0.0	15.6	-3.20	119.7	-3.23	119.5
TRIC0207	8/5/2021 10:58	49.9	36.6	0.0	13.5	-21.34	117.5	-21.34	118.2
TRIC0208	8/5/2021 13:01	47.7	38.7	0.0	13.6	-22.11	121.8	-22.12	121.9
TRIC0209	8/5/2021 12:54	49.1	37.8	0.0	13.1	-45.78	111.3	-45.78	111.6
TRIC0210	8/5/2021 13:16	47.0	37.0	0.0	16.0	-1.54	116.6	-1.52	118.0
TRIC0211	8/5/2021 10:31	50.1	36.1	0.0	13.8	-20.67	113.8	-20.67	114.1
TRIC0212	8/5/2021 10:47	32.6	29.7	0.0	37.7	-1.47	91.2	-1.47	91.3
TRIC0213	8/5/2021 11:00	49.0	36.8	0.0	14.2	-2.47	110.1	-2.46	110.6
TRIC0214	8/5/2021 11:14	44.3	37.1	0.0	18.6	-1.13	110.7	-1.14	110.5
TRIC0215	8/5/2021 11:09	46.7	37.5	0.0	15.8	-46.84	121.3	-46.82	122.4
TRIC0218	8/5/2021 12:41	30.0	28.9	0.0	41.1	-1.88	99.0	-1.85	99.7
TRIC0219	8/5/2021 10:27	52.4	34.9	0.0	12.7	-0.88	108.9	-0.98	109.7
TRIC0220	8/5/2021 10:43	39.4	32.6	0.0	28.0	-1.90	82.1	-1.91	82.1
TRIC0222	8/5/2021 10:39	50.8	35.8	0.0	13.4	-7.04	114.8	-7.05	115.0
TRIC0223	8/5/2021 13:20	47.0	36.2	0.0	16.8	-2.99	117.7	-2.99	117.9
TRIC0224	8/5/2021 12:34	42.8	31.0	0.0	26.2	-1.46	86.4	-1.46	86.4
TRIC0225	8/5/2021 12:07	48.4	36.8	0.0	14.8	-3.72	114.7	-3.73	114.8
TRIC0226	8/5/2021 10:52	49.2	37.5	0.0	13.3	-1.51	112.1	-1.51	112.2
TRIC0227	8/5/2021 12:45	25.2	28.5	0.0	46.3	-0.97	90.5	-0.96	90.6
TRIC0228	8/5/2021 12:58	46.7	37.1	0.0	16.2	-1.08	113.0	-1.03	113.3
TRIC0229	8/5/2021 10:35	50.0	36.6	0.0	13.4	-3.93	109.9	-3.95	109.9
TRIC0230	8/5/2021 13:05	41.3	35.9	0.0	22.8	-0.89	117.1	-0.88	119.5
TRIC0203	8/5/2021 12:13	48.7	38.3	0.0	13.0	-1.07	106.3	-1.04	107.3
TRIC0216	8/5/2021 12:00	38.7	33.4	0.0	27.9	-1.60	101.1	-1.60	101.3
TRIC0217	8/5/2021 12:16	48.3	37.1	0.0	14.6	-3.70	117.4	-3.71	117.7
TRIC0221	8/5/2021 12:03	45.0	35.2	0.0	19.8	-0.78	107.3	-0.78	108.0

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - September 7, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	9/7/2021 13:43	51.7	39.6	0.0	8.7	-47.92	94.0	-47.94	94.0
TRIC0116	9/7/2021 12:41	58.1	38.9	0.3	2.7	-46.23	90.2	-46.27	90.2
TRIC0118	9/7/2021 11:11	27.9	28.7	0.0	43.4	-0.61	95.6	-0.64	95.7
TRIC0123	9/7/2021 13:48	46.7	34.3	0.0	19.0	-18.52	116.1	-18.49	116.1
TRIC0126	9/7/2021 13:34	46.3	35.0	0.0	18.7	-6.27	110.1	-6.18	110.3
TRIC0128	9/7/2021 11:20	49.8	34.6	0.0	15.6	-9.28	111.5	-9.26	111.5
TRIC0129	9/7/2021 10:51	51.8	37.7	1.9	8.6	-30.64	84.8	-30.65	84.8
TRIC0200	9/7/2021 11:40	51.8	35.5	0.0	12.7	-7.42	111.1	-7.41	111.1
TRIC0201	9/7/2021 12:34	35.6	29.2	0.0	35.2	-1.06	100.4	-1.05	100.5
TRIC0202	9/7/2021 11:15	49.4	36.2	0.2	14.2	-10.65	114.6	-10.63	114.6
TRIC0204	9/7/2021 13:08	49.8	37.9	0.0	12.3	-7.51	125.7	-7.49	125.8
TRIC0205	9/7/2021 13:55	48.6	35.2	0.0	16.2	-13.59	123.2	-13.59	123.3
TRIC0206	9/7/2021 13:29	49.2	35.8	0.0	15.0	-2.69	118.1	-2.66	118.3
TRIC0207	9/7/2021 14:14	50.0	34.9	0.0	15.1	-21.61	119.4	-21.56	119.4
TRIC0208	9/7/2021 11:03	49.9	37.2	0.0	12.9	-22.45	121.7	-22.39	121.7
TRIC0209	9/7/2021 10:42	50.7	37.0	0.0	12.3	-46.03	106.0	-45.98	106.2
TRIC0210	9/7/2021 10:32	49.5	35.8	0.0	14.7	-1.53	114.9	-1.53	115.3
TRIC0211	9/7/2021 14:37	49.1	35.5	0.0	15.4	-20.56	115.9	-20.54	115.9
TRIC0212	9/7/2021 14:21	33.1	28.1	0.0	38.8	-0.96	96.0	-0.95	96.0
TRIC0213	9/7/2021 14:10	50.3	35.7	0.0	14.0	-2.33	102.3	-2.27	102.3
TRIC0214	9/7/2021 14:04	46.5	36.5	0.0	17.0	-1.20	94.5	-1.18	94.6
TRIC0215	9/7/2021 13:51	48.0	34.9	0.0	17.1	-46.87	123.5	-46.86	123.6
TRIC0218	9/7/2021 11:24	32.0	28.7	0.0	39.3	-2.17	99.0	-2.16	99.1
TRIC0219	9/7/2021 10:19	54.2	35.0	0.0	10.8	-1.22	108.6	-1.24	108.6
TRIC0220	9/7/2021 14:26	38.4	30.5	0.0	31.1	-1.44	94.4	-1.43	94.5
TRIC0222	9/7/2021 14:29	49.4	34.7	0.0	15.9	-6.74	115.0	-6.73	115.0
TRIC0223	9/7/2021 10:25	48.6	34.9	0.1	16.4	-3.38	115.1	-3.36	115.1
TRIC0224	9/7/2021 11:36	45.2	31.3	0.0	23.5	-1.53	87.8	-1.53	87.8
TRIC0225	9/7/2021 13:19	50.9	36.1	0.0	13.0	-4.04	114.5	-3.65	114.6
TRIC0226	9/7/2021 14:18	49.6	37.3	0.0	13.1	-1.37	100.7	-1.32	100.7
TRIC0227	9/7/2021 11:29	27.2	29.3	0.0	43.5	-1.14	83.2	-1.13	83.2
TRIC0228	9/7/2021 10:37	50.6	36.2	0.0	13.2	-1.02	109.1	-1.02	109.1
TRIC0229	9/7/2021 14:34	50.1	34.5	0.1	15.3	-3.33	112.2	-3.37	112.3
TRIC0230	9/7/2021 11:06	42.5	35.2	0.0	22.3	-0.95	98.0	-0.94	98.0
TRIC0203	9/7/2021 13:05	50.5	38.9	0.0	10.6	-1.45	99.8	-0.96	99.9
TRIC0216	9/7/2021 13:14	42.1	32.9	0.0	25.0	-1.44	102.9	-1.43	103.0
TRIC0217	9/7/2021 13:01	49.9	35.5	0.0	14.6	-3.66	118.7	-3.66	118.8
TRIC0221	9/7/2021 13:24	47.4	34.9	0.0	17.7	-0.56	111.5	-0.56	111.5

Tri-Cities Recycling & Disposal Facility

Wellfield Monitoring Report - October 5, 12, and 21, 2021

Device Name	Date Time	CH4 (Methane) (%)	CO2 (Carbon Dioxide) (%)	O2 (Oxygen) (%)	Balance Gas (%)	Initial Static Pressure ("H2O)	Initial Temperature (°F)	Adjusted Static Pressure ("H2O)	Adjusted Temperature (°F)
TRIC0001	10/5/2021 11:48	50.6	37.6	0.6	11.2	-48.04	78.1	-48.08	78.9
TRIC0116	10/12/2021 14:04	55.3	35.4	2.0	7.3	-41.12	75.7	-41.11	75.8
TRIC0118	10/21/2021 14:36	26.8	28.4	0.0	44.8	-0.62	93.5	-0.62	93.5
TRIC0123	10/12/2021 14:51	48.1	35.8	0.0	16.1	-17.45	116.6	-17.45	116.6
TRIC0126	10/12/2021 14:41	49.2	35.8	0.0	15.0	-5.66	102.5	-5.64	102.6
TRIC0128	10/12/2021 13:42	53.1	35.2	0.0	11.7	-9.13	111.5	-9.34	111.7
TRIC0128	10/21/2021 14:45	49.7	33.5	0.0	16.8	-9.39	112.1	-9.43	112.1
TRIC0129	10/5/2021 10:55	52.4	36.6	1.9	9.1	-25.79	76.8	-38.48	76.9
TRIC0129	10/21/2021 14:32	49.3	35.5	2.8	12.4	-44.76	73.4	-44.75	73.5
TRIC0200	10/5/2021 11:35	51.9	34.6	0.0	13.5	-7.37	111.8	-7.60	112.2
TRIC0200	10/21/2021 14:50	50.9	34.7	0.0	14.4	-7.88	111.6	-7.88	111.6
TRIC0201	10/12/2021 14:01	38.4	30.9	0.0	30.7	-1.16	96.2	-1.16	96.3
TRIC0202	10/12/2021 13:36	53.7	37.1	0.0	9.2	-10.51	115.5	-10.59	115.3
TRIC0202	10/21/2021 14:40	47.8	34.1	0.8	17.3	-10.49	115.7	-10.53	115.8
TRIC0204	10/12/2021 14:33	51.8	37.8	0.0	10.4	-7.52	125.1	-7.52	125.3
TRIC0205	10/12/2021 15:00	50.1	36.9	0.0	13.0	-13.33	122.9	-13.33	123.0
TRIC0206	10/12/2021 14:37	51.2	37.5	0.0	11.3	-2.81	114.2	-2.79	114.3
TRIC0207	10/12/2021 15:09	50.2	35.0	0.0	14.8	-20.75	119.2	-20.73	119.2
TRIC0208	10/5/2021 11:00	50.9	37.1	0.0	12.0	-22.41	122.5	-22.38	122.6
TRIC0209	10/5/2021 10:36	50.7	36.3	0.0	13.0	-45.99	111.7	-45.99	111.7
TRIC0210	10/5/2021 10:28	49.8	36.6	0.0	13.6	-1.46	118.6	-1.46	118.7
TRIC0211	10/12/2021 15:34	48.9	34.1	0.0	17.0	-20.13	115.3	-20.13	115.2
TRIC0212	10/12/2021 15:17	33.7	28.7	0.0	37.6	-1.12	88.5	-1.12	88.7
TRIC0213	10/12/2021 15:05	51.4	36.4	0.0	12.2	-2.18	108.3	-2.18	108.4
TRIC0214	10/12/2021 14:46	47.2	37.0	0.0	15.8	-1.14	109.5	-1.17	109.5
TRIC0215	10/12/2021 14:55	49.5	36.3	0.0	14.2	-45.10	123.6	-45.11	123.6
TRIC0218	10/12/2021 13:45	31.0	29.0	0.0	40.0	-2.29	97.3	-2.25	97.5
TRIC0219	10/5/2021 10:19	52.3	34.6	0.0	13.1	-1.29	110.3	-1.38	110.6
TRIC0219	10/21/2021 14:22	50.3	34.7	0.2	14.8	-1.75	109.9	-1.73	109.9
TRIC0220	10/12/2021 15:22	39.5	31.5	0.0	29.0	-1.78	74.5	-1.73	74.7
TRIC0222	10/12/2021 15:26	50.8	35.1	0.0	14.1	-6.62	114.8	-6.62	114.8
TRIC0223	10/5/2021 10:25	47.2	33.6	0.0	19.2	-3.09	118.9	-3.07	119.0
TRIC0224	10/12/2021 13:53	46.4	30.0	0.0	23.6	-1.59	69.4	-1.59	69.5
TRIC0225	10/12/2021 14:25	53.2	36.6	0.0	10.2	-3.58	114.5	-3.74	114.7
TRIC0225	10/21/2021 15:06	51.0	35.3	0.0	13.7	-3.85	114.7	-3.85	114.7
TRIC0226	10/12/2021 15:14	50.8	38.0	0.0	11.2	-1.47	112.3	-1.45	112.3
TRIC0227	10/12/2021 13:49	28.4	29.4	0.0	42.2	-0.99	80.9	-0.97	81.1
TRIC0228	10/5/2021 10:34	49.7	35.4	0.0	14.9	-1.13	110.6	-1.10	110.8
TRIC0229	10/12/2021 15:31	51.7	36.7	0.0	11.6	-3.62	110.3	-3.61	110.3
TRIC0230	10/5/2021 11:07	41.4	33.9	0.0	24.7	-1.14	114.2	-1.12	114.2
TRIC0203	10/12/2021 14:15	53.3	39.2	0.0	7.5	-1.22	106.2	-1.10	107.4
TRIC0203	10/21/2021 15:00	49.4	36.8	0.0	13.8	-1.28	112.1	-1.27	112.3
TRIC0216	10/12/2021 14:29	42.8	33.7	0.0	23.5	-1.48	92.8	-1.49	93.3
TRIC0217	10/12/2021 14:09	53.1	37.6	0.0	9.3	-3.73	119.1	-3.71	119.1
TRIC0217	10/21/2021 14:54	50.0	36.2	0.0	13.8	-3.89	119.1	-3.89	119.1
TRIC0221	10/12/2021 14:20	48.3	34.5	0.0	17.2	-0.69	104.7	-0.68	105.0

APPENDIX H

WELLFIELD DEVIATION LOGS

TRI-CITIES RECYCLING & DISPOSAL FACILITY

Wellfield Deviation Report

May 1, 2021 - October 31, 2021

REPORT PREPARED BY: Mike Chan
 UPDATED DATE: 11/24/2021
 FLOW SENSING DEVICE: GEM
 MODEL: 2000
 DATE LAST CALIBRATED: DAILY

Well ID	Time	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Balance Gas (%)	Initial Static Pressure (" w.c.)	Initial Temperature (°F)	Adjusted Static Pressure (" w.c.)	Adjusted Temperature (°F)	Comments	Duration of Exceedance (Days)
No well exceedances in May 2021											
No well exceedances in June 2021											
No well exceedances in July 2021											
No well exceedances in August 2021											
No well exceedances in September 2021											
No well exceedances in October 2021											

1) Any adjustments to the wells were made after the first reading was taken. The well was then adjusted accordingly (e.g. valve was slightly opened, slightly closed, fully closed, or fully opened).

2) Abbreviations - CAI: Corrective Action Initiated, NSPS/EG: New Source Performance Standards/Emissions Guidelines

CH₄ - Methane CO₂ - Carbon Dioxide O₂ - Oxygen % - Percent " w.c. - Inches Water Column °F - Degrees Fahrenheit ppmv - parts per million by volume

APPENDIX I

MONTHLY LANDFILL GAS FLOW RATES

2021 Monthly LFG Input to Flare (A-3)

TRI-CITES RECYCLING AND DISPOSAL FACILITY, Fremont, CA

A-3 (Flare)

Month	Total Available Runtime (Hours)	Total Downtime (Hours)	Total Runtime (Hours)	Average Flow (scfm)	CH ₄ (%) ⁽¹⁾	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Total Heat Input (MMBTU)
January-21	744.00	9.67	734.33	1,018	47.77	44,844,945	21,420,950	21,699
February-21	672.00	11.00	661.00	941	47.77	37,313,215	17,823,291	18,055
March-21	743.00	0.00	743.00	961	47.11	42,819,990	20,171,155	20,433
April-21	720.00	0.67	719.33	942	46.83	40,674,855	19,049,377	19,297
May-21	744.00	0.67	743.33	940	46.83	41,931,890	19,638,088	19,893
June-21	720.00	27.33	692.67	928	46.83	38,576,580	18,066,685	18,302
July-21	744.00	0.00	744.00	932	46.83	41,586,215	19,476,197	19,729
August-21	744.00	1.58	742.42	928	46.83	41,317,925	19,350,548	19,602
September-21	720.00	0.00	720.00	924	46.83	39,920,755	18,696,207	18,939
October-21	744.00	0.00	744.00	927	46.83	41,367,742	19,373,879	19,626
November-21								
December-21								
TOTAL/AVERAGE:	7,295.00	50.92	7,244.08	944	47.05	410,354,112	193,066,377	195,576

NOTE: The annual heat input rate for the A-3 Flare shall not exceed 657,000 MMBtu (Title V Condition No. 8366, Part No. 11).

(1) The methane content was determined from the February 11, 2020 (3/16/20-3/9/21) and February 4, 2021 (3/10/21 - current) source tests.

scfm - standard cubic feet per minute % - percent scf - standard cubic feet MMBTU - million British thermal units

May 1, 2021 - October 31, 2021 Monthly LFG Input to Flare (A-3)

TRI-CITES RECYCLING AND DISPOSAL FACILITY, Fremont, CA

A-3 (Flare)

Month	Total Available Runtime (Hours)	Total Downtime (Hours)	Total Runtime (Hours)	Average Flow (scfm)	CH ₄ (%) ⁽¹⁾	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Total Heat Input (MMBTU)
May-21	744.00	0.67	743.33	940	46.83	41,931,890	19,638,088	19,893
June-21	720.00	27.33	692.67	928	46.83	38,576,580	18,066,685	18,302
July-21	744.00	0.00	744.00	932	46.83	41,586,215	19,476,197	19,729
August-21	744.00	1.58	742.42	928	46.83	41,317,925	19,350,548	19,602
September-21	720.00	0.00	720.00	924	46.83	39,920,755	18,696,207	18,939
October-21	744.00	0.00	744.00	927	46.83	41,367,742	19,373,879	19,626
TOTAL/AVERAGE:	4,416.00	29.58	4,386.42	930	46.83	244,701,107	114,601,604	116,091

NOTE: The annual heat input rate for the A-3 Flare shall not exceed 657,000 MMBtu (Title V Condition No. 8366, Part No. 11).

(1) The methane content was determined from the February 11, 2020 (3/16/20-3/9/21) and February 4, 2021 (3/10/21 - current) source tests.

scfm - standard cubic feet per minute % - percent scf - standard cubic feet MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: May-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
5/1/2021	24.00	46.8	984	1,416,640	663,459	1,013	672
5/2/2021	24.00	46.8	992	1,429,015	669,255	1,013	678
5/3/2021	24.00	46.8	973	1,400,405	655,856	1,013	664
5/4/2021	24.00	46.8	927	1,334,825	625,143	1,013	633
5/5/2021	23.33	46.8	935	1,309,045	613,069	1,013	621
5/6/2021	24.00	46.8	938	1,351,115	632,772	1,013	641
5/7/2021	24.00	46.8	948	1,364,530	639,054	1,013	647
5/8/2021	24.00	46.8	953	1,372,680	642,871	1,013	651
5/9/2021	24.00	46.8	953	1,372,015	642,560	1,013	651
5/10/2021	24.00	46.8	951	1,370,120	641,672	1,013	650
5/11/2021	24.00	46.8	942	1,357,145	635,596	1,013	644
5/12/2021	24.00	46.8	928	1,336,085	625,733	1,013	634
5/13/2021	24.00	46.8	930	1,339,625	627,391	1,013	636
5/14/2021	24.00	46.8	932	1,341,760	628,390	1,013	637
5/15/2021	24.00	46.8	935	1,346,070	630,409	1,013	639
5/16/2021	24.00	46.8	925	1,331,790	623,721	1,013	632
5/17/2021	24.00	46.8	925	1,331,395	623,536	1,013	632
5/18/2021	24.00	46.8	931	1,340,340	627,725	1,013	636
5/19/2021	24.00	46.8	929	1,337,465	626,379	1,013	635
5/20/2021	24.00	46.8	929	1,337,835	626,552	1,013	635
5/21/2021	24.00	46.8	934	1,344,475	629,662	1,013	638
5/22/2021	24.00	46.8	928	1,336,525	625,939	1,013	634
5/23/2021	24.00	46.8	929	1,338,240	626,742	1,013	635
5/24/2021	24.00	46.8	934	1,344,990	629,903	1,013	638
5/25/2021	24.00	46.8	937	1,348,665	631,624	1,013	640
5/26/2021	24.00	46.8	935	1,346,015	630,383	1,013	639
5/27/2021	24.00	46.8	939	1,352,805	633,563	1,013	642
5/28/2021	24.00	46.8	937	1,349,900	632,203	1,013	640
5/29/2021	24.00	46.8	936	1,348,520	631,556	1,013	640
5/30/2021	24.00	46.8	941	1,354,930	634,558	1,013	643
5/31/2021	24.00	46.8	935	1,346,925	630,809	1,013	639
Total/Average	743.33	46.8	940	41,931,890	19,638,088	1,013	19,893
						Maximum:	678
						Average:	642

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units

MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: Jun-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
6/1/2021	24.00	46.8	934	1,344,965	629,891	1,013	638
6/2/2021	24.00	46.8	935	1,345,825	630,294	1,013	638
6/3/2021	24.00	46.8	939	1,351,600	632,999	1,013	641
6/4/2021	24.00	46.8	929	1,338,065	626,660	1,013	635
6/5/2021	24.00	46.8	940	1,353,605	633,938	1,013	642
6/6/2021	24.00	46.8	936	1,348,345	631,474	1,013	640
6/7/2021	24.00	46.8	931	1,341,210	628,133	1,013	636
6/8/2021	24.00	46.8	918	1,321,400	618,855	1,013	627
6/9/2021	24.00	46.8	907	1,306,385	611,823	1,013	620
6/10/2021	24.00	46.8	914	1,315,645	616,160	1,013	624
6/11/2021	24.00	46.8	923	1,329,525	622,660	1,013	631
6/12/2021	24.00	46.8	922	1,327,650	621,782	1,013	630
6/13/2021	24.00	46.8	911	1,312,125	614,511	1,013	623
6/14/2021	24.00	46.8	908	1,308,095	612,624	1,013	621
6/15/2021	24.00	46.8	913	1,314,930	615,825	1,013	624
6/16/2021	24.00	46.8	924	1,331,175	623,433	1,013	632
6/17/2021	24.00	46.8	927	1,335,405	625,414	1,013	634
6/18/2021	24.00	46.8	919	1,323,555	619,864	1,013	628
6/19/2021	18.92	46.8	915	1,039,090	486,640	1,013	493
6/20/2021	12.75	46.8	947	724,410	339,265	1,013	344
6/21/2021	21.33	46.8	873	1,116,845	523,055	1,013	530
6/22/2021	15.67	46.8	961	903,610	423,190	1,013	429
6/23/2021	24.00	46.8	940	1,353,340	633,814	1,013	642
6/24/2021	24.00	46.8	937	1,349,905	632,205	1,013	640
6/25/2021	24.00	46.8	945	1,360,905	637,357	1,013	646
6/26/2021	24.00	46.8	949	1,365,840	639,668	1,013	648
6/27/2021	24.00	46.8	945	1,360,605	637,216	1,013	646
6/28/2021	24.00	46.8	942	1,355,785	634,959	1,013	643
6/29/2021	24.00	46.8	941	1,355,500	634,825	1,013	643
6/30/2021	24.00	46.8	931	1,341,240	628,147	1,013	636
Total/Average	692.67	46.8	928	38,576,580	18,066,685	1,013	18,302
						Maximum:	648
						Average:	610

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units

MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: Jul-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
7/1/2021	24.00	46.8	937	1,348,765	631,671	1,013	640
7/2/2021	24.00	46.8	940	1,353,995	634,121	1,013	642
7/3/2021	24.00	46.8	941	1,355,020	634,601	1,013	643
7/4/2021	24.00	46.8	941	1,354,650	634,427	1,013	643
7/5/2021	24.00	46.8	940	1,353,885	634,069	1,013	642
7/6/2021	24.00	46.8	938	1,350,110	632,301	1,013	641
7/7/2021	24.00	46.8	933	1,343,420	629,168	1,013	637
7/8/2021	24.00	46.8	937	1,349,080	631,819	1,013	640
7/9/2021	24.00	46.8	925	1,331,820	623,735	1,013	632
7/10/2021	24.00	46.8	930	1,339,435	627,302	1,013	635
7/11/2021	24.00	46.8	926	1,332,995	624,286	1,013	632
7/12/2021	24.00	46.8	927	1,335,195	625,316	1,013	633
7/13/2021	24.00	46.8	928	1,335,895	625,644	1,013	634
7/14/2021	24.00	46.8	929	1,337,435	626,365	1,013	635
7/15/2021	24.00	46.8	923	1,328,675	622,262	1,013	630
7/16/2021	24.00	46.8	934	1,344,745	629,788	1,013	638
7/17/2021	24.00	46.8	929	1,337,615	626,449	1,013	635
7/18/2021	24.00	46.8	929	1,337,695	626,487	1,013	635
7/19/2021	24.00	46.8	927	1,334,250	624,873	1,013	633
7/20/2021	24.00	46.8	933	1,343,050	628,995	1,013	637
7/21/2021	24.00	46.8	936	1,347,740	631,191	1,013	639
7/22/2021	24.00	46.8	927	1,335,160	625,299	1,013	633
7/23/2021	24.00	46.8	930	1,339,830	627,487	1,013	636
7/24/2021	24.00	46.8	933	1,344,020	629,449	1,013	638
7/25/2021	24.00	46.8	934	1,345,165	629,985	1,013	638
7/26/2021	24.00	46.8	930	1,339,460	627,313	1,013	635
7/27/2021	24.00	46.8	926	1,334,150	624,826	1,013	633
7/28/2021	24.00	46.8	929	1,337,880	626,573	1,013	635
7/29/2021	24.00	46.8	934	1,344,695	629,765	1,013	638
7/30/2021	24.00	46.8	928	1,336,840	626,086	1,013	634
7/31/2021	24.00	46.8	926	1,333,545	624,543	1,013	633
Total/Average	744.00	46.8	932	41,586,215	19,476,197	1,013	19,729
						Maximum:	643
						Average:	636

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units
MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: Aug-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
8/1/2021	24.00	46.8	928	1,335,765	625,583	1,013	634
8/2/2021	24.00	46.8	933	1,344,170	629,519	1,013	638
8/3/2021	24.00	46.8	936	1,347,810	631,224	1,013	639
8/4/2021	24.00	46.8	931	1,340,305	627,709	1,013	636
8/5/2021	24.00	46.8	928	1,336,660	626,002	1,013	634
8/6/2021	24.00	46.8	934	1,345,055	629,934	1,013	638
8/7/2021	24.00	46.8	930	1,339,580	627,370	1,013	636
8/8/2021	24.00	46.8	927	1,335,090	625,267	1,013	633
8/9/2021	24.00	46.8	927	1,334,420	624,953	1,013	633
8/10/2021	24.00	46.8	926	1,332,845	624,215	1,013	632
8/11/2021	24.00	46.8	927	1,334,960	625,206	1,013	633
8/12/2021	24.00	46.8	926	1,333,565	624,552	1,013	633
8/13/2021	24.00	46.8	921	1,326,365	621,180	1,013	629
8/14/2021	24.00	46.8	930	1,338,660	626,939	1,013	635
8/15/2021	24.00	46.8	934	1,344,690	629,763	1,013	638
8/16/2021	22.42	46.8	938	1,261,055	590,594	1,013	598
8/17/2021	24.00	46.8	928	1,336,440	625,899	1,013	634
8/18/2021	24.00	46.8	921	1,325,720	620,878	1,013	629
8/19/2021	24.00	46.8	926	1,332,800	624,194	1,013	632
8/20/2021	24.00	46.8	931	1,340,465	627,784	1,013	636
8/21/2021	24.00	46.8	924	1,330,660	623,192	1,013	631
8/22/2021	24.00	46.8	922	1,328,165	622,023	1,013	630
8/23/2021	24.00	46.8	921	1,326,200	621,103	1,013	629
8/24/2021	24.00	46.8	921	1,325,800	620,916	1,013	629
8/25/2021	24.00	46.8	923	1,329,630	622,710	1,013	631
8/26/2021	24.00	46.8	934	1,344,460	629,655	1,013	638
8/27/2021	24.00	46.8	936	1,347,595	631,123	1,013	639
8/28/2021	24.00	46.8	923	1,328,485	622,173	1,013	630
8/29/2021	24.00	46.8	920	1,324,985	620,534	1,013	629
8/30/2021	24.00	46.8	928	1,336,580	625,965	1,013	634
8/31/2021	24.00	46.8	923	1,328,945	622,389	1,013	630
Total/Average	742.42	46.8	928	41,317,925	19,350,548	1,013	19,602
						Maximum:	639
						Average:	632

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units

MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: Sep-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
9/1/2021	24.00	46.8	914	1,315,926	616,292	1,013	624
9/2/2021	24.00	46.8	915	1,317,342	616,955	1,013	625
9/3/2021	24.00	46.8	923	1,329,591	622,691	1,013	631
9/4/2021	24.00	46.8	927	1,335,570	625,492	1,013	634
9/5/2021	24.00	46.8	929	1,338,237	626,741	1,013	635
9/6/2021	24.00	46.8	928	1,336,637	625,991	1,013	634
9/7/2021	24.00	46.8	924	1,330,391	623,066	1,013	631
9/8/2021	24.00	46.8	927	1,334,511	624,996	1,013	633
9/9/2021	24.00	46.8	923	1,329,576	622,684	1,013	631
9/10/2021	24.00	46.8	916	1,319,701	618,060	1,013	626
9/11/2021	24.00	46.8	927	1,334,731	625,099	1,013	633
9/12/2021	24.00	46.8	933	1,343,092	629,014	1,013	637
9/13/2021	24.00	46.8	931	1,340,147	627,635	1,013	636
9/14/2021	24.00	46.8	926	1,333,703	624,617	1,013	633
9/15/2021	24.00	46.8	925	1,331,309	623,496	1,013	632
9/16/2021	24.00	46.8	924	1,330,136	622,947	1,013	631
9/17/2021	24.00	46.8	916	1,318,398	617,449	1,013	625
9/18/2021	24.00	46.8	919	1,323,359	619,773	1,013	628
9/19/2021	24.00	46.8	924	1,331,034	623,367	1,013	631
9/20/2021	24.00	46.8	933	1,343,663	629,282	1,013	637
9/21/2021	24.00	46.8	921	1,326,294	621,147	1,013	629
9/22/2021	24.00	46.8	924	1,330,115	622,937	1,013	631
9/23/2021	24.00	46.8	935	1,346,456	630,590	1,013	639
9/24/2021	24.00	46.8	921	1,326,832	621,399	1,013	629
9/25/2021	24.00	46.8	920	1,324,226	620,179	1,013	628
9/26/2021	24.00	46.8	919	1,323,971	620,059	1,013	628
9/27/2021	24.00	46.8	923	1,329,500	622,649	1,013	631
9/28/2021	24.00	46.8	924	1,330,349	623,046	1,013	631
9/29/2021	24.00	46.8	924	1,330,587	623,158	1,013	631
9/30/2021	24.00	46.8	927	1,335,371	625,398	1,013	634
Total/Average	720.00	46.8	924	39,920,755	18,696,207	1,013	18,939
						Maximum:	639
						Average:	631

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units

MMBTU - million British thermal units

**Tri-Cities Recycling & Disposal Facility
Fremont, CA**

Heat Input Rate

MONTH: Oct-21

Date	Runtime (Hours)	CH ₄ * (%)	Average Flow (scfm)	Total LFG Volume (scf)	Total CH ₄ Volume (scf)	Heating Value of CH ₄ (BTU/scf)	Heat Input (MMBTU)/Day
10/1/2021	24.00	46.8	922	1,327,912	621,905	1,013	630
10/2/2021	24.00	46.8	920	1,324,143	620,140	1,013	628
10/3/2021	24.00	46.8	923	1,328,600	622,227	1,013	630
10/4/2021	24.00	46.8	920	1,325,171	620,621	1,013	629
10/5/2021	24.00	46.8	918	1,321,751	619,019	1,013	627
10/6/2021	24.00	46.8	924	1,331,122	623,409	1,013	632
10/7/2021	24.00	46.8	924	1,330,492	623,113	1,013	631
10/8/2021	24.00	46.8	919	1,323,712	619,938	1,013	628
10/9/2021	24.00	46.8	927	1,334,639	625,056	1,013	633
10/10/2021	24.00	46.8	934	1,344,872	629,848	1,013	638
10/11/2021	24.00	46.8	924	1,330,180	622,967	1,013	631
10/12/2021	24.00	46.8	925	1,332,289	623,955	1,013	632
10/13/2021	24.00	46.8	933	1,343,622	629,262	1,013	637
10/14/2021	24.00	46.8	934	1,344,280	629,571	1,013	638
10/15/2021	24.00	46.8	938	1,350,415	632,444	1,013	641
10/16/2021	24.00	46.8	942	1,356,401	635,247	1,013	644
10/17/2021	24.00	46.8	928	1,335,994	625,690	1,013	634
10/18/2021	24.00	46.8	925	1,332,059	623,847	1,013	632
10/19/2021	24.00	46.8	932	1,342,616	628,791	1,013	637
10/20/2021	24.00	46.8	930	1,338,481	626,855	1,013	635
10/21/2021	24.00	46.8	936	1,347,145	630,913	1,013	639
10/22/2021	24.00	46.8	933	1,343,486	629,199	1,013	637
10/23/2021	24.00	46.8	936	1,348,548	631,569	1,013	640
10/24/2021	24.00	46.8	931	1,340,465	627,784	1,013	636
10/25/2021	24.00	46.8	912	1,313,063	614,951	1,013	623
10/26/2021	24.00	46.8	910	1,311,059	614,012	1,013	622
10/27/2021	24.00	46.8	926	1,334,084	624,795	1,013	633
10/28/2021	24.00	46.8	934	1,344,760	629,796	1,013	638
10/29/2021	24.00	46.8	931	1,340,763	627,924	1,013	636
10/30/2021	24.00	46.8	920	1,325,027	620,554	1,013	629
10/31/2021	24.00	46.8	917	1,320,593	618,477	1,013	627
Total/Average	744.00	46.8	927	41,367,742	19,373,879	1,013	19,626
						Maximum:	644
						Average:	633

Notes:

The methane content was determined from the February 4, 2021 (3/10/21 - current) source tests.

The heat input for the A-3 Flare did not exceed 1,800 million Btu per day, as required by Title V Condition 8366, Part 11.

% - percent scfm - standard cubic feet per minute scf - standard cubic feet BTU - British thermal units

MMBTU - million British thermal units

APPENDIX J

STRUCTURE MONITORING REPORTS



WASTE MANAGEMENT
172 98th Avenue
Oakland, CA 94603
(510) 430-8509

July 2, 2021

Mr. Patrick Madej
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538

Re: Second Quarter 2021 Methane-In-Structure Monitoring Report for Tri-Cities Recycling and Disposal Facility

Dear Mr. Madej:

This report for the Tri-Cities Recycling and Disposal Facility (TCRDF) contains the results of the Second Quarter 2021 Perimeter Gas and Methane in Structure Monitoring conducted at the TCRDF.

REGULATORY REQUIREMENTS

Requirements for monitoring are outlined in 40 CFR 258.23, Title 27 California Code of Regulations (CCR), Article 6, Gas Monitoring at Active and Closed Disposal Sites. These regulations require periodic monitoring to ensure that methane concentrations are less than 5 percent at the property boundary and less than 1.25 percent in on-site buildings and structures. Reporting requirements are presented in Title 27 §20934.

MONITORING RESULTS AND MAP [TITLE 27 §20934(a)(1), (2), (3) AND (5)]

Monitoring was conducted in accordance with 40 CFR 258.23 and Title 27, Article 6 at the locations shown in the attached map (Attachment A). Results for both probes and structures are summarized in Table 1. Field data are presented in Attachment B.

Table 1 Monitoring Results

Device ID or Structure	Date	CH ₄ (Methane) (ppm _v)
S-3 Ops Trailer	5/4/2021	3.0
S-4 Break Area	5/4/2021	3.0
S-5 Collection Booths	5/4/2021	2.5
S-9 Maintenance Break Area	5/4/2021	2.3
S-10 Parts Wash Room	5/4/2021	2.4
S-12 Compressor Room	5/4/2021	3.3
S-13 Raisch Room	5/4/2021	2.7

MONITORING EQUIPMENT AND METHODOLOGY [TITLE 27 §20934(a)(4)]

Perimeter Gas Monitoring

CalRecycle granted TCRDF a variance from probe monitoring on July 2, 2010. Therefore probe monitoring was not conducted due to the decommissioning of Probe TCGP005.

Facility Structures

The technician used a FID to monitor buildings and structures to check for the presence of methane on May 4, 2021. The instrument was calibrated prior to monitoring using 500 parts per million by volume (ppm_v) methane standard.

Combustible Methane Gas Monitor Calibration

Some facility structures are monitored continuously using Sierra Monitors. The monitor is calibrated at a frequency determined by the manufacturer. The most recent calibration was conducted on June 29, 2021.

CLOSING

If you have any questions regarding this notification, please do not hesitate to contact me at (510) 613-2852.

Thank you,

Waste Management

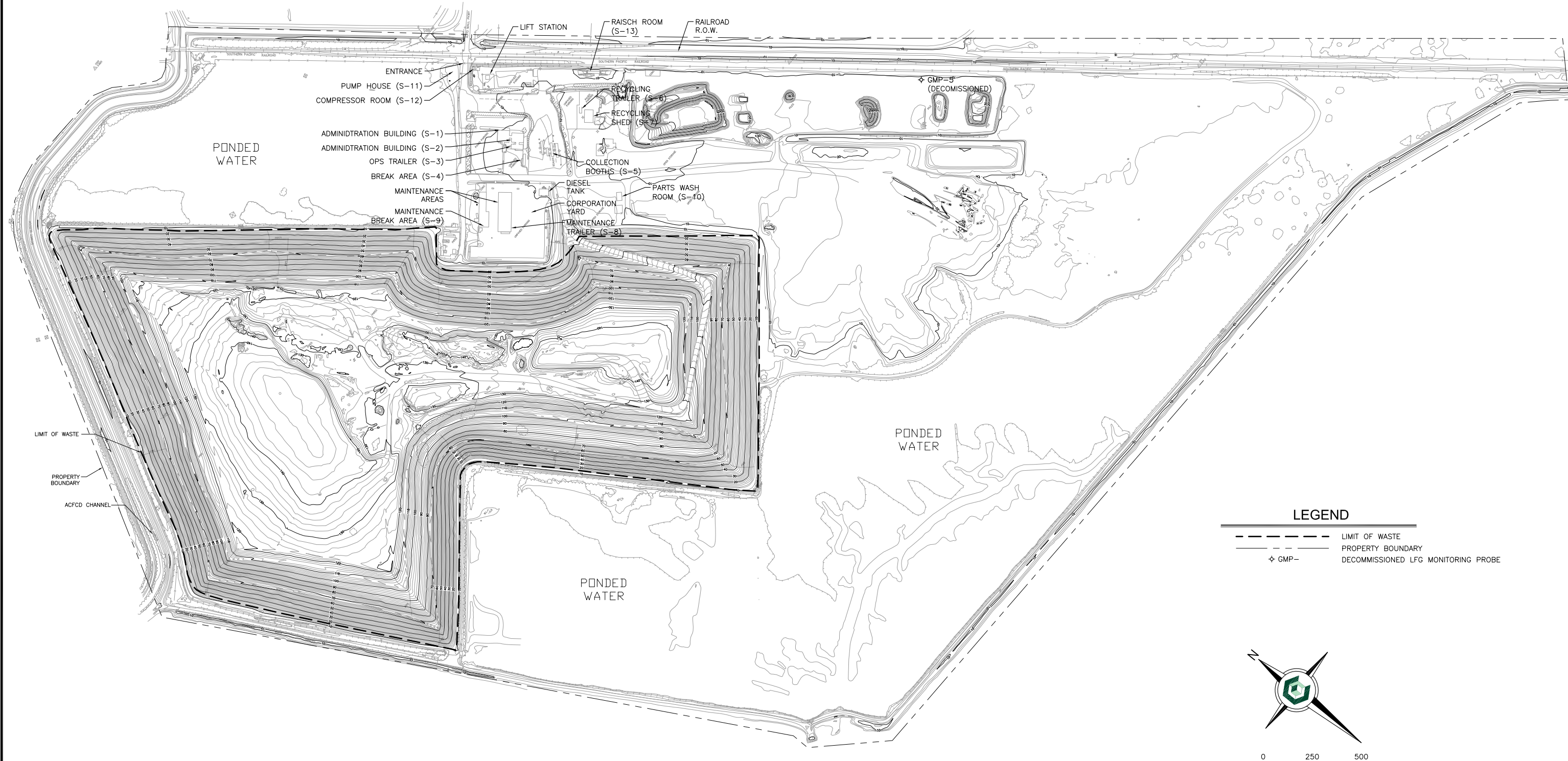
A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is positioned above the printed name and title.

Michael Chan
Environmental Protection Specialist

ATTACHMENT A

SITE MAP

File: K:\PROJECTS\TRICITIES - COMPLIANCE\03911_PROJECT DRAWINGS\GMP\2010 PUMP EXHIBITS.dwg Layout: SHT 2 User: mchametz Oct 07, 2010 - 3:12pm
 1" 1/2" 0" 1"



LEGEND

- LIMIT OF WASTE
- PROPERTY BOUNDARY
- GMP- (DECOMMISSIONED LFG MONITORING PROBE)

SCALE IN FEET

NOTES:

1. TOPOGRAPHIC CONTOURS PREPARED USING PHOTOGRAMMETRIC METHODS BY WALKER ASSOCIATES. DATE OF PHOTOGRAPHY: JUNE 10, 2010. DATUM: HORIZONTAL - NAD27, VERTICAL - NGVD29.

PAUL J. STOUT, P.E.
 P.E. Lic. No. C52827 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
DATE OF ISSUE	9/16/2010	DRAWN BY MRF	CHECKED BY DHT	DESIGNED BY JBS	APPROVED BY PJS	

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TRICITIES RECYCLING AND DISPOSAL FACILITY
 2010 UPDATE PERIMETER GAS
 MIGRATION MONITORING PLAN
 PREVIOUSLY EXISTING LANDFILL GAS
 MONITORING LOCATIONS

SHEET NO.
2
 PROJECT NO.
 090391.1

ATTACHMENT B

FIELD DATA

Tri-Cities Recycling and Disposal Facility Gas Detector Calibration Record and Structure Monitoring

Table 1

FID Structure Monitoring Data			
Analyst: <u>Ryan Haslam</u>		Date: <u>5-4-21</u>	
Instrument: <u>TVA 2020</u>		Serial #: <u>202016031223</u>	
Monitored Location	Time	PPM	Comments
S-3 Ops Trailer		3	
S-4 Break Area		3	
S-5 Collection Booths		2.5	
S-9 Maintenance Break Area		2.3	
S-10 Parts Wash Room		2.4	
S-12 Compressor Room		3.3	
S-13 Raisch Room		2.7	

Immediately notify compliance personnel of any readings in excess of 1.25 percent methane.

ND = No detection

Table 2

LOCATION: TRI-CITIES RECYCLING AND DISPOSAL FACILITY

MANUFACTURER & MODEL NUMBER: Sierra Monitor Corporation Model # 2001

CALIBRATED BY / INSTRUMENT USED: Tyler Burt-SCS / Cal System Model# 26

CALIBRATION GAS EXPIRATION DATE: Aug 2021

Gas Detector Calibration Record				
LOCATION	DATE CALIBRATED and TIME	SERIAL NUMBER	Methane LEL* SENSOR alarm 10,000 ppm	MAINTENANCE PERFORMED / COMMENTS ON MONITOR CONDITION
703 S-3 Ops Trailer	6/29/21 2:03PM	1629404204	Yes	Successful Bump Test using 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition
S-9 Maintenance Break Area	6/29/21 1:20PM	0724904533M TS	Yes	Increased Monitor Sensitivity, Successful Bump Test - 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition
Tresh S-4 Break Area	6/29/21	0608001242	Yes	Increased Monitor Sensitivity, Successful Bump Test - 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition
S-5 Collection Booths	6/29/21 1:42PM	401705272 GCN	Yes	Successful Bump Test using 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition
S-12 Compressor Room	6/29/21 1:49PM	401705272 GCN	Yes	Successful Bump Test - 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition
S-13 Raisch Room	6/29/21 1:56PM	1915102415 GLN	Yes	Successful Bump Test - 5,000 PPM CH ₄ Cal Gas; Monitor in Good Condition

** This form must be retained for 12 months after completion.

**SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA**

Date: 5-21
Inspector(s): Liam McGinn

Site Name: Tri-Cities
Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 7 MPH Wind Direction: SE Barometric Pressure: 29.9 "Hg
Air Temperature: 50 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: .7

*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{.7}{500} \times 100\% = 99.8\%$$

Span Sensitivity:

Trial 1:	Trial 3:
Counts Observed for the Span= <u>123348</u>	Counts Observed for the Span= <u>123356</u>
Counters Observed for the Zero= <u>2294</u>	Counters Observed for the Zero= <u>2312</u>
Trial 2:	
Counts Observed for the Span= <u>123353</u>	
Counters Observed for the Zero= <u>2304</u>	

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm
Downwind Location Description: Grid 36 Reading: 1.4 ppm

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

**SURFACE EMISSIONS MONITORING
CALIBRATION AND PERTINENT DATA**

post

Date: 5-4-21

Site Name: Tri-cities

Inspector(s): Liam McGinn

Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 9 MPH

Wind Direction: SE

Barometric Pressure: 30 "Hg

Air Temperature: 82 °F

General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223

Cal Gas Concentration: 500ppm

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

Average Difference: 1.7

*Perform recalibration if average difference is greater than 10

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

$$= 100\% - \frac{1.7}{500} \times 100\%$$

$$= 99.7\%$$

Span Sensitivity:

Trial 1:	Trial 2:
Counts Observed for the Span= <u>124410</u>	Counts Observed for the Span= <u>124408</u>
Counters Observed for the Zero= <u>2076</u>	Counters Observed for the Zero= <u>2083</u>

Trial 3:
Counts Observed for the Span= <u>124415</u>
Counters Observed for the Zero= <u>2085</u>

Post Monitoring Calibration Check

Zero Air Reading: 0 ppm

Cal Gas Reading: 500 ppm

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Flare Reading: 1.2 ppm

Downwind Location Description: Grid 36 Reading: 1.4 ppm

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



WASTE MANAGEMENT
172 98th Avenue
Oakland, CA 94603
(510) 430-8509

October 4, 2021

Mr. Patrick Madej
Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, California 94538

Re: Third Quarter 2021 Methane-In-Structure Monitoring Report for Tri-Cities Recycling and Disposal Facility

Dear Mr. Madej:

This report for the Tri-Cities Recycling and Disposal Facility (TCRDF) contains the results of the Third Quarter 2021 Perimeter Gas and Methane in Structure Monitoring conducted at the TCRDF.

REGULATORY REQUIREMENTS

Requirements for monitoring are outlined in 40 CFR 258.23, Title 27 California Code of Regulations (CCR), Article 6, Gas Monitoring at Active and Closed Disposal Sites. These regulations require periodic monitoring to ensure that methane concentrations are less than 5 percent at the property boundary and less than 1.25 percent in on-site buildings and structures. Reporting requirements are presented in Title 27 §20934.

MONITORING RESULTS AND MAP [TITLE 27 §20934(a)(1), (2), (3) AND (5)]

Monitoring was conducted in accordance with 40 CFR 258.23 and Title 27, Article 6 at the locations shown in the attached map (Attachment A). Results for both probes and structures are summarized in Table 1. Field data are presented in Attachment B.

Table 1 Monitoring Results

Device ID or Structure	Date	CH ₄ (Methane) (ppm _v)
S-3 Ops Trailer	7/27/2021	1.4
S-4 Break Area	7/27/2021	1.5
S-5 Collection Booths	7/27/2021	1.6
S-9 Maintenance Break Area	7/27/2021	1.5
S-10 Parts Wash Room	7/27/2021	1.6
S-12 Compressor Room	7/27/2021	1.7
S-13 Raisch Room	7/27/2021	1.5

MONITORING EQUIPMENT AND METHODOLOGY [TITLE 27 §20934(a)(4)]

Perimeter Gas Monitoring

CalRecycle granted TCRDF a variance from probe monitoring on July 2, 2010. Therefore probe monitoring was not conducted due to the decommissioning of Probe TCGP005.

Facility Structures

The technician used a FID to monitor buildings and structures to check for the presence of methane on July 27, 2021. The instrument was calibrated prior to monitoring using 500 parts per million by volume (ppm_v) methane standard.

Combustible Methane Gas Monitor Calibration

Some facility structures are monitored continuously using Sierra Monitors. The monitor is calibrated at a frequency determined by the manufacturer. The most recent calibration was conducted on September 21, 2021.

CLOSING

If you have any questions regarding this notification, please do not hesitate to contact me at (510) 613-2852.

Thank you,

Waste Management

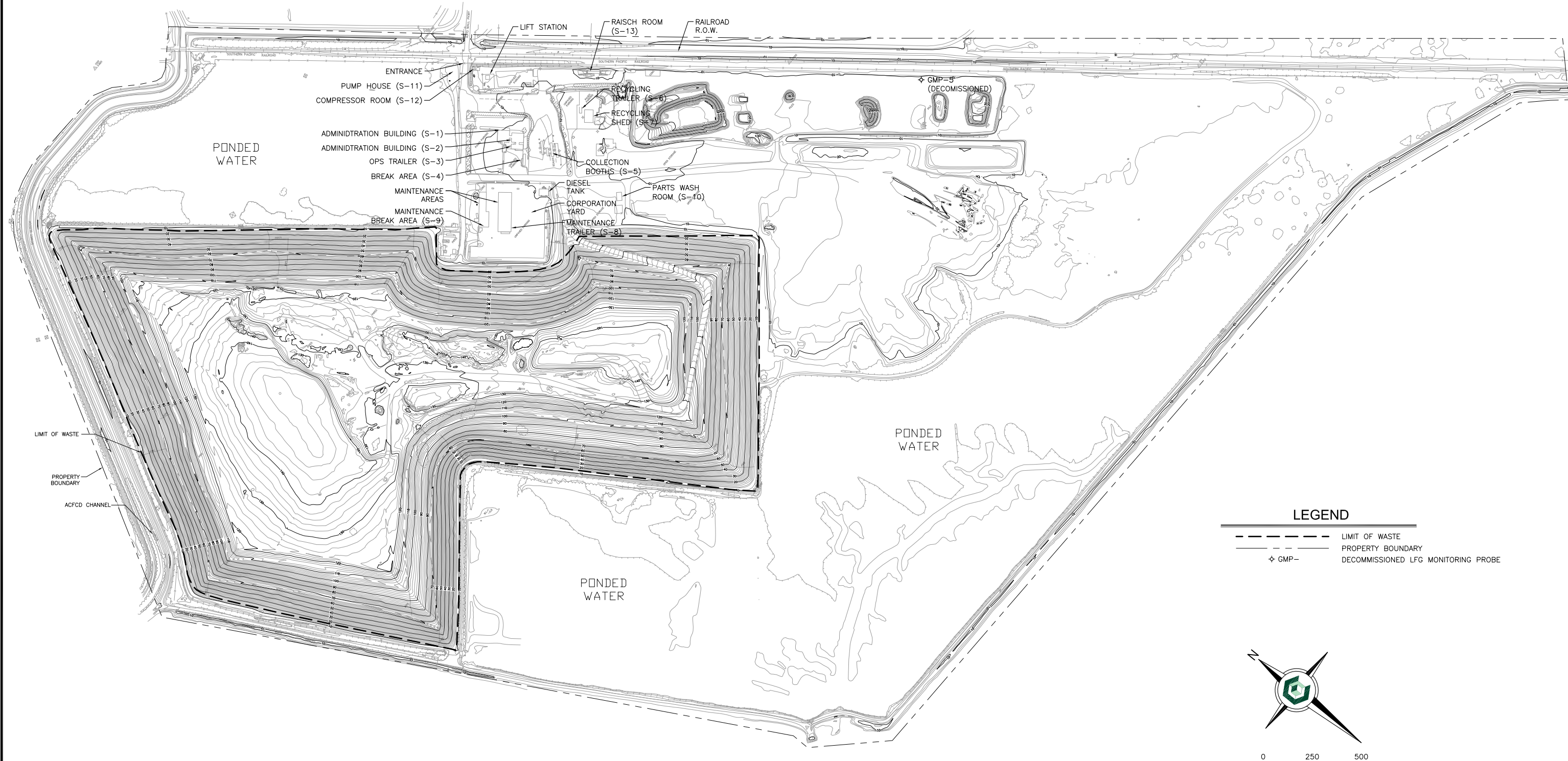
A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is positioned above the printed name and title.

Michael Chan
Environmental Protection Specialist

ATTACHMENT A

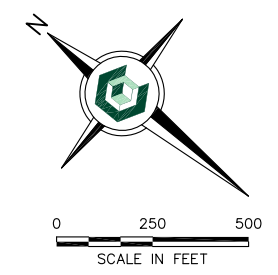
SITE MAP

File: K:\PROJECTS\TRICITIES - COMPLIANCE\03911_PROJECT DRAWINGS\GMP\2010 PUMP EXHIBITS.dwg Layout: SHT 2 User: mchametz Oct 07, 2010 - 3:12pm
 1" 1/2" 0" 1"



LEGEND

- LIMIT OF WASTE
- - - PROPERTY BOUNDARY
- ◆ GMP- DECOMMISSIONED LFG MONITORING PROBE



NOTES:

1. TOPOGRAPHIC CONTOURS PREPARED USING PHOTOGRAMMETRIC METHODS BY WALKER ASSOCIATES. DATE OF PHOTOGRAPHY: JUNE 10, 2010. DATUM: HORIZONTAL - NAD27, VERTICAL - NGVD29.

PAUL J. STOUT, P.E.
 P.E. Lic. No. C52827 Date

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
DATE OF ISSUE	9/16/2010	DRAWN BY MRF	CHECKED BY DHT	DESIGNED BY JBS	APPROVED BY PJS	

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Environmental Group, LLC

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TRICITIES RECYCLING AND DISPOSAL FACILITY
**2010 UPDATE PERIMETER GAS
 MIGRATION MONITORING PLAN**
**PREVIOUSLY EXISTING LANDFILL GAS
 MONITORING LOCATIONS**

SHEET NO.
2
 PROJECT NO.
 090391.1

ATTACHMENT B

FIELD DATA

Tri-Cities Recycling and Disposal Facility
Gas Detector Calibration Record and Structure Monitoring

Table 1

FID Structure Monitoring Data			
Analyst: <u>Liam McGinn</u>		Date: <u>7-27-21</u>	
Instrument: <u>TVA 2020</u>		Serial #: <u>202016031223</u>	
Monitored Location	Time	PPM	Comments
S-3 Ops Trailer		1.4	
S-4 Break Area		1.5	
S-5 Collection Booths		1.6	
S-9 Maintenance Break Area		1.5	
S-10 Parts Wash Room		1.6	
S-12 Compressor Room		1.7	
S-13 Raisch Room		1.5	

Immediately notify compliance personnel of any readings in excess of 1.25 percent methane.

ND = No detection

Table 2

LOCATION: TRI-CITIES RECYCLING AND DISPOSAL FACILITY

MANUFACTURER & MODEL NUMBER: Sierra Monitor Corporation Model # 2001

CALIBRATED BY / INSTRUMENT USED: Tyler and Jonathan / Cal System Model# 26

CALIBRATION GAS EXPIRATION DATE: 02/05/2021

Gas Detector Calibration Record				
LOCATION	DATE CALIBRATED and TIME	SERIAL NUMBER	Methane LEL* SENSOR alarm 10,000 ppm	MAINTENANCE PERFORMED / COMMENTS ON MONITOR CONDITION
S-3 Ops Trailer	9-21-21 10:27	1629404204	Yes	Bump test good No maintenance performed
S-9 Maintenance Break Area	9-21-21 10:24	0724904533M TS	Yes	Bump test good No maintenance performed
S-4 Break Area	9-21-21 10:03am	0608001242	Yes	Bump test successful No maintenance performed
S-5 Collection Booths	9-21-21 10:10	401705272 GCN	Yes	Bump test good No maintenance performed
S-12 Compressor Room	9-21-21 10:16	401705272 GCN	Yes	Bump test good No maintenance performed
S-13 Raisch Room	9-21-21 10:19	1915102415 GLN	Yes	Bump test good No maintenance performed

** This form must be retained for 12 months after completion.

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 7-27-21
 Inspector(s): Liam McGinn

Site Name: Tri-cities
 Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 2 MPH Wind Direction: NW Barometric Pressure: 30. "Hg
 Air Temperature: 63 °F General Weather Conditions: cloudy

CALIBRATION INFORMATION

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: 1
*Perform recalibration if average difference is greater than 10

Calibration Precision = Average Difference / Cal Gas Conc. X 100%
 = 100% - 1 / 500 x 100%
 = 99.8 %

Span Sensitivity:

Trial 1:	Trial 2:	Trial 3:
Counts Observed for the Span = <u>131484</u>	Counts Observed for the Span = <u>137336</u>	Counts Observed for the Span = <u>138408</u>
Counters Observed for the Zero = <u>3009</u>	Counters Observed for the Zero = <u>3083</u>	Counters Observed for the Zero = <u>2598</u>

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: entrance Reading: 1.2 ppm
 Downwind Location Description: Flare Reading: 1.7 ppm

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

SURFACE EMISSIONS MONITORING CALIBRATION AND PERTINENT DATA

Date: 7-27-21
 Inspector(s): Liam McBin

POST

Site Name: Tricities
 Instrument: TVA 2020

WEATHER OBSERVATIONS

Wind Speed: 5 MPH Wind Direction: NW Barometric Pressure: 30 "Hg
 Air Temperature: 68 °F General Weather Conditions: clear

CALIBRATION INFORMATION

Pre-monitoring Calibration Precision Check

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

Instrument Serial Number: 1223 Cal Gas Concentration: 500ppm

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

Average Difference: 1
*Perform recalibration if average difference is greater than 10

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

$$= 100\% \cdot \frac{1}{500} \times 100\%$$

$$= 99.8\%$$

Span Sensitivity:

Trial 1:	Trial 3:
Counts Observed for the Span = <u>116568</u>	Counts Observed for the Span = <u>124332</u>
Counters Observed for the Zero = <u>2631</u>	Counters Observed for the Zero = <u>2619</u>
Trial 2:	
Counts Observed for the Span = <u>120848</u>	
Counters Observed for the Zero = <u>2659</u>	

Post Monitoring Calibration Check

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

BACKGROUND CONCENTRATIONS CHECKS

Upwind Location Description: Entrance Reading: 1.2 ppm
 Downwind Location Description: Flare Reading: 1.7 ppm

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

exceeded 20 miles per hour and no instantaneous speeds exceeded 20 miles per hour. No rainfall had occurred within the previous 24 hours of the monitoring event. Therefore, site meteorological conditions were within the requested alternatives of the LMR requirements on the above mentioned date.

APPENDIX K

ANNUAL H₂S MONITORING REPORTS

WM - TRI-CITIES LANDFILL, Fremont, CA			
ANNUAL HYDROGEN SULFIDE (H ₂ S) MONITORING			
SAMPLE TAKEN BY:	Tyler Burt (SCS)		
DATE	SAMPLE LOCATION	H ₂ S CONCENTRATION (PPM)	COMMENTS
8/24/2021	Tri Cities Flare A-3	100	None
COMMENTS: PPM - parts per million Sample taken with a Draeger Tube per Title V Permit Condition No. 8366, Part 12			

APPENDIX L

SOURCE TEST REPORT SUMMARY

Waste Management of Alameda County

BAAQMD Facility #2246

Annual Compliance Emissions Test Report #21039 Landfill Gas Flare (A-3)

Located at:

Tri-Cities Recycling and Disposal Facility
7010 Auto Mall Parkway
Fremont, CA 94538

Prepared for:

SCS Engineers
3117 Fite Circle Suite 108
Sacramento, CA 95827
Attn: Michael O'Connor
moconnor@scsengineers.com

For Submittal to:

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

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

Testing Performed on:

February 4th, 2021

Final Report Submitted on:

March 10th, 2021

Performed and Reported by:

Blue Sky Environmental, Inc.
624 San Gabriel Avenue
Albany, CA 94706

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

REVIEW AND CERTIFICATION

Team Leader:

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

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

If this report is submitted for Compliance purposes it should only be reproduced in its entirety. If there are any questions concerning this report, please contact me at (925) 338-4875.



Chuck Arrivas, QSTI
Project Manager

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SECTION 1. INTRODUCTION

1.1. Summary

Blue Sky Environmental, Inc. was contracted by SCS Engineers to perform the emissions testing for Waste Management of Alameda County, Inc. (WMAC), at the Tri-Cities Recycling Disposal Facility (TRCDF), located in Fremont, California. Testing was conducted to demonstrate that Landfill Gas Flare A-3 is operating in compliance with the Bay Area Air Quality Management District (BAAQMD) Permit to Operate for Facility #2246. Results of the test program are presented in this report. The source test information is summarized in Table 1. Test results derived from the source test are summarized in Table 2. Results for individual test runs are included in Appendix A. The flare met all compliance emission criteria.

Table 1. Source Test Information

Test Location:	Tri-Cities Recycling and Disposal Facility 7010 Auto Mall Parkway, Fremont, CA 94538
Source Contact:	Michael O'Connor, SCS Engineers (707) 236-3791
Source Tested:	Enclosed Landfill Gas Flare (A-3) – 76 MMBtu/hr
Source Test Date:	February 4 th , 2021
Test Objective:	Determine compliance with Bay Area Air Quality Management District (BAAQMD) Permit to Operate for Facility #2246, Condition 8366
Test Performed By:	Blue Sky Environmental, Inc 624 San Gabriel Avenue, Albany, CA 94706 Wesley Alder (510) 910-5795 bluesky@blueskyenvironmental.com
Test Parameters:	Landfill Gas Oxygen (O ₂), Nitrogen (N ₂), Carbon Dioxide (CO ₂), Total Hydrocarbons (THC), Methane (CH ₄), Non-Methane Organic Compounds (NMOC), High Heating Value (HHV), Gas F-Factor, Total Reduced Sulfur (TRS) & Sulfur Species, Volumetric Flow Rate Flare Emissions THC, CH ₄ , NMOC, NO _x , CO, O ₂ , SO ₂ , Volumetric Flow Rate, Stack Exhaust Temperature.

Table 2. Compliance Summary

Emission Parameter	Average Results (Flare A-3)	Permit Limit	Status
NO _x , lbs/MMBtu	0.037	0.06	In Compliance
CO, lbs/MMBtu	0.006	0.3	In Compliance
TNMOC, ppm @ 3% O ₂ as CH ₄	<4.5	30 or >98	In Compliance
NMOC Destruction Efficiency, %	>99.03		
CH ₄ Destruction Efficiency, %	>99.995	>99	In Compliance
TRS as H ₂ S, ppm in Fuel	89.1	1,300	In Compliance

SECTION 2. SOURCE TEST PROGRAM

2.1. Overview

This annual source test was performed to demonstrate that landfill gas flare A-3 is operating in accordance with the Bay Area Air Quality Management District (BAAQMD) Permit to Operate (PTO) for Facility #2246, Condition 8366.

2.2. Pollutants Tested

The following US Environmental Protection Agency (EPA), Bay Area Air Quality Management District (BAAQMD) and ASTM International sampling and analytical methods were used:

EPA Method 1	Sample and Traverse Point Determination
EPA Method 3A	O ₂ and CO ₂ , Stack Gas Molecular Weight
EPA Method 7E	NO _x and NO ₂ Converter Check
EPA Method 10	CO
EPA Method 4	Moisture Calculation
EPA Method 19	Flow Rate Calculation, DSCFM
EPA Method 25C	Analysis of landfill gas for TNMHC (NMOC)
EPA Method 25A	VOC Emissions
EPA Method 18	THC/CH ₄ /NMHC Emissions
ASTM D-1945/3588	Fuel Analysis for BTU, F-Factors & Fixed Gases
ASTM D-5504	Sulfur Species, Hydrogen Sulfide (H ₂ S) and TRS
BAAQMD ST-19A	SO ₂ calculated from TRS

2.3. Test Date(s)

Testing was conducted on February 4th, 2021.

2.4. Sampling and Observing Personnel

Testing was performed by Wesley Alder, Timothy Eandi and Guy Worthington representing Blue Sky Environmental, Inc.

John Silva of SCS Engineers was present to oversee flare operations and assist in coordinating testing and the collection of process data to verify the accuracy of digitally recorded data collected during testing.

The BAAQMD was notified of the scheduled testing in a plan submitted by SCS Engineering on behalf of Waste Management, on January 13th, 2021. A Source Test Protocol acknowledgement (NST #6296) was received on January 14th, 2021; however, no agency observers were present during testing. A copy of the source test protocol and email correspondence are provided in Appendix I.

2.5. Source/Process Description

The Tri-Cities Recycling Disposal Facility, located in Fremont, CA, is a multi-material landfill with a gas collection system that is abated by an industrial landfill gas enclosed flare. Flare A-3 has a 75 MMBtu/hr multiple nozzle burner. The flare shell is approximately 40 feet high with an approximately 102-inch inside diameter (ID).

2.6. Source Operating Conditions

The flare was operated on landfill gas under normal operating conditions during testing with no condensate injection. The average exhaust temperature at normal operating condition was 1,594 °F. The operating exhaust temperature, and flow records are provided in Appendix F.

The fuel volumetric flow rate was continuously measured and recorded by the LFG flow meter at 15-minute intervals in accordance with 40 CFR 60.756(b)(2), BAAQMD Regulation 8-34-507, and permit condition 8366 Part 7.

Landfill gas samples collected at the head of the flare showed an average methane content of 46.8% and an oxygen range of 0.5 to 0.7%.

SECTION 3. SAMPLING AND ANALYSIS PROCEDURES

3.1. Port Location

Sampling was conducted at the 102-inch diameter ID exhaust stack of the flare through ports that were accessed with a 40-foot boom lift. The four-inch flange ports on the flare were located 35-feet above grade, approximately four stack diameters downstream from the burners and approximately one stack diameters upstream from the exhaust.

3.2. Point Description/Labeling – Ports/Stack

Blue Sky Environmental conducted an eight point traverse to check for the presence of cyclonic flow. O₂ stratification was greater than 10%; therefore, subsequent CEM sampling was conducted using all traverse points. The traverse points for the 102-inch diameter stack with 4-inch ports were 7.3, 14.7, 23.8, 36.9, 73.1, 86.2, 95.3 and 102.7 inches.

3.3. Sample Train Description

Sampling system diagrams are included in the Appendix H. Additional descriptive information is included in the following section.

3.4. Sampling Procedure Description

Three consecutive thirty-minute gaseous emissions tests were performed for oxides of nitrogen (NO_x), nitric oxide (NO), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), and total hydrocarbons (THC) at each turbine exhaust stack. The sampling system was checked for leaks before the start of the testing, by plugging the sample probe and observing the sample rotameter flow drop to zero. Instrument linearity and system bias were checked. The system response time for each analyzer was recorded. The temperatures of the heated sample line between the probe and sample conditioner/condenser, and the condenser exhaust temperatures were maintained within limits during each test run.

Analyzer external calibrations were performed before and after each run using EPA protocol certified gas standards. Calibration gases were introduced to the sample manifold at the same flow rate as the sample. Any drift or bias was corrected using equation 100-3 from CARB Method 100. A NO_x analyzer converter efficiency check was performed before the first test run and achieved an efficiency greater than 90%.

Concurrent with the exhaust sampling, Blue Sky collected a total of three integrated samples of landfill gas for off-site analysis by Atmospheric Analysis & Consulting, Inc., located in Ventura, CA. The samples were collected in 6-liter SUMMA canisters and analyzed for NMOC, HHV, F-factor, fixed gases, and sulfur species (incl. H₂S and TRS). The gas was controlled with a rotameter to collect a 30-minute integrated sample.

EPA Method 1 – Sample and Velocity Traverses for Stationary Sources

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

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

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

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

This method is used to measure nitrogen oxides in stationary source emissions using a continuous instrumental analyzer. Section 16.2.2 of the method is used to determine the NO_x analyzer NO₂ to NO conversion efficiency.

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

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

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

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

System Performance Criteria

Instrument Linearity	≤2% Full Scale
Instrument Bias	≤5% Full Scale
System Response Time	≤± 2 minutes
NO _x Converter Efficiency (EPA 7E)	≥ 90%
Instrument Zero Drift	≤± 3% Full Scale
Instrument Span Drift	≤± 3% Full Scale

EPA Method 4 – Determination of Moisture Content in Stack Gas

The method is used for accurate determinations of moisture content in stack gas using a wet bulb – dry bulb technique. This approximation method provides estimates of percent moisture to aid in setting isokinetic sampling rates prior to a pollutant emission measurement run.

BAAQMD Source Test Procedure ST-19 – Sulfur Dioxide, Continuous Sampling

This method is used to quantify sulfur dioxide emissions and determine compliance with Regulations 9-1-302, 9-1-304 through 310, and 10-1-301.

EPA Method 18 – Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

This method is used to determine emissions of volatile organics by gas chromatograph/mass spectroscopy (GC/MS). Gaseous emissions are drawn through a Teflon sample transfer line to a Tedlar bag held in a rigid leak proof bag container. The sample is drawn into the bag by evacuating the container to stack gas pressure to allow sample flow without using a pump to avoid contamination. Negative pressure is adjusted to maintain an integrated sample flow for the collection time. The bag samples are taken to a laboratory and analyzed within 72 hours.

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

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

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

This method is used to sample and measure NMOC in landfill gases. The method is written for evacuated tank sampling but is adaptable to Tedlar bag sampling procedures. The sampling equipment consists of a stainless steel or glass lined probe with a short stainless-steel or Teflon transfer line to a Tedlar bag housed in a sealed chamber. The chamber is evacuated by pump at a prescribed rate for the test duration and the Tedlar bag capacity, so the sample is integrated over the test period. The sample is injected into a GC column where the methane and CO₂ are flushed through and removed then the NMOC (ROC) fraction is oxidized to form CO₂ then reduced to methane and analyzed.

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

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

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

ASTM D1945 – Analysis of Natural Gas by Gas Chromatography

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

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

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

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

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

3.5. Instrumentation and Analytical Procedures

The following continuous emissions analyzers were used:

Instrumentation	Parameter	Principle
TECO Model 42C	NO/NO _x	Chemiluminescence
TECO Model 48C	CO	GFC/IR
Ratfisch Model RS-66	THC	FID
Servomex 1440	CO ₂	IR
Servomex 1440	O ₂	Paramagnetic

The analyzer data recording system consists of a Honeywell DPR300 strip chart recorder, which can be supported by a Data Acquisition System (DAS). The instrument response is recorded on strip charts and DAS. The averages are corrected for drift using BAAQMD and EPA Method 7E equations.

3.6. Comments: Limitations and Data Qualifications

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

Blue Sky Environmental has reviewed this report for accuracy and concluded that the test procedures were followed and accurately described and documented. The review included the following items:

- Review of the general text
- Review of calculations
- Review of CEMS data
- Review of supporting documentation

The services described in this report were performed in a manner consistent with the generally accepted professional testing principles and practices. No other warranty, expressed or implied, is made. These services were performed in a manner consistent with our agreement with our client. The report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions contained in this report pertain to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and operating parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations, subsequent to this, and do not warranty the accuracy of information supplied by others.

SECTION 4. APPENDICES

- A. Tabulated Results**
- B. Calculations**
- C. Laboratory Reports**
- D. Field Data Sheets**
- E. Strip Charts**
- F. Process Information**
- G. Calibration Certifications and Quality Assurance Records**
- H. Sample Train Configuration and Stack Diagrams**
- I. Related Correspondence (Source Test Plan and Email Correspondence)**
- J. BAAQMD Permit to Operate**

A
Tabulated Results

TABLE #1

**Tri-Cities Recycling & Disposal Facility
Flare A-3
1,594°F**

RUN	1	2	3	AVERAGE	LIMITS
Test Date	2/4/21	2/4/21	2/4/21		
Test Time	1028-1103	1150-1226	1306-1341		
Standard Temperature, °F	70	70	70		
Flare Temperature, °F	1,594	1,594	1,595	1,594	
Fuel Flow Rate, SCFM	1,015	1,018	1,020	1,018	
Fuel Heat Input, MMBtu/hr	28.5	28.6	28.5	28.5	
Exhaust Flow Rate, DSCFM (EPA M19)	12,032	12,127	12,056	12,071	
Oxygen, O ₂ , %	12.9	12.9	12.9	12.9	
Carbon Dioxide, CO ₂ , %	7.1	6.9	6.9	7.0	
Water Vapor, H ₂ O, % (EPA M4)	2.5	2.5	2.5	2.5	
NO, ppm	12.6	12.3	12.5	12.4	
NO ₂ , ppm	<1.0	<1.0	<1.0	<1.0	
NO ₂ /NO	<0.08	<0.08	<0.08	<0.08	
NOx, ppm	12.4	11.9	12.2	12.1	
NOx, ppm @ 15% O ₂	9.1	8.8	8.9	8.9	
NOx, lbs/hr	1.06	1.03	1.05	1.05	
NOx, lbs/day	25.5	24.7	25.1	25.1	
NOx, lbs/MMBtu	0.037	0.036	0.037	0.037	0.06
CO, ppm	3.1	2.8	3.3	3.1	
CO, ppm @ 15% O ₂	2.3	2.1	2.5	2.3	
CO, lbs/hr	0.16	0.15	0.18	0.16	
CO, lbs/day	3.9	3.5	4.2	3.9	
CO, lbs/MMBtu	0.006	0.005	0.006	0.006	0.30
TRS as H₂S, ppm in Fuel	57.2	91.1	119.0	89.1	1,300
SO ₂ , ppm Exhaust (calculated)	4.83	7.65	10.07	7.51	
THC, ppm (EPA M25A)	<2.0	<2.0	<2.0	<2.0	
THC, lbs/hr as CH ₄	<0.060	<0.060	<0.060	<0.060	
CH ₄ , ppm	<2.0	<2.0	<2.0	<2.0	
CH ₄ , lbs/hr	<0.060	<0.060	<0.060	<0.060	
TNMOC, ppm as CH ₄	<2.0	<2.0	<2.0	<2.0	
TNMOC, lbs/hr as CH ₄	<0.060	<0.060	<0.060	<0.060	
TNMOC, ppm @ 3% O₂ as CH₄	<4.5	<4.5	<4.5	<4.5	30
INLET TNMOC, ppm as CH ₄ (EPA M25C)	2,407	2,443	2,463	2,438	
INLET NMOC, lbs/hr as CH ₄	6.1	6.2	6.2	6.2	or
NMOC Removal Efficiency	>99.02%	>99.02%	>99.04%	>99.03%	98
INLET CH ₄ , ppm	469,000	469,000	467,000	468,333	
INLET CH ₄ , lbs/hr	1,182	1,185	1,182	1,183	
CH₄ Removal Efficiency	>99.995%	>99.995%	>99.995%	>99.995%	99
INLET THC (TOC), ppm as CH ₄	471,407	471,443	469,463	470,771	
INLET THC (TOC), lbs/hr as CH ₄	1,188	1,191	1,189	1,189	
THC (TOC) Removal Efficiency	99.995%	99.995%	99.995%	99.995%	

< Value = 2% of Analyzer Range

WHERE,

ppm = Parts per Million Concentration
 Lbs/hr = Pound per Hour Emission Rate
 Tstd. = Standard Temperature (°R = °F+460)
 MW = Molecular Weight
 DSCFM = Dry Standard Cubic Feet per Minute
 NOx = Oxides of Nitrogen as NO₂ (MW = 46)
 CO = Carbon Monoxide (MW = 28)
 TOC = THC = Total Organic Carbon as Methane including CH₄ (MW = 16)
 THC = Total Hydrocarbons as Methane (MW = 16)
 TNMOC = Total Non-Methane Organic Carbon as Methane (MW = 16)
 SO₂ = Sulfur Dioxide as SO₂ (MW = 64.1)

CALCULATIONS,

PPM @ 15% O₂ = ppm * 5.9 / (20.9 - %O₂)
 PPM @ 3% O₂ = ppm * 17.9 / (20.9 - %O₂)
 Lbs/hr = ppm * 8.223 E-05 * DSCFM * MW / Tstd. °R
 Lbs/day = Lbs/hr * 24
 Removal Efficiency = (inlet lbs/hr - outlet lbs/hr) / inlet lbs/hr
 SO₂ emission ppm = H₂S in fuel * Fuel Flow/Stack Gas Flow

APPENDIX M
CORRESPONDENCE



Tri-Cities Recycling and Recovery Facility
7010 Auto Mall Parkway, Fremont, CA 94538

June 21, 2021 ([via email rca@baaqmd.gov](mailto:rca@baaqmd.gov))

Compliance & Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105

**RE: Reportable Compliance Activity (RCA) Notification
Tri-Cities Recycling and Disposal Facility, Fremont, CA, Facility A2246**

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), although TCRDF disagrees that Breakdown Relief is the appropriate methodology for compliance with Rule 8-34 during an unplanned power outage, due to direction from Bay Area Air Quality Management District (BAAQMD) staff, this letter is to request Breakdown Relief from BAAQMD for the PG&E power outage. On Saturday evening, June 19, 2021 at ~7:00 PM, PG&E's power outage caused the GCCS to go offline. BAAQMD's Reportable Compliance Activity (RCA) notification form, as modified, is enclosed. It is not anticipated at this time that TCRDF violated applicable emission standard(s).

Breakdown Relief should be granted as TCRDF complied with administrative requirements despite its objections to the re-interpretation of Rule 8-34 and:

1. The breakdown is not the result of intent, negligence or disregard of air pollution control regulations;
2. The breakdown is not the result of improper maintenance;
3. The breakdown does not create a public nuisance;
4. The breakdown was not caused by an excessively recurrent breakdown of the same equipment; and
5. The breakdown did not occur, and any emissions did not interfere with attainment or maintenance of any National or California air quality standard.

On June 20, 2021 at 11:20 AM the GCCS was back online after the PG&E power was restored. A breakdown report was submitted to BAAQMD on June 20, 2021 at ~11:21 AM via the afterhours phone line by TCRDF about the GCCS going offline due to PG&E's power outage and of the GCCS coming back online.

TCRDF has been and continues to actively seek a permitted generator to power the flare for future power outage events.

Sincerely,

A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is set against a light gray, textured background.

Michael Chan
WM Environmental Protection Specialist
mchan2@wm.com

cc: Patrick Madej, TCRDF
Alisha McCutcheon, TCRDF

Attachment: RCA Form TCRDF Facility A2246



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

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

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

SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	Tri-Cities Recycling and Disposal Facility	Site #	A2246
Address	7010 Auto Mall Parkway, Fremont, CA 94538	Source #	S-1
Reported by	Matt Frame/Michael Chan	Phone #	818-974-1334
Indicated Excess	-NA	Fax #	-
Allowable Limit	-NA	Averaging Time	-
Start Time/Date	6/19/21 7:00 PM	Clear Time	6/20/21 11:20 AM
Monitor/device type(s)	<input type="checkbox"/> CEM <input type="checkbox"/> GLM <input type="checkbox"/> Parametric <input type="checkbox"/> PRD <input type="checkbox"/> Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> NO _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 checked="" type="checkbox"/> Other (describe) Power Outage	<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"/> Other (describe)			

Event Description:

A breakdown report was submitted on 6/20/21 at 11:21 AM via afterhours phone line by Tri-Cities Recycling and Disposal Facility (TCRDF) because the GCCS cannot continuously operate due to the PG&E power outage. During the PG&E power outage, the GCCS was potentially out of compliance with BAAQMD regulation 8-34-301.1. Please also see our objections and discussion in the attached cover letter dated 6/21/21.

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.

Chan, Michael

From: RCA Notification <rca@baaqmd.gov>
Sent: Monday, June 21, 2021 5:13 PM
To: Chan, Michael
Subject: [EXTERNAL] RE: Tri-Cities RCA Notification Facility A2246

I am confirming receipt, the RCA number for this notification is 08A23

From: Chan, Michael <mchan2@wm.com>
Sent: Monday, June 21, 2021 5:00 PM
To: RCA Notification <rca@baaqmd.gov>
Subject: Tri-Cities RCA Notification Facility A2246

CAUTION: This email originated from outside of the BAAQMD network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), attached is the RCA form for a PG&E power outage at TCRDF this past weekend.

Thanks,

Mike Chan

Michael Chan
EP Air Quality Specialist
mchan2@wm.com

T: 510.613.2852
C: 510.205.0410
172 98th Avenue
Oakland, CA 94603



Recycling is a good thing. Please recycle any printed emails.



TRI-CITIES RECYCLING
AND DISPOSAL FACILITY
7010 Auto Mall Parkway,
Fremont, CA 94538
(510) 376-7700

June 28, 2021

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105
Attn: Title V Reports
compliance@baaqmd.gov

Peter Nelson
Air Quality Inspector
Compliance and Enforcement
Bay Area AQMD
pnelson@baaqmd.gov

**Re: Tri-Cities Recycling and Disposal Facility, Fremont, California
Facility Number A2246
Title V Section I.F, 10-Day/30-day written report (Power Outage RCA 08A23)**

Dear Sir or Madam:

The Tri-Cities Recycling and Disposal Facility (TCRDF) is submitting this combined 10-day and 30-day written report to the Bay Area Air Quality Management District (BAAQMD) as required under Title V Permit Condition Section I.F. On Saturday evening, June 19, 2021 at ~7:00 PM, PG&E's power outage caused the gas collection and control system (GCCS) to go offline. The GCCS remained offline until Sunday, June 20, 2021, at ~11:20 AM. A breakdown report was submitted to BAAQMD on June 20, 2021 at ~11:21 AM via the afterhours phone line (415-749-4666) by TCRDF about the GCCS going offline due to PG&E's power outage and of the GCCS coming back online. Although TCRDF disagrees that Breakdown Relief is the appropriate methodology for compliance with Rule 8-34 during an unplanned power outage, due to direction from BAAQMD staff, TCRDF requested Breakdown Relief from BAAQMD for the June 19, 2021 PG&E power outage via BAAQMD's Reportable Compliance Activity (RCA) notification form submitted on June 21, 2021 (see Attachment A) and was assigned RCA number 08A23.

The unplanned power outage shutdown did not result in emissions and do not qualify as non-compliance. The downtime was less than 24 hours. TCRDF believes that it complied with the Title V permit conditions and safety protocols. TCRDF followed all measures to ensure gas movers and valves were closed during the shutdown event. TCRDF's downtime event was not the result of equipment malfunction, knowing, willful, intentional, chronic nor committed by a recalcitrant, and did not benefit TCRDF economically nor result in a nuisance. The frequency and duration of weather or utility-related electrical interruptions are outside of TCRDF's control.

TCRDF is committed to operating its landfill in compliance with applicable regulations and will ensure that compliance is achieved. However, TCRDF disagrees with the BAAQMD that temporary shutdowns resulting from unplanned power outages are violations of any BAAQMD regulation. TCRDF is analyzing the feasibility of installing a permitted generator to power the GCCS.

If you have any questions or need any additional information, please do not hesitate to contact me at (510) 376-7700.

Thank you,
Tri-Cities Recycling and Disposal Facility

Patrick Madej

Patrick Madej
District Manager

ATTACHMENT A

Reportable Compliance Activity (RCA 08A23 submitted 6/21/21)



Tri-Cities Recycling and Recovery Facility
7010 Auto Mall Parkway, Fremont, CA 94538

June 21, 2021 ([via email rca@baaqmd.gov](mailto:rca@baaqmd.gov))

Compliance & Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105

**RE: Reportable Compliance Activity (RCA) Notification
Tri-Cities Recycling and Disposal Facility, Fremont, CA, Facility A2246**

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), although TCRDF disagrees that Breakdown Relief is the appropriate methodology for compliance with Rule 8-34 during an unplanned power outage, due to direction from Bay Area Air Quality Management District (BAAQMD) staff, this letter is to request Breakdown Relief from BAAQMD for the PG&E power outage. On Saturday evening, June 19, 2021 at ~7:00 PM, PG&E's power outage caused the GCCS to go offline. BAAQMD's Reportable Compliance Activity (RCA) notification form, as modified, is enclosed. It is not anticipated at this time that TCRDF violated applicable emission standard(s).

Breakdown Relief should be granted as TCRDF complied with administrative requirements despite its objections to the re-interpretation of Rule 8-34 and:

1. The breakdown is not the result of intent, negligence or disregard of air pollution control regulations;
2. The breakdown is not the result of improper maintenance;
3. The breakdown does not create a public nuisance;
4. The breakdown was not caused by an excessively recurrent breakdown of the same equipment; and
5. The breakdown did not occur, and any emissions did not interfere with attainment or maintenance of any National or California air quality standard.

On June 20, 2021 at 11:20 AM the GCCS was back online after the PG&E power was restored. A breakdown report was submitted to BAAQMD on June 20, 2021 at ~11:21 AM via the afterhours phone line by TCRDF about the GCCS going offline due to PG&E's power outage and of the GCCS coming back online.

TCRDF has been and continues to actively seek a permitted generator to power the flare for future power outage events.

Sincerely,

A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is set against a light gray, textured rectangular background.

Michael Chan
WM Environmental Protection Specialist
mchan2@wm.com

cc: Patrick Madej, TCRDF
Alisha McCutcheon, TCRDF

Attachment: RCA Form TCRDF Facility A2246



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

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

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

SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	Tri-Cities Recycling and Disposal Facility	Site #	A2246
Address	7010 Auto Mall Parkway, Fremont, CA 94538	Source #	S-1
Reported by	Matt Frame/Michael Chan	Phone #	818-974-1334
Indicated Excess	-NA	Fax #	-
Allowable Limit	-NA	Averaging Time	-
Start Time/Date	6/19/21 7:00 PM	Clear Time	6/20/21 11:20 AM
Monitor/device type(s)	<input type="checkbox"/> CEM <input type="checkbox"/> GLM <input type="checkbox"/> Parametric <input type="checkbox"/> PRD <input type="checkbox"/> Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> NO _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"/> Wind Direction <input type="checkbox"/> Steam <input checked="" type="checkbox"/> Other (describe) Power Outage			
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:

A breakdown report was submitted on 6/20/21 at 11:21 AM via afterhours phone line by Tri-Cities Recycling and Disposal Facility (TCRDF) because the GCCS cannot continuously operate due to the PG&E power outage. During the PG&E power outage, the GCCS was potentially out of compliance with BAAQMD regulation 8-34-301.1. Please also see our objections and discussion in the attached cover letter dated 6/21/21.

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.

Chan, Michael

From: RCA Notification <rca@baaqmd.gov>
Sent: Monday, June 21, 2021 5:13 PM
To: Chan, Michael
Subject: [EXTERNAL] RE: Tri-Cities RCA Notification Facility A2246

I am confirming receipt, the RCA number for this notification is 08A23

From: Chan, Michael <mchan2@wm.com>
Sent: Monday, June 21, 2021 5:00 PM
To: RCA Notification <rca@baaqmd.gov>
Subject: Tri-Cities RCA Notification Facility A2246

CAUTION: This email originated from outside of the BAAQMD network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), attached is the RCA form for a PG&E power outage at TCRDF this past weekend.

Thanks,

Mike Chan

Michael Chan
EP Air Quality Specialist
mchan2@wm.com

T: 510.613.2852
C: 510.205.0410
172 98th Avenue
Oakland, CA 94603



Recycling is a good thing. Please recycle any printed emails.

Chan, Michael

From: Chan, Michael
Sent: Monday, June 28, 2021 3:14 PM
To: 'compliance@baaqmd.gov'; pnelson@baaqmd.gov
Subject: Tri-Cities Title V 10day/30day Report (RCA 08A23)
Attachments: 2021.06.28 - TCRDF Title V 10day 30day RCA 08A23.pdf

Please find attached the Tri-Cities Recycling and Disposal Facility (TCRDF) combined 10-day and 30-day written report to the Bay Area Air Quality Management District (BAAQMD) as required under the Title V Permit Condition Section I.F. for the PG&E power outage (RCA #08A23).

Regards,

Mike Chan

Michael Chan
EP Air Quality Specialist
mchan2@wm.com

T: 510.613.2852
C: 510.205.0410
172 98th Avenue
Oakland, CA 94603



Chan, Michael

From: Microsoft Outlook <MicrosoftExchange329e71ec88ae4615bbc36ab6ce41109e@wm.com>
To: 'compliance@baaqmd.gov'; pnelson@baaqmd.gov
Sent: Monday, June 28, 2021 3:14 PM
Subject: Relayed: Tri-Cities Title V 10day/30day Report (RCA 08A23)

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

compliance@baaqmd.gov (compliance@baaqmd.gov)

pnelson@baaqmd.gov (pnelson@baaqmd.gov)

Subject: Tri-Cities Title V 10day/30day Report (RCA 08A23)



Alt text: [unreadable]



TRI-CITIES RECYCLING
AND DISPOSAL FACILITY
7010 Auto Mall Parkway,
Fremont, CA 94538
(510) 376-7700

July 16, 2021

Compliance and Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105
via email: rca@baaqmd.gov

**Re: Reportable Compliance Activity (RCA 08A23) 30-Day Breakdown Report
Tri-Cities Recycling and Disposal Facility, Fremont, California
Facility Number A2246**

Dear Sir or Madam:

Although Tri-Cities Recycling and Disposal Facility (TCRDF) disagrees that Breakdown Relief is the appropriate methodology for compliance with Rule 8-34 during an unplanned power outage, due to direction from Bay Area Air Quality Management District (BAAQMD) staff, this letter is the 30-Day Breakdown Relief Report (per Regulation 1, Section 1-432) to BAAQMD for the PG&E power outage. On Saturday evening, June 19, 2021 at ~7:00 PM, PG&E's power outage caused the GCCS to go offline. On Sunday morning, June 20, 2021 at ~11:20 AM, the GCCS came back online. A breakdown report was submitted to BAAQMD on June 20, 2021 at ~11:21 AM via the afterhours phone line by TCRDF about the GCCS going offline due to PG&E's power outage and of the GCCS coming back online. TCRDF requested Breakdown Relief from BAAQMD for the June 19, 2021 PG&E power outage via BAAQMD's Reportable Compliance Activity (RCA) notification form submitted on June 21, 2021 (see Attachment A) and was assigned RCA number 08A23.

The unplanned power outage shutdown did not result in emissions and do not qualify as noncompliance. The downtime was less than 24 hours. TCRDF believes that it complied with the Title V permit conditions and safety protocols. TCRDF followed all measures to ensure gas movers and valves were closed during the shutdown event. TCRDF's downtime event was not the result of equipment malfunction, knowing, willful, intentional, chronic nor committed by a recalcitrant, and did not benefit TCRDF economically nor result in a nuisance. The frequency and duration of weather or utility-related electrical interruptions are outside of TCRDF's control.

TCRDF is committed to operating its landfill in compliance with applicable regulations and will ensure that compliance is achieved. However, TCRDF disagrees with the BAAQMD that temporary shutdowns resulting from unplanned power outages are violations of any BAAQMD regulation. TCRDF is analyzing the feasibility of installing a permitted generator to power the GCCS.

If you have any questions or need any additional information, please do not hesitate to contact me at (510) 376-7700.

Thank you,
Tri-Cities Recycling and Disposal Facility

A handwritten signature in purple ink that reads "Patrick Madej". The signature is written in a cursive style.

Patrick Madej
District Manager

ATTACHMENT A

Reportable Compliance Activity (RCA 08A23 submitted 6/21/21)



Tri-Cities Recycling and Recovery Facility
7010 Auto Mall Parkway, Fremont, CA 94538

June 21, 2021 ([via email rca@baaqmd.gov](mailto:rca@baaqmd.gov))

Compliance & Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105

**RE: Reportable Compliance Activity (RCA) Notification
Tri-Cities Recycling and Disposal Facility, Fremont, CA, Facility A2246**

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), although TCRDF disagrees that Breakdown Relief is the appropriate methodology for compliance with Rule 8-34 during an unplanned power outage, due to direction from Bay Area Air Quality Management District (BAAQMD) staff, this letter is to request Breakdown Relief from BAAQMD for the PG&E power outage. On Saturday evening, June 19, 2021 at ~7:00 PM, PG&E's power outage caused the GCCS to go offline. BAAQMD's Reportable Compliance Activity (RCA) notification form, as modified, is enclosed. It is not anticipated at this time that TCRDF violated applicable emission standard(s).

Breakdown Relief should be granted as TCRDF complied with administrative requirements despite its objections to the re-interpretation of Rule 8-34 and:

1. The breakdown is not the result of intent, negligence or disregard of air pollution control regulations;
2. The breakdown is not the result of improper maintenance;
3. The breakdown does not create a public nuisance;
4. The breakdown was not caused by an excessively recurrent breakdown of the same equipment; and
5. The breakdown did not occur, and any emissions did not interfere with attainment or maintenance of any National or California air quality standard.

On June 20, 2021 at 11:20 AM the GCCS was back online after the PG&E power was restored. A breakdown report was submitted to BAAQMD on June 20, 2021 at ~11:21 AM via the afterhours phone line by TCRDF about the GCCS going offline due to PG&E's power outage and of the GCCS coming back online.

TCRDF has been and continues to actively seek a permitted generator to power the flare for future power outage events.

Sincerely,

A handwritten signature in black ink that reads "Michael Chan". The signature is written in a cursive style and is set against a light gray, textured rectangular background.

Michael Chan
WM Environmental Protection Specialist
mchan2@wm.com

cc: Patrick Madej, TCRDF
Alisha McCutcheon, TCRDF

Attachment: RCA Form TCRDF Facility A2246



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

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

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

SITE INFORMATION AND DESCRIPTION INFORMATION (REQUIRED)

Company	Tri-Cities Recycling and Disposal Facility	Site #	A2246
Address	7010 Auto Mall Parkway, Fremont, CA 94538	Source #	S-1
Reported by	Matt Frame/Michael Chan	Phone #	818-974-1334
Indicated Excess	-NA	Fax #	-
Allowable Limit	-NA	Averaging Time	-
Start Time/Date	6/19/21 7:00 PM	Clear Time	6/20/21 11:20 AM
Monitor/device type(s)	<input type="checkbox"/> CEM <input type="checkbox"/> GLM <input type="checkbox"/> Parametric <input type="checkbox"/> PRD <input type="checkbox"/> Non-monitor		
Monitor description(s)			
Parameter(s) exceeded or not functioning due to inoperation			
<input type="checkbox"/> NO _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 checked="" type="checkbox"/> Other (describe) Power Outage	<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:

A breakdown report was submitted on 6/20/21 at 11:21 AM via afterhours phone line by Tri-Cities Recycling and Disposal Facility (TCRDF) because the GCCS cannot continuously operate due to the PG&E power outage. During the PG&E power outage, the GCCS was potentially out of compliance with BAAQMD regulation 8-34-301.1. Please also see our objections and discussion in the attached cover letter dated 6/21/21.

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.

Chan, Michael

From: RCA Notification <rca@baaqmd.gov>
Sent: Monday, June 21, 2021 5:13 PM
To: Chan, Michael
Subject: [EXTERNAL] RE: Tri-Cities RCA Notification Facility A2246

I am confirming receipt, the RCA number for this notification is 08A23

From: Chan, Michael <mchan2@wm.com>
Sent: Monday, June 21, 2021 5:00 PM
To: RCA Notification <rca@baaqmd.gov>
Subject: Tri-Cities RCA Notification Facility A2246

CAUTION: This email originated from outside of the BAAQMD network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

On behalf of Tri-Cities Recycling and Disposal Facility (TCRDF), attached is the RCA form for a PG&E power outage at TCRDF this past weekend.

Thanks,

Mike Chan

Michael Chan
EP Air Quality Specialist
mchan2@wm.com

T: 510.613.2852
C: 510.205.0410
172 98th Avenue
Oakland, CA 94603



Recycling is a good thing. Please recycle any printed emails.

Chan, Michael

From: Chan, Michael
Sent: Friday, July 16, 2021 1:13 PM
To: rca@baaqmd.gov
Cc: pnelson@baaqmd.gov
Subject: Tri-Cities 30day Breakdown Request Report (RCA 08A23)
Attachments: 2021.07.16 - TCRDF 30day Breakdown RCA 08A23.pdf

Please find attached the Tri-Cities Recycling and Disposal Facility (TCRDF) 30-day Breakdown Request written report to the Bay Area Air Quality Management District (BAAQMD) as required for the PG&E power outage (RCA #08A23).

Regards,

Mike Chan

Michael Chan
EP Air Quality Specialist
mchan2@wm.com

T: 510.613.2852
C: 510.205.0410
172 98th Avenue
Oakland, CA 94603



Chan, Michael

From: Microsoft Outlook <MicrosoftExchange329e71ec88ae4615bbc36ab6ce41109e@wm.com>
To: rca@baaqmd.gov; pnelson@baaqmd.gov
Sent: Friday, July 16, 2021 1:15 PM
Subject: Relayed: Tri-Cities 30day Breakdown Request Report (RCA 08A23)

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

rca@baaqmd.gov (rca@baaqmd.gov)

pnelson@baaqmd.gov (pnelson@baaqmd.gov)

Subject: Tri-Cities 30day Breakdown Request Report (RCA 08A23)



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ALAMEDA COUNTY
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(Secretary)
Pauline Russo Cutter
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MARIN COUNTY
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Rich Constantine
Rob Rennie

SOLANO COUNTY
Erin Hannigan
Lori Wilson

SONOMA COUNTY
Teresa Barrett
Lynda Hopkins

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Connect with the
Bay Area Air District:



Patrick Madej
Tri-Cities Waste Management
2615 Davis Street
San Leandro, CA 94577

October 14, 2021

Application Number: 30990
Plant Number: A2246
Equipment Location:
7010 Auto Mall Parkway
Fremont, CA 94538

Dear Mr. Madej:

The purpose of this letter is to cancel the Title V permit for the plant listed below.

Plant	Plant Name	Application	Permit Engineer	City	County
A2246	Tri-Cities Waste Management	30990	R. Atterbury	Fremont	Alameda

The Title V permit is being cancelled because the plant is no longer a designated facility as defined by BAAQMD Regulation 2-6-204 and because the potential to emit is less than the major source thresholds specified in BAAQMD Regulation 2-6-212. The attached evaluation contains the analysis that supports these conclusions.

The cancellation of the Title V permit, application, and status is effective as of the date of this letter. The Air District has also notified EPA Region 9 and the California Air Resources Board that the permit has been cancelled.

Please note that monitoring reports and compliance certifications are required for the period up to the date of cancellation. The final monitoring report required by Condition I.F of the Title V permit for Plant A2721 will be due by November 30, 2021. The final compliance certification required by Condition I.G of the Title V permit will be due by November 30, 2021.

If you have any questions regarding this matter, please call Dennis Jang, Supervising Air Quality Engineer, at djang@baaqmd.gov.

Sincerely yours,

Pamela Leong
Digitally signed by Pamela Leong
DN: cn=Pamela Leong, o, ou,
email=pleong@baaqmd.gov, c=US
Date: 2021.10.13 17:17:28 -0700

Pamela J. Leong
Director of Engineering

PJL:DTJ:myl
Attachments

Spare the Air

Title V Status
Application #30990 Evaluation Report
Waste Management of Alameda County, Site #A2246

October 4, 2021

The potential to emit calculation in this evaluation report demonstrates that the potential to emit for Waste Management of Alameda County, or the TriCities Recycling and Recovery Facility (TCRRF), does not exceed the major source thresholds for Title V applicability. Furthermore, TCRRF is no longer a designated facility per 40 CFR 60, Subpart Cf. Therefore, the Title V operating permit for TCRRF is cancelled. A synthetic minor operating permit is not required because the potential to emit is below major source thresholds.

BACKGROUND

Waste Management of Alameda County, Site #A2246

Waste Management of Alameda County (TCRRF), Site #A2246, is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR). According to the Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc), Site #A2246 is a designated facility because it has a design capacity greater than or equal to 2.5 million megagrams (Mg). The landfill has a maximum design capacity of 12.25 million Mg. Therefore, the facility is required to obtain an operating permit under Part 70.

Site #A2246 also previously triggered the Emission Guideline requirements to install and operate a landfill gas collection system (GCCS) because the non-methane organic compounds (NMOC) emissions were previously calculated to be over 50 Mg. A GCCS was installed at the facility in 1987. These emission guidelines are found at 40 CFR 60, Subpart Cc. Subpart Cf was promulgated on August 29, 2016, and is in effect as of this writing in 2021.

According to 40 CFR 60.33f(f) the GCCS at closed landfills may be capped or removed provided all of the conditions of paragraphs 60.33f(f) (1), (2), and (4) are met. 40 CFR 60.752(b)(2)(v) states the following:

- (A) The landfill shall be a closed landfill as defined in 60.41f of this subpart. A closure report shall be submitted to the Administrator as provided in 60.38f(f);
- (B) The collection and control system shall have been in operation a minimum of 15 years; and
- (D) For a closed landfill, following the procedures specified in 60.35f(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart and no more than 180 days apart.

Title V Status
Application #30990 Evaluation Report
Waste Management of Alameda County, Site #A2246

TCRRF is not proposing to cap, remove, or decommission the GCCS. The GCCS is still required by BAAQMD Regulation 8, Rule 34, and the California Landfill Methane Rule. However, meeting the conditions in 40 CFR 60.33f(f)(1), (2), and (4) allows the facility to cancel its Title V permit per Section 60.31f(d)(2).

Site #A2246 currently meets all of the above conditions stated in 60.33f(f) (1), (2), and (4). The site is a closed landfill as defined in 40 CFR 60.41f. The site officially ceased waste acceptance and disposal operations in November 2013 and achieved final closure status in June 2015. The facility's GCCS was installed in 1987 and, therefore, has been in operation for at least 15 years. Tier 2 NMOC sampling was conducted on September 14, 2016, December 14, 2016, and March 29, 2017.

As required by the Regulation, the test dates were no less than 90 days apart and no more than 180 days apart. The NMOC emissions were 18.62 Mg/yr, 20.13 Mg/yr, and 15.90 Mg/yr - demonstrating that the NMOC gas produced is less than 50 Mg/yr on three successive test dates. The calculations are based on the equation outlined in 40 CFR 60.35f(b):

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}} \quad (\text{Equation 1})$$

Where:

M_{NMOC} = Mass emission rate of NMOC, megagrams per year;

Q_{LFG} = Flow rate of landfill gas, cubic meters per minute;

C_{NMOC} = NMOC concentration, parts per million by volume as hexane

The flow rate was determined in accordance with the requirements of 40 CFR 60.35f(b)(1). The concentration was determined in accordance with the requirements of 40 CFR 60.35f(b)(2). The landfill gas was sampled from the common header pipe before the gas moving or condensate removal equipment.

The landfill gas generation rate, 37.89 m³/min, and the NMOC concentration, 260 ppm, determined from the 9-14-16 sampling event are used to calculate M_{NMOC} (Mg/year) as follows:

$$\begin{aligned} M_{\text{NMOC}} (\text{Mg/year}) &= 1.89\text{E-}03 \times (37.89 \text{ m}^3/\text{min}) \times 260 \text{ ppm} \\ M_{\text{NMOC}} &= 18.62 \text{ Mg/yr} \end{aligned}$$

The landfill gas generation rate, 36.93 m³/min, and the NMOC concentration, 288 ppm, determined from the 12-14-16 sampling event are used to calculate M_{NMOC} (Mg/year) as follows:

$$\begin{aligned} M_{\text{NMOC}} (\text{Mg/year}) &= 1.89\text{E-}03 \times (36.93 \text{ m}^3/\text{min}) \times 288 \text{ ppm} \\ M_{\text{NMOC}} &= 20.13 \text{ Mg/yr} \end{aligned}$$

The landfill gas generation rate, 37.67 m³/min, and the NMOC concentration, 223 ppm, determined from the 3-29-17 sampling event are used to calculate M_{NMOC} (Mg/year) as follows:

$$M_{\text{NMOC}} (\text{Mg/year}) = 1.89\text{E-}03 \times (37.67 \text{ m}^3/\text{min}) \times 223 \text{ ppm}$$

<p>Title V Status Application #30990 Evaluation Report Waste Management of Alameda County, Site #A2246</p>

$$M_{\text{NMOC}} = 15.90 \text{ Mg/yr}$$

According to Part d of the definition for a designated facility, a landfill is no longer subject to Title V requirements if the landfill is closed and meets the conditions for control system removal.

This evaluation also sets out to demonstrate that the TCRRF does not trigger the requirements for a Major Facility Review permit due to the magnitude of its emissions.

Regulation 2, Rule 6 applicability based on major source thresholds

District Regulation 2, Rule 6, Section 212 defines a major facility as a facility that has the potential to emit 100 tons per year or more of any regulated air pollutant or the potential to emit 10 tons per year or more of a single hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants.

Site #A2246 has a Major Facility Review permit that was issued on November 28, 2001, revised on June 5, 2003, September 30, 2004, October 19, 2004, August 16, 2006, and March 8, 2017, and renewed on November 2, 2007, May 5, 2014, and October 29, 2019. However, the facility was not determined to be a major facility as defined by Regulation 2-6-212. Instead, Site #A2246 was subject to Major Facility Review because it was a “designated facility” per Section 60.32c(c) of the original emission guideline, Section 70.3(a)(5) of the Federal Title V regulations, and Sections 2-6-204 and 2-6-304 in the District Major Facility Review rule..

A potential to emit determination for this facility is discussed in the sections below. It shows that the facility is not major as defined by District Regulation 2-6-212.

SOURCES COVERED

Waste Management of Alameda County, Site #A2246

The permitted equipment at this facility is listed below.

S-1	Tri-Cities Landfill - Waste Decomposition Process	Inactive Class II and III Solid Waste Disposal Site
S-5	Woodwaste Stockpiles	
S-8	Wood Grinder	208,000 tons/year
S-24	Concrete and Asphalt Stockpile Storage Area	150,000 tons/year

<p>Title V Status Application #30990 Evaluation Report Waste Management of Alameda County, Site #A2246</p>

A-3	Enclosed Landfill Gas Flare	75 MM BTU/hour
A-5	Water Truck	3,500 gallons

EMISSION CALCULATIONS

Waste Management of Alameda County, Site #A2246

All emissions from this closed landfill are:

- Fugitive landfill gas from S-1
- Emissions derived from collected landfill gas and its abatement device
- A-3 Enclosed Landfill Gas Flare
- Particulate matter from the Woodwaste Stockpiles, S-5, the Wood Grinder, S-8, or the Concrete and Asphalt Stockpile Storage Area, S-24.

Landfills are not one of the 28 source categories for which fugitive emissions of regulated air pollutants must be included in Title V potential to emit (PTE) determinations, per BAAQMD Regulation 2-6-212.1 (and 40 CFR 70.1). Since the uncollected landfill gas emissions from S-1 are fugitive in nature, the regulated air pollutants (NMOC) in fugitive landfill gas are not included in the site-wide PTE determination.

However, the fugitive hazardous air pollutants are included in the potential to emit determination per BAAQMD Regulation 2-6-212.1 (and 40 CFR 70.1).

The Enclosed Landfill Gas Flare, A-3, abates landfill gas collected from S-1. The maximum heat input rate for A-3 is 75 MM BTU/hour. The PTE determination for this site is based on A-3 operating at 75 MM BTU/hour for 24 hours/day and 365 days/year (8,760 hours/year). The maximum annual heat input rate is 657,000 MM BTU/year. Maximum potential emissions were determined based on the emission limits and maximum emission factors specified in the original engineering evaluation for A-3 (NSR Application #9790). These factors and the associated permit condition limits are discussed in more detail below.

TCRRF processes wood-waste for recycling operations at the Woodwaste Stockpiles, S-5, and the Wood Grinder, S-8. The throughput rate for S-5 and S-8 is 100 tons/hour of wood-waste for 2,080 hours/year. The PTE determinations for S-5 and S-8 are based on S-5 and S-8 operating at 208,000 tons/year. Maximum potential emissions for S-5 were determined based on AP-42, Fifth Edition, Chapter 13.2.4 and AP-42, Fourth Edition, Chapter 8.19. Maximum potential emissions for S-8 were determined based on the emission calculations and maximum emission factors specified in the engineering evaluation for S-8 (NSR Application #30777). These factors are discussed in more detail below.

<p>Title V Status Application #30990 Evaluation Report Waste Management of Alameda County, Site #A2246</p>

The wood grinder is powered by a Tier 4 755-hp diesel non-road engine. The engine is not included in the PTE, because non-road engines are exempt from Major Facility Review per BAAQMD Regulation 2-6-114.

TCRRF processes concrete and asphalt for recycling operations at the Concrete and Asphalt Stockpile Storage Area, S-24. The maximum daily throughput rate for S-24 is 2,500 tons/day. The PTE determination for S-24 is based on S-24 operating at 150,000 tons/year, because the maximum annual throughput rate is limited to 150,000 tons/year. Maximum potential emissions were determined based on the emission limits and maximum emission factors specified in the original engineering evaluation for S-24 (NSR Application #24095). These factors and the associated permit condition limits are discussed in more detail below.

The total site-wide potential to emit (PTE) and current emissions, excluding fugitive emissions, are summarized in Table 1 and compared to the Title V permit limits. As shown in Table 1, the site-wide PTE is less than the Regulation 2-6-212 major facility limits.

Total Site-Wide Emissions from Site # A2246

	Title V Limit tons/year	Potential to Emit tons/year
CO	100.0	98.550
NO _x	100.0	19.710
SO ₂	100.0	10.479
PM ₁₀	100.0	6.671
PM _{2.5}	100.0	6.379
POC	100.0	6.570
HAPs ⁽¹⁾	25.0 / 10.0	2.107/ 0.500
H ₂ S	100.0	1.316

(1) The total HAP PTE is less than both the total HAP limit of 25.0 tons/year and the single HAP limit of 10.0 tons/year. The largest expected single HAP is xylene at 0.500 tons/year.

Title V Status
Application #30990 Evaluation Report
Waste Management of Alameda County, Site #A2246

NO_x and CO Emissions:

In accordance with the Engineering Evaluation for Application #9790, A-3 was subject to the following RACT limits: 0.06 pounds of NO_x per MM BTU and 0.30 pounds of CO per MM BTU.

$$\begin{aligned} \text{CO} & \quad (657,000 \text{ MM BTU/year}) * (0.30 \text{ lbs/MM BTU}) / (2000 \text{ lbs/ton}) & = & \quad 98.550 \text{ tons/year} \\ \text{NO}_x & \quad (657,000 \text{ MM BTU/year}) * (0.06 \text{ lbs/MM BTU}) / (2000 \text{ lbs/ton}) & = & \quad 19.710 \text{ tons/year} \end{aligned}$$

Estimates of current CO and NO_x emissions are based on Source Test #OS-6733 conducted on February 23, 2017 and approved by the Air District on May 19, 2017. This source test measured average emissions of:

0.0381 pounds of NO_x per MM BTU and
0.0021 pounds of CO per MM BTU

Given the actual emission factors and the throughput limit, NO_x emissions from A-3 are 12.514 tons/year and the CO emissions from A-3 would be 0.695 tons/year.

SO₂ Emissions:

Landfill gas contains a variety of sulfur compounds such as hydrogen sulfide, carbon disulfide, carbonyl sulfide, dimethyl sulfide, and ethyl and methyl mercaptans. The total concentration of sulfur compounds in landfill gas, or total reduced sulfur (TRS) content, is typically expressed as an equivalent concentration to hydrogen sulfide (H₂S). When landfill gas is burned in A-3, the sulfur in these compounds is oxidized and forms sulfur dioxide (SO₂). For SO₂ emission calculations, the District assumes that 100% of the inlet TRS will be converted to sulfur dioxide at a ratio of 1 mole of SO₂ formed per 1 mole of TRS (expressed as H₂S) in landfill gas.

From the Engineering Evaluation for Application #17350, the TRS concentration in the landfill gas was limited to 1,300 ppmv. This was done to ensure compliance with BAAQMD Regulation 9-1-302 for a limit of 300 ppmv of SO₂ in the stack gas. Source Test #OS-6733 conducted on February 23, 2017 and approved by the Air District on May 19, 2017 demonstrated compliance with the SO₂ limit. The concentration of total reduced sulfur as H₂S in the landfill gas was an average of 185 ppm. The SO₂ concentration was sampled as 16.5 ppm at the flare outlet. The fuel heat input was measured as 37.8 MM BTU/hour, 331,128 MM BTU/year. From the Engineering Evaluation for Application #9790, the exhaust flow rate of the flare is 41,775 dscfm at 13.6% O₂ and the maximum flare heat input rate is 75 MM BTU per hour, or 1.25 MM BTU per minute. The calculation is as follows:

$$(41,775 \text{ dscfm @ } 13.6\% \text{ O}_2) * ((20.9 - 13.6) / (20.9 - 0)) * (1 \text{ minute} / 1.25 \text{ MM BTU}) = 11,673 \text{ scf/MM BTU}$$

<p>Title V Status Application #30990 Evaluation Report Waste Management of Alameda County, Site #A2246</p>

$$(16.5 \text{ E-6 lb-mol S} / 1.0 \text{ lb-mole flue gas}) * (1.0 \text{ lb-mole SO}_2 / 1.0 \text{ lb-mole S}) * (64.059 \text{ lbs SO}_2 / 1.0 \text{ lb-mole SO}_2) * (1.0 \text{ lb mole flue gas} / 386.765 \text{ ft}^3 \text{ flue gas}) * (11673 \text{ scf/MM BTU})$$

$$= 0.032 \text{ lbs SO}_2/\text{MM BTU}$$

$$\text{SO}_2 \quad (331,128 \text{ MM BTU/year}) * (0.032 \text{ lbs/MM BTU}) / (2000 \text{ lbs/ton}) = 5.282 \text{ tons/year}$$

PM₁₀ and PM_{2.5} Emissions:

For Application #9790, the maximum PM₁₀ and PM_{2.5} flare emissions were calculated from the AP-42 emission factor of 17 pounds of PM per million standard cubic feet of methane. For landfill gas at 50% methane this emission factor is equivalent to a PM₁₀ and PM_{2.5} emission rate of 0.017 lbs/MM BTU as shown below:

$$(17 \text{ lbs PM/MM scf CH}_4) * (0.50 \text{ MM scf CH}_4/\text{MM scf LFG}) / (497 \text{ MM BTU/MM scf LFG}) = 0.017 \text{ lbs PM/MM BTU}$$

$$\text{PM}_{10}/\text{PM}_{2.5} \quad (657,000 \text{ MM BTU/year}) * (0.017 \text{ lbs/MM BTU}) / (2000 \text{ lbs/ton}) = 5.585 \text{ tons/year}$$

PM₁₀ and PM_{2.5} emissions from sources at this facility result from the handling of woodwaste. This is done at the Woodwaste Stockpiles, S-5, and the Wood Grinder, S-8. For Application 30777, the particulate emissions from S-8 were analyzed at a maximum operation rate of 100 tons/hr and 2,080 hours per year. Emissions from S-5 are analyzed here at the same throughput rate and assuming that emissions from the woodwaste stockpiles will be equal to the sum of drop operations emissions described in AP-42, Fifth Edition, Volume I, Chapter 13.2.4, Aggregate Handling and Storage Piles, Equation 1, and wind erosion emissions (only PM₁₀) described in AP-42, Fourth Edition, Chapter 8.19, Table 8.19.1-1. The particulate matter emissions calculation for S-5 is shown below:

$$\text{PM}_{10} \quad (100 \text{ tons woodwaste/hr}) * (2080 \text{ hours/year}) * (5.07\text{E-}05 \text{ lb/ton}) / (2000 \text{ lbs/ton}) + (1.7 \text{ lb/acre/day}) * (365 \text{ days/year}) * (0.110 \text{ acres}) = 0.039 \text{ tons/year}$$

$$\text{PM}_{2.5} \quad (100 \text{ tons woodwaste/hr}) * (2080 \text{ hours/year}) * (7.67\text{E-}06 \text{ lb/ton}) / (2000 \text{ lbs/ton}) = 0.001 \text{ tons/year}$$

Application 30777 calculated particulate emissions from S-8 using the emissions factors for “Log Debarking” from AP-42 Fourth Edition, Chapter 10.3, Table 10.3-1 for Log Debarking. Based on the Bay Area Air Quality Management District’s Permit Handbook, Chapter 11.13 for Tub Grinders, approximately 60% of the total suspended particulates (TSP) are assumed to be PM₁₀. For a conservative estimate, 100% of the PM₁₀ emissions are assumed to be PM_{2.5}. The grinder will be equipped with a water spray system (A-36) to reduce visible emissions during the grinding

Title V Status
Application #30990 Evaluation Report
Waste Management of Alameda County, Site #A2246

operations. A 50% abatement factor will be applied to the grinding operations. The particulate matter emissions calculation for S-8 is shown below:

$$PM_{10}/PM_{2.5} (100 \text{ tons woodwaste/hr}) * (2080 \text{ hours/year}) * (0.0072 \text{ lb/ton}) / (2000 \text{ lbs/ton}) = 0.749 \text{ tons/year}$$

Particulate matter emissions also result from the handling of recycled concrete and asphalt at this facility. This is done at the Concrete and Asphalt Stockpile Storage Area, S-24. Emissions from S-24 are based on the permitted throughput limit of 150,000 tons/year in permit condition 25393. Emissions from the S-24 will be equal to the sum of drop operations emissions described in AP-42, Fifth Edition, Volume I, Chapter 13.2.4, Aggregate Handling and Storage Piles, Equation 1, truck unloading-fragmented stone emissions described in AP-42, Fifth Edition, Chapter 11.19.2, Crushed Stone Processing and Pulverized Mineral Processing, Table 11.19.2-2, and wind erosion emissions (only PM_{10}) described in AP-42, Fourth Edition, Chapter 8.19, Table 8.19.1-1. The particulate matter emissions calculation for S-24 is shown below:

$$PM_{10} (150,000 \text{ tons concrete/asphalt/year}) * (3.83E-03 \text{ lb/ton}) / (2000 \text{ lb/ton}) + (150,000 \text{ tons concrete/asphalt/year}) * (1.60E-05 \text{ lb/ton-transfer}) * (2 \text{ transfers}) / (2000 \text{ lb/ton}) + (1.7 \text{ lb/acre/day}) * (365 \text{ days/year}) * (0.028 \text{ acres}) = 0.298 \text{ tons/year}$$

$$PM_{2.5} (150,000 \text{ tons concrete/asphalt/year}) * (5.80E-04 \text{ lb/ton}) / (2000 \text{ lb/ton}) = 0.044 \text{ tons/year}$$

The total particulate matter emissions from A2246 are:

$$PM_{10} 5.585 \text{ tons/year} + 0.039 \text{ tons/year} + 0.749 \text{ tons/year} + 0.298 \text{ tons/year} = 6.671 \text{ tons/year}$$

$$PM_{2.5} 5.585 \text{ tons/year} + 0.001 \text{ tons/year} + 0.749 \text{ tons/year} + 0.044 \text{ tons/year} = 6.379 \text{ tons/year}$$

POC Emissions:

BAAQMD Regulation 8-34-301.3 allows 30 ppmv of NMOC (as methane) at 3% O_2 in the flare exhaust or a minimum of 98% NMOC destruction efficiency by weight. The inlet NMOC at this site is low, 1741 ppm. Basing the PTE on the outlet concentration limit results in higher emissions. Therefore, POC emissions from A-3 are based on the outlet concentration limit. The outlet concentration limit is equivalent to an NMOC emission rate of 0.02 lbs/MM BTU as shown below:

$$(30 \text{ lb-mole } CH_4 / 1E6 \text{ lb-mole flue gas}) * (17,037 \text{ ft}^3 \text{ flue gas @ } 3\% \text{ } O_2 / \text{min}) * (60 \text{ min/hr}) / (386.765 \text{ ft}^3 \text{ flue gas} / 1.0 \text{ lb-mole flue gas}) * (16.04 \text{ lbs } CH_4 / 1.0 \text{ lb-mole } CH_4) = 1.27 \text{ lbs NMOC/hr}$$

$$(1.27 \text{ lb NMOC/hr}) / (75 \text{ MM BTU / hour}) = 0.02 \text{ lb NMOC / MM BTU}$$

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POC (657,000 MM BTU/year)*(0.02 lbs/MM BTU)/(2000 lbs/ton) = 6.570 tons/year

HAP Emissions:

Landfill gas contains small quantities of numerous HAPs such as toluene, benzene, methylene chloride, and vinyl chloride. Landfill gas flares will have residual emissions of these HAPs. In addition, landfill gas flares emit secondary HAPs such as formaldehyde, which results from the combustion of methane, and acid gases such as hydrogen chloride and hydrogen fluoride that result from the combustion of halogenated compounds.

Facility-wide toxic emissions were recently assessed for this facility for BAAQMD Regulation 11, Rule 18. This analysis was based on landfill gas and flare sampling conducted on May 17, 2019. Where test results were not available, default values, generated as part of the Regulation 11, Rule 18 effort, from similar landfills throughout the District were used. Also, emissions of other HAPs resulting from combustion were estimated using factors from the California Air Resources Board database of “California Air Toxics Emission Factors” (CATEF) for Landfill Gas Flares. The District assumed that A-3 would destroy at least 98% of each individual organic compound. Residual HAP emissions and secondary emissions from A-3 with an LFG throughput of 1327 scfm (as used in the analysis carried out for Regulation 11, Rule 18) are shown below:

	Emission Factor lbs/MM scf	Emissions Tons/year
Acetaldehyde	2.58E-01 ⁽²⁾	8.99E-02
Acrolein	3.33E-02 ⁽²⁾	1.16E-02
Acrylonitrile	2.71E-04	9.47E-05
Allyl chloride	8.90E-05	3.10E-05
Benzene	3.92E-03	1.37E-03
Benzyl chloride	3.60E-05	1.25E-05
1,3-Butadiene	1.40E-04	4.87E-05
Carbon disulfide	2.71E-04	9.47E-05
Carbon tetrachloride	3.58E-04	1.25E-04
Chlorobenzene	6.40E-04	2.23E-04
Chloroform	3.39E-05	1.18E-05

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	Emission Factor lbs/MM scf	Emissions Tons/year
1,4-Dichlorobenzene	3.42E-03	1.19E-03
1,1-Dichloroethane	1.13E-04	3.92E-05
1,1-Dichloroethene	6.01E-05	2.10E-05
1,4-Dioxane	2.64E-04	9.21E-05
Dioxins PCDDs	1.50E-07 ⁽²⁾	5.23E-08
Ethylbenzene	3.73E-02	1.30E-02
Ethyl chloride	7.50E-05	2.62E-05
Ethylene dibromide	5.34E-05	1.86E-05
Ethylene dichloride	9.21E-05	3.21E-05
Formaldehyde	1.80E-01 ⁽²⁾	6.26E-02
Hexane	2.72E-03	9.47E-04
Hydrogen chloride	5.11E-01	1.78E-01
Hydrogen fluoride	8.26E-02	2.88E-02
Hydrogen sulfide ⁽¹⁾	2.14E-01	7.45E-02
Isopropyl Alcohol	1.86E-02	6.50E-03
Mercury	1.12E-06	3.92E-07
Methanol	2.15E-02	7.51E-03
Methyl bromide	1.10E-04	3.85E-05
Methylene chloride	9.88E-05	3.44E-05
Methyl ethyl ketone	2.46E-02	8.58E-03
Methyl tert-butyl ether	7.74E-05	2.70E-05
Naphthalene	3.56E-02 ⁽²⁾	1.24E-02
PAH (as B(a)P-equiv.)	4.48E-03 ⁽²⁾	1.56E-03
Perchloroethylene	1.20E-03	4.18E-04
Propene	2.17E-02	7.58E-03
Styrene	1.94E-03	6.76E-04

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	Emission Factor lbs/MM scf	Emissions Tons/year
1,1,2,2-Tetrachloroethane	4.77E-05	1.66E-05
Toluene	5.71E-02	1.99E-02
Trichloroethylene	5.91E-04	2.06E-04
1,1,1-Trichloroethane	3.79E-05	1.32E-05
1,1,2-Trichloroethane	3.79E-05	1.32E-05
Vinyl acetate	1.38E-04	4.81E-05
Vinyl chloride	5.81E-04	2.03E-04
Xylene	8.12E-02	2.83E-02
Total	--	4.83E-01

⁽¹⁾Hydrogen sulfide is not considered a HAP by the EPA. Therefore, hydrogen sulfide emissions are not included in the potential to emit for HAPs. It will be listed separately as a regulated air pollutant.

⁽²⁾Emission factors from CATEF for Landfill Gas Flares.

Landfills are also the source of fugitive HAP emission. The Air District database conservatively estimates HAP emission from A2246 by assuming 75% capture efficiency and using the same methods described above for non-combustion emissions.

	Emission Factor lbs/MM scf	Emissions Tons/year
Acrylonitrile	4.52E-03	1.58E-03
Allyl chloride	1.48E-03	5.17E-04
Benzene	6.53E-02	2.28E-02
Benzyl chloride	6.00E-04	2.09E-04
1,3-Butadiene	2.33E-03	8.12E-04
Carbon disulfide	4.52E-03	1.58E-03
Carbon tetrachloride	5.96E-03	2.08E-03
Chlorobenzene	1.07E-02	3.72E-03
Chloroform	5.66E-04	1.97E-04
1,4-Dichlorobenzene	5.70E-02	1.99E-02

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	Emission Factor lbs/MM scf	Emissions Tons/year
1,1-Dichloroethane	1.88E-03	6.54E-04
1,1-Dichloroethene	1.00E-03	3.49E-04
1,4-Dioxane	4.40E-03	1.53E-03
Ethylbenzene	6.22E-01	2.17E-01
Ethyl chloride	1.25E-03	4.36E-04
Ethylene dibromide	8.90E-04	3.10E-04
Ethylene dichloride	1.53E-03	5.35E-04
Hexane	4.53E-02	1.58E-02
Hydrogen sulfide ⁽¹⁾	3.56E+00	1.24E+00
Isopropyl Alcohol	3.11E-01	1.08E-01
Mercury	1.87E-05	6.53E-06
Methanol	3.59E-01	1.25E-01
Methyl bromide	1.84E-03	6.42E-04
Methylene chloride	1.65E-03	5.74E-04
Methyl ethyl ketone	4.10E-01	1.43E-01
Methyl tert-butyl ether	1.29E-03	4.50E-04
Perchloroethylene	2.00E-02	6.97E-03
Propene	3.62E-01	1.26E-01
Styrene	3.23E-02	1.13E-02
1,1,2,2-Tetrachloroethane	7.95E-04	2.77E-04
Toluene	9.52E-01	3.32E-01
Trichloroethylene	9.85E-03	3.43E-03
1,1,1-Trichloroethane	6.32E-04	2.20E-04
1,1,2-Trichloroethane	6.32E-04	2.20E-04
Vinyl acetate	2.30E-03	8.02E-04
Vinyl chloride	9.69E-03	3.38E-03

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	Emission Factor lbs/MM scf	Emissions Tons/year
Xylene	1.35E+00	4.72E-01
Total	--	1.62E+00

¹)Hydrogen sulfide is not considered a HAP by the EPA. Therefore, hydrogen sulfide emissions are not included in the potential to emit for HAPs. It will be listed separately as a regulated air pollutant.

Particulate matter emissions from sources where cementitious materials are handled will include emissions of HAPs that are present in cement. The Concrete and Asphalt Stockpile Storage Area, S-24, involves the handling of cementitious materials. HAP emissions summarized below were estimated as a fraction of maximum annual PM₁₀ emissions. The weight fraction of HAP in PM₁₀ was estimated by using the following equation and emissions factors of HAPs and PM₁₀ for concrete batching from AP-42, Chapter 11.12. Because all HAP speciation profiles or emission factors are available only for cement, the weight fraction of HAP in PM₁₀ emissions from concrete handling were estimated by normalizing for cement content in concrete. The cement content in concrete was also obtained from AP-42, Chapter 11.12.

% Wt of TAC in PM10 Emissions

$$= \frac{TAC\ EF\ (lb\ \frac{TAC}{ton\ cement})}{PM10\ EF\ (\frac{lb\ PM10}{ton\ cement})} \times 100 \times Cement\ content\ in\ Concrete\ (\%)$$

AP-42, Chapter 11.12 provides emission factors for total chromium, but not hexavalent chromium. Fraction of hexavalent chromium in total chromium was estimated using the data from a San Diego APCD study¹, which is also used in the revised BAAQMD Permit Handbook Chapter 11.5.

Crystalline silica is not on the EPA list of hazardous air pollutants, so it was not included in this PTE.

Fraction of mercury in PM₁₀ was also estimated using a similar methodology. Mercury content in Portland cement² was normalized for cement content in concrete. The fraction of mercury in PM₁₀ generated from concrete was assumed to be equal to the fraction of mercury in concrete.

	Emission Factor lb/ton	Emissions Tons/year
Arsenic	2.13E-08	1.60E-06
Beryllium	4.26E-10	3.20E-08

¹ Concrete Batch Plant Operations, <http://www.sdapcd.org/toxics/emissions/concrete/concrete1.pdf>

² [Mercury Emission and Speciation from Portland Cement Kilns, page 8
http://www.ibrarian.net/navon/paper/Research_Development_Information.pdf?paperid=12267008]

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	Emission Factor lb/ton	Emissions Tons/year
Cadmium	5.98E-11	4.48E-09
Hexavalent Chromium	1.79E-09	1.34E-07
Lead	6.33E-09	4.74E-07
Manganese	1.07E-07	8.02E-06
Mercury	7.58E-12	5.69E-10
Nickel	2.08E-08	1.56E-06
Selenium	4.58E-09	3.43E-07
Total	--	1.22E-05

The potential to emit for HAPs emitted from A2246 are:

HAPs 1.62E+00 tons/year + 4.83E-01 tons/year + 1.22E-05 ton/year = 2.11E+00 tons/year

The largest emitted HAP is xylene with 0.50 tons/year.

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POTENTIAL TO EMIT DISCUSSION

The potential to emit for A2246 is discussed above. The table below compares the total potential to emit for each pollutant and compares the values to the thresholds required for a major facility operating permit. The total potential to emit for the facility is well below the threshold limits. Therefore, a major facility review permit is not required for A2246 as defined in Regulation 2-6-212.

Total Site-Wide Emissions from Site #A2246 Considering Full Capacity of the Flare

	Title V Limit tons/year	Potential to Emit tons/year
CO	100.0	98.550
NO _x	100.0	19.710
SO ₂	100.0	10.479
PM ₁₀	100.0	6.671
PM _{2.5}	100.0	6.379
POC	100.0	6.570
HAPs ⁽¹⁾	25.0 / 10.0	2.107/ 0.500
H ₂ S	100.0	1.316

(1) HAPs and H₂S emissions are analyzed considering 1327 scfm, as used in the analysis carried out for Regulation 11, Rule 18

The PTE for CO for the facility does approach 100 tons/year. This is considering that the flare has the capacity to burn 2,500 cfm of landfill gas (eq. to 1,314 million cf/yr.) However, because the landfill was closed in 2013, the actual amount of landfill gas collected is dropping and no other fuels can be sent to the flare. The actual amounts of landfill gas collected for recent years are shown below:

- 2020: 569 MMcf
- 2019: 603 MMcf
- 2018: 697 MMcf
- 2017: 836 MMcf

The flow measured at the most recent source test was 1,310 cfm. Based on the current landfill generation rates, and because the amount of gas generated in a closed landfill can only decrease, the PTE will be re-calculated assuming a lower flow at the flare of 1,500 cfm. The resulting PTE is shown below:

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Total Site-Wide Emissions from Site #A2246 Considering 1,500 cfm LFG to the Flare

	Title V Limit tons/year	Potential to Emit tons/year
CO	100.0	56.830
NO _x	100.0	11.366
SO ₂	100.0	6.043
PM ₁₀	100.0	4.306
PM _{2.5}	100.0	4.014
POC	100.0	3.789
HAPs ⁽¹⁾	25.0 / 10.0	2.107/ 0.500
H ₂ S	100.0	1.316

(1) HAPs and H₂S emissions are analyzed considering 1327 scfm, as used in the analysis carried out for Regulation 11, Rule 18

The total potential to emit for the facility is below the threshold limits as defined in Regulation 2-6-212. Therefore, the major facility review permit can be cancelled and a synthetic minor permit is not required for A2246.

The total emissions of HAPs from all facilities are well below the 10 tons per year threshold for the greatest emitted HAP. The single greatest HAP from all the facility is xylene at 0.500 tons per year.

PERMIT CONDITION # 8366

The current permit condition, permit condition # 8366, for S-1, Tri-Cities Landfill – Waste Decomposition Process, includes references to BAAQMD Regulation 2, Rule 6 and federal requirements associated with facilities subject to Title V permitting. Because TCRRF is no longer subject to Major Facility Review, as determined in this evaluation, these references are removed from the permit condition. The updated permit condition is shown below:

Condition # 8366

FOR S-1: TRI-CITIES LANDFILL – WASTE DECOMPOSITION PROCESS; EQUIPPED WITH GAS COLLECTION SYSTEM; AND ABATED BY A-3: LANDFILL GAS FLARE

1. The Tri-Cities Landfill S-1 is permitted for a total refuse capacity of 19,271,000 cubic yards (approximately 13,489,700 tons). Effective August 1, 2012, no waste shall be disposed of in the S-1 Landfill. (Basis: Cumulative Increase, Offsets, and Toxic Risk Management Policy)

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2. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in Parts 2a-b below. Increasing or decreasing the number of wells or collectors are alterations subject to this requirement. The authorized number of landfill gas collection and leachate collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to Part 2b, as evidenced by start-up/shutdown notification letters submitted to the District.

a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications # 3515, 10998, 15345, and 17332. In addition, the owner/operator has been issued a Change of Conditions for modifications to the gas collection system, the details of which are included in Permit Application #22571.

Required Components

(i) Main Gas Collection System

Total Number of Vertical Wells:	31
Total Number of Horizontal Landfill Gas Trench Collectors:	0

(ii) Intermittent Gas Collection System

Total Number of Leachate Collection Wells:	0
--------------------------------------------	---

b. The owner/operator is authorized to make the landfill gas collection system and leachate collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #22571.

Minimum Maximum

Install new Vertical Gas Extraction Wells:	0	30
Decommission Vertical Gas Extraction Wells:	0	15
Install new Horizontal Trench Collectors:	0	15
Decommission Horizontal Trench Collectors:	0	15
Install new Leachate Cleanout Risers:	0	5
Decommission Leachate Cleanout Risers:	0	5

Wells installed, relocated, replaced, or shutdown pursuant to Part 2b shall be added to or removed from Part 21 in accordance with the procedures identified in Regulations ~~2-6-414~~ or ~~2-6-4158-34-408~~. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well and trench. An unlimited number of vertical gas extraction well and horizontal trench collector replacements may be performed as long as the replacement

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is connected to the gas collection system within 24 hours of shutdown of the replaced well/trench collector.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, ~~and~~ 8-34-305, [and 8-34-408](#))

3. In order to demonstrate compliance with the above requirements, the owner/operator shall maintain the following records:
 - a. Deleted.
 - b. For areas of the landfill not controlled by a landfill gas collection system, the owner/operator shall maintain a record of the date that waste was initially placed in the area or cell.
 - c. The cumulative amount of waste placed in each uncontrolled area or cell.
 - d. If the owner/operator plans to exclude an uncontrolled area or cell from the collection system requirement, the types and amounts of all non-decomposable waste placed in the area or cell shall be recorded. If non-decomposable waste makes up less than 100% of the contents of a given cell, that percentage shall be noted.
 - e. The initial operation date for each new landfill gas well and collector.
 - f. An accurate map of the landfill that indicates the locations of all refuse boundaries and the locations of all wells and collectors as identified in the Collection and Control System Design Plan. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least every six months to indicate changes in refuse boundaries and to include any newly installed wells and collectors.

These records shall be kept on-site and be made available for inspection to District personnel upon request for a period of five years from the date on which a record was made. (Basis: Cumulative Increase and Regulations ~~2-6-501~~[8-34-501](#) and 8-34-304)

4. The landfill gas collection system described in Part 2a.(i) above shall be operated continuously. Wells shall not be disconnected or removed from operation nor shall isolation or adjustment valves be closed without written authorization from the District, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The leachate collection system described in Part 2a.(ii) is not required to be operated continuously and is subject to the alternative wellhead standards described in Part 21, as allowed under Regulation 8-34-305. The CCR, Title 17, Section 95464(c) Wellhead Gauge Pressure Requirement continues to apply to these components.
(Basis: Regulations 8-34-301 and 8-34-305, CA H&S Code, Title 17, Division 3, Chapter 10, Article 4, Subarticle 6, ~~40 CFR Part 60.753~~)

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5. All landfill gas collected by the gas collection system for S-1 shall be abated at all times by the Landfill Gas Flare A-3. Under no circumstances shall raw landfill gas be vented to the atmosphere. This limitation does not apply to unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 or to inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (Basis: Regulation 8-34-301)
6. The combustion zone temperature of the flare shall be maintained at a minimum temperature of 1450 degrees F, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise this minimum temperature limit in accordance with the procedures identified in Regulation ~~2-6-4142-1-301~~ ~~or~~ ~~and~~ ~~2-6-4152-1-302~~, based on the following criteria. The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. (Basis: Regulation 8-34-301, Toxic Risk Management Policy, [CCR, Title 17, Section 95470\(a\)\(1\)\(K\)\(1\)](#), [and RACT](#), ~~and 40 CFR 60.758(e)(1)(i)~~)
7. The Landfill Gas Flare A-3 shall be equipped with a combustion temperature readout monitor and continuous recorder to measure and record the temperature in the combustion zone. (Basis: Regulation 8-34-507)
8. Emissions of Nitrogen Oxides (NO_x) from the Flare A-3 shall not exceed 0.06 pounds per million BTU (calculated as NO₂). (basis: RACT and Offsets)
9. Emissions of Carbon Monoxide (CO) from the Flare A-3 shall not exceed 0.3 pounds per million BTU. (basis: RACT and Offsets).
10. In order to demonstrate compliance with Regulation 8, Rule 34, Section 301.3, Regulation 9, Rule 1, Section 302, ~~40 CFR 60.752(b)(2)(iii)(B)~~, and the above requirements, the owner/operator shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-3). The annual source test shall determine the following:
 - a. Landfill gas flow rate to the flare (dry basis)
 - b. Concentrations (dry basis) of methane (CH₄) and total non-methane organic compounds (NMOC) in the landfill gas;
 - c. Stack gas flow rate from the flare (dry basis)
 - d. Concentrations (dry basis) of nitrogen oxides (NO_x), carbon monoxide (CO), CH₄, NMOC, and O₂ in the flare stack gas

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- e. The NMOC destruction efficiency achieved by the flare
 - f. The average combustion temperature in the flare during the test period.
- Annual source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain its approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 45 days after the test date. (Basis: Regulations 8-34-301.3 and 8-34-412 ~~and 40 CFR 60.752(b)(2)(iii)(B)~~)

- 11. The heat input to the A-3 Flare shall not exceed 1,800 million BTU per day or 657,000 million BTU per year. In order to demonstrate compliance with this part, the owner/operator shall calculate and record on a monthly basis the maximum daily and total monthly heat input to the flare based on the landfill gas flow rate recorded pursuant to Part 10, the average methane concentration in the landfill gas based on the most recent source test, and a high heating value for methane of 1013 BTU/scf. The records shall be retained for five years and shall be made available to the District staff upon request. (Basis: Regulation 2-1-301)
- 12. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in control systems exhaust. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed 1300 ppmv (dry). In order to demonstrate compliance with this part, the owner/operator shall measure the total sulfur content in collected landfill gas on an annual basis using a draeger tube. The landfill gas sample shall be taken from the main landfill gas header. The owner/operator shall follow the manufacturer's recommended procedures for using the draeger tube and interpreting the results. (Basis: Regulations 9-1-302 and ~~2-1-4032-6-5031-501~~)
- 13. Deleted.
- 14. Deleted.
- 15. Deleted.
- 16. Deleted.
- 17. Deleted.

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18. Deleted.
19. The owner/operator shall submit the annual report required by BAAQMD Regulation 8-34-411 ~~shall be submitted in two semi-annual increments. The reporting periods and report submittal due dates for the semi-annual increments of the Regulation 8-34-411 report and the MSW Landfill NESHAP report, which is required pursuant to 40 CFR Part 63.1980(a), shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F of the MFR Permit for this site. A single report may be submitted to satisfy the requirements of Section I.F, Regulation 8-34-411, and 40 CFR Part 63.1980(a), provided that all items required by each applicable reporting requirement are included in the single report.~~ (Basis: Regulation 8-34-411 ~~and 40 CFR Part 63.1980(a)~~)
20. The gas collection system operating requirements listed below shall replace the well head requirements identified in Regulation 8-34-305.2 through 8-34-305.4 for the specified wells. All wells remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum at each well head.
- a. The Regulation 8-34-305.2 temperature limit shall not apply to the Wells 103 and 114 provided that the landfill gas temperature at each well does not exceed 145 degrees F (63 degrees C).
 - b. The owner/operator shall demonstrate compliance with the alternative wellhead landfill gas temperature specified in Part 20(a) above by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-34-505.
 - c. All records to demonstrate compliance with Part 20(a) and all applicable sections of Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulation 8-34-501.4, 501.9, and 414.
 - d. If the temperatures measured at any of the wells listed in Part 20(a) exceed 145 degrees F, the owner/operator shall take all measures necessary to investigate the possibility of subsurface fires, including landfill gas testing for carbon monoxide (CO) on the affected wells. If a fire is suspected, the owner/operator shall employ all means as appropriate to extinguish the fire, repair the well(s), and bring the well(s) back into service.
- (Basis: Regulation 8-34-301.2, 8-34-303, and 8-34-305, ~~40 CFR Part 60.755(a) and 60.759~~)
21. The leachate collection system shall be connected to the vacuum system as needed to prevent violation of applicable surface and component leak limits, and the operating requirements listed below shall replace the operating requirements identified in Regulation 8-34-301.1, 8-34-305.3, and 8-34-305.4 for the leachate

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collection risers (LCRs). All LCRs remain subject to the landfill gas temperature limit in Regulation 8-34-305.2.

- a. The Regulation 8-34-305.3 and 8-34-305.4, the nitrogen and oxygen content limits, shall not apply, provided that each LCR is operated at an oxygen concentration not to exceed 15% by volume. Regulation 8-34-414 and subpart 21(b) below may be used in conjunction with this alternative wellhead limit.
- b. The component may be disconnected from the vacuum system if compliance with Part 21(a) requires turning off the vacuum to a LCR or if the temperature > 131 degrees F. The component shall be connected to vacuum if any pressure is detected.
- c. The owner/operator shall monitor and record the gauge pressure, oxygen content, methane content, and temperature at each LCR on a monthly basis regardless of whether the component is connected to vacuum or not.

All records to demonstrate compliance with Part 21 and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request for at least 5 years from date of entry. (basis: Regulations 8-34-305, 8-34-404, 8-34-414, 8-34-501.4, 8-34-501.9, ~~Regulation 2-6-501, 40 CFR Part 60.755(a) and 60.759~~, CCR, Title 17, Section 95468(a)(1))

22. If any other well has a temperature of 131 degrees F or higher, the owner/operator may elect to add this component to the list of alternative temperature limit wells in Part 20 if all of the following requirements are met:
 - a. The wellhead temperature does not exceed 145 degrees F.
 - b. The carbon monoxide (CO) concentration in the wellhead gases does not exceed 500 ppmv.
 - c. The component does not exceed any wellhead limit other than temperature and had no excesses of wellhead limits (other than temperature) during the past 120 days prior to adding this component to the list in this subpart, unless the excess is positive pressure at the well from the well vacuum being reduced to eliminate any potential over pull that could contribute to a landfill fire.
 - d. Prior to adding a component to the list in Part 20, the owner/operator shall monitor the gas in the wellhead for CO concentration at least two times, with no more than 15 days between tests. CO monitoring shall continue on a monthly basis, or more frequently if required below, until the owner/operator is allowed to discontinue CO monitoring per subpart e(ii)(3).
 - e. The owner/operator shall comply with all applicable monitoring and recordkeeping requirements below:
 - i. The owner/operator shall demonstrate compliance with the alternative wellhead temperature limit by monitoring and recording the temperature of the landfill gas in the wellhead on a monthly basis, in accordance with Regulations 8-34-501.4, 8-34-501.9, and 8-34-

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- 505.
- ii. If the temperature of the landfill gas in the wellhead exceeds 140 degrees F, the owner/operator shall investigate the possibility of a subsurface fire at the wellhead by monitoring CO concentration in the wellhead gases and by searching for smoke, smoldering odors, combustion residues, and other fire indicators in the wellhead and in the landfill area near the wellhead. Within 5 days of triggering a fire investigation, the owner/operator shall measure the CO concentration in the landfill gas at the wellhead using a portable CO monitor, CO Draeger tube, or an EPA- approved test method. CO monitoring shall continue according to the frequency specified below:
 - 1. If the CO concentration is greater than 500 ppmv, the owner/operator shall immediately take all steps necessary to prevent or extinguish the subsurface fire, including disconnecting the well from the vacuum system if necessary. If the well is not disconnected from the vacuum system or upon reconnecting the well to the vacuum system, the owner/operator shall monitor the well for CO concentration, wellhead temperature, and other fire indicators on at least a weekly basis until CO concentration drops to 500 ppmv or less.
 - 2. If the CO concentration is less than or equal to 500 ppmv but great than 100 ppmv, the owner/operator shall monitor for CO concentration at least twice per month (not less than once every 15 days) until the CO concentration drops to 100 ppmv or less. Wellhead temperature and other fire indicators shall be evaluated at each of these semi-monthly monitoring events.
 - 3. If the CO concentration is less than or equal to 100 ppmv, the owner/operator shall monitor for CO concentration on a monthly basis. CO monitoring may be discontinued if three consecutive CO measurements are 100 ppmv or less and the wellhead temperature during each of these three monitoring events is 140 degrees F or less. If the component has three or more CO measurement of 100 ppmv or less but the wellhead temperature was greater than 140 degrees F, the owner/operator must receive written approval from the District before discontinuing the monthly CO monitoring at that component.
 - iii. The owner/operator shall record the dates and results of all monitoring events required by this subpart in a District-approved log. If subpart 20e(ii) or 20e(ii)(1) applies, the owner/operator shall also record all actions taken to prevent or extinguish the fire.
 - f. Within 30 days of adding a component to the list in this subpart, the owner/operator shall notify the District in writing that the operator is requesting to add the component to the list of alternative temperature limit

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wells. This notification shall include the well ID number, a map of the collection system to identify the location of the well, and the dates and results of all monitoring conducted on the well to verify that the above requirements have been satisfied.

- g. If the Regulation 8-34-414 repair schedule has been invoked for the wellhead temperature excess and the owner/operator has met the requirement in Sections 414.1 and 414.2, then compliance with the requirements of the subpart shall be deemed an acceptable resolution of the wellhead temperature excess in lieu of the collection system expansion specified in Section 414.3 and 414.4.

(Basis: Regulation 8-34-305)

RECOMMENDATION

The District issued the initial Title V permit to Waste Management of Alameda County, Site #A2246, on November 28 2001. The facility was required to obtain a Title V permit since it was a “designated facility” under the provisions of 40 CFR 60.32c(c) as a landfill with a “design capacity of 2.5 million mega grams or more, or a design capacity of 2.5 million cubic meters or more”. This facility is now a closed landfill and meets the all of the requirements set out for removal of a landfill from Title V permitting under 40 CFR Parts 60.31f(c) and 60.33f(f).

Waste Management of Alameda County is no longer subject to Major Facility Review. The District recommends canceling the Title V permit.

By: Ryan Atterbury
Ryan Atterbury
Air Quality Engineer

Date: 10/4/2021