

## 2. SEMI-ANNUAL MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F 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 November 1, 2011 through April 30, 2012. 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 & I
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 K
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, Appendices F & G
8-34-501.7	Annual waste acceptance rate and current amount of waste in place.	Section 2.8, Appendix H
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 I & J

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

<b>RULE</b>	<b>REQUIREMENT</b>	<b>LOCATION IN REPORT</b>
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 & K
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 November 3, 2011 of TCRDF's existing GCCS. 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 for the reporting period of November 1, 2011 through April 30, 2012 was 17.67 hours. The total downtime for the 2011 calendar year from January 1, 2011 through December 31, 2011 was 63.57 hours. The total downtime for the partial 2012 calendar year from January 1, 2012 through April 30, 2012 was 7.97 hours. A Flare SSM Log that lists dates, times, and lengths of shutdowns for the reporting period is included in Appendix B.

### **2.1.2 Well Disconnection Log**

During the reporting period, a total of three (3) wellfield SSM events occurred. In addition, 1 well (out of a possible 3) remains disconnected (Well 208), pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising).

A Wellfield SSM Log which 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. The total downtime for the reporting period from November 1, 2011 through April 30, 2012 was 17.67 hours. The total downtime for the 2011 calendar year from January 1, 2011 through December 31, 2011 was 63.57 hours. The total downtime for the partial 2012 calendar year from January 1, 2012 through April 30, 2012 was 7.97 hours.

### **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 A-3 Flare is monitored with a Pyromation Thermocouple. The temperature is displayed and recorded with a General Electric data panel and Yokogawa Digital Recorder. The temperature readings are downloaded and saved to a compact flash card. The data indicate that the A-3 Flare three-hour average combustion zone temperature did not drop below the 1,450 degree Fahrenheit (°F) limit, as required by the TCRDF Title V Permit Condition Number 8366, Part 6, during the reporting period when the A-3 Flare was in operation. The data also indicate that the A-3 Flare three-hour average combustion zone temperature did not drop below the 1,497°F limit established in the April 20, 2011 source test pursuant to 40 CFR §60.758(c)(1)(i) when the A-3 Flare was in operation. Appendix D contains a Temperature and Flow Deviation Report for the A-3 Flare, covering the reporting period of November 1, 2011 through April 30, 2012.

## **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:

- November 22, 29, and 30, 2011
- December 2 and 9, 2011
- January 6, 10, and 12, 2012
- February 2, 10, and 15, 2012
- March 9 and 13, 2012
- April 4 and 5, 2012

No breaches of cover integrity (e.g., cover cracks or exposed garbage) were found during the reporting period.

## **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))**

Quarterly Surface Emissions Monitoring (SEM), pursuant to 8-34-506, occurred during the reporting period on the following dates:

- Fourth Quarter 2011 – October 24 and 25, 2011
- First Quarter 2012 – January 25, 2012

A Toxic Vapor Analyzer (TVA) 1000 and a Photovac Micro Flame Ionization Detector (FID) were used during the Fourth Quarter 2011 SEM event to monitor the landfill surface according to the SEM Map. A Toxic Vapor Analyzer (TVA) 1000 and an Organic Vapor Analyzer (OVA) 128 FID were used during the First Quarter 2012 SEM event to monitor the landfill surface. Any areas suspected of having emission issues by visible observation were also monitored. Prior to all monitoring events, the FID used was zeroed and calibrated using zero air and 500 parts per million (ppm) methane calibration gas.

The Fourth Quarter 2011 SEM Event was performed on October 24 and 25, 2011. There were zero (0) locations with exceedances detected during the initial monitoring event. No further monitoring is required.

The First Quarter 2012 SEM Event was performed on January 25, 2012. There were five (5) locations with exceedances detected during the initial monitoring event. Corrective actions and follow-up monitoring were conducted. The ten-day re-monitoring event was conducted on February 2, 2012 and a thirty-day follow-up monitoring event was conducted on February 21, 2012. No exceedances were detected during either event.

The Fourth Quarter 2011 and First Quarter 2012 SEM Reports are included in Appendix F.

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

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

- Fourth Quarter 2011 – December 19, 2011
- First Quarter 2012 – January 26, 2012 and March 30, 2012

A Photovac Micro FID was used to perform the leak testing during the Fourth Quarter 2011 and First Quarter 2012 monitoring events. No exceedances were detected during either monitoring events.

Appendix G contains the Quarterly LFG Component Leak Check log for the reporting period.

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

The total waste acceptance rate was calculated for November 1, 2011 through April 30, 2012. Table 2-2 Waste Acceptance includes waste placed through April 30, 2012. A table of monthly totals for the reporting period can be found in Appendix H. Below is a summary of the waste acceptance records for the reporting period.

**Table 2-2 Waste Acceptance**

	Total Waste Landfilled, Excluding Cover (tons)
2011 Annual Waste Acceptance (January 1, 2011 – December 31, 2011)	57,876.0
2012 Partial Annual Waste Acceptance (January 1, 2012 – April 30, 2012)	17,831.3
Reporting Period Waste-In-Place (November 1, 2011 – April 30, 2012)	26,435.6
Current Waste-In-Place as of April 30, 2012	12,768,364.6

## 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 November 2011 through April 2012 are included in Appendix I. 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 (O<sub>2</sub>) concentration in each wellhead shall be less than 5 percent by volume.

The wellhead monitoring was performed on the following dates:

- November 22, 29, and 30, 2011
- December 2 and 9, 2011
- January 6, 10, 12, 26, 27, and 30, 2012
- February 2, 10, and 15, 2012
- March 9 and 13, 2012
- April 4 and 5, 2012

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

Zero (0) LFG collection wells deviated from BAAQMD Regulation 8-34-305 requirements during the reporting period. Table 2-3 below is a summary of the wellfield deviation for the reporting period of November 1, 2011 through April 30, 2012. The November 2011 through April 2012 Wellfield Deviation Log is attached in Appendix J.

**Table 2-3 Wellfield Deviation Summary**

Well ID	Exceedance Date	Exceedance Value	Days in Exceedance	Re-monitor Date	Compliant reading
No well deviations during the reporting period from November 1, 2011 through April 30, 2012.					

% – percent O<sub>2</sub> – oxygen, "w.c. – inches water column

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

The A-3 Flare gas flow rate is measured with a Fluid Components, Inc. (FCI) flow meter. 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 and downloaded to a remote computer each working day. 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.

Appendix K contains a summary of the monthly LFG flow rates for the A-3 Flare. Appendix D contains the Flare Temperature and Flow Deviation Report for November 1, 2011 through April 30, 2012. Title V Permit Condition Number 8368, Part 11 limits daily heat input to 1,800 Million British thermal units (MMBTU) per day and annual heat input to 657,000 MMBTU. The maximum daily heat input was 1,645.2 MMBTU during this semi-annual reporting period. The heat input for the reporting period (November 1, 2011 through April 30, 2012) was 281,167.0 MMBTU.

Table 2-4 below is a summary of the total LFG flow for the reporting period of November 1, 2011 through April 30, 2012.

**Table 2-4 LFG Input to A-3 Flare**

Emission Control Device	Average Flow (scfm)	Average CH <sub>4</sub> (%)	Total LFG Volume (scf)	Total CH <sub>4</sub> Volume (scf)	Heat Input (MMBtu)
A-3 Flare	2,042.4	52.05	533,254,089.0	277,558,753.3	281,167.0

(1) The methane content of 52.05 percent was determined from the April 20, 2011 source test. The results of the April 4, 2012 source test are not yet available.

CH<sub>4</sub> - methane scf - standard cubic feet MMBTU - Million British Thermal Units  
 scfm - standard cubic feet per minute

**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."*

As of April 30, 2012, the GCCS system consisted of thirty-four (34) vertical LFG collection wells. No wells were decommissioned during the reporting period.

**2.13 COMPLIANCE WITH TITLE V PERMIT CONDITION 8366, PART 12**

Table 2-5 below shows the quarterly hydrogen sulfide (H<sub>2</sub>S) readings. No readings were above the 1,300 ppmv (dry) limit specified in Title V Condition Number 8366, Part 12. The samples were taken at the flare inlet using a Draeger tube. The results of the Fourth Quarter 2011 and First Quarter 2012 H<sub>2</sub>S Monitoring events are included in Appendix M.

**Table 2-5 Quarterly H<sub>2</sub>S Readings**

Event	Date	Reading
Fourth Quarter 2011	December 19, 2011	80 ppmv
First Quarter 2012	March 30, 2012	60 ppmv

**2.14 COMPLIANCE WITH TITLE V PERMIT CONDITION 8366, PART 17 AND 18**

The TCRDF did not accept Volatile Organic Compound (VOC)-laden soil with VOCs at a concentration greater than 50 ppmv during the reporting period of November 1, 2011 through April 30, 2012.

**2.15 COMPLIANCE WITH TITLE V PERMIT CONDITION 17682 FOR S-10**

The permit for the S-10 Parts Cleaner was surrendered by the TCRDF on November 28, 2007 and the equipment was removed from site. Therefore, Title V Permit Condition 17682 is no longer applicable.

## **2.16 COMPLIANCE WITH TITLE V PERMIT CONDITION 21617, PART 1 FOR S-9, S-14, S-15, S-16, S-17 SMALL DIESEL ENGINES**

The permit for the S-17 Diesel IC Engine – Street Sweeper was surrendered by the TCRDF on August 31, 2007. The permit for the S-9 Portable Diesel internal combustion (IC) Engine was surrendered by the TCRDF on January 9, 2008. The permits for the S-14, S-15, and S-16 Diesel IC Engines were surrendered by the TCRDF on December 23, 2009. All five sources were removed from the site. Therefore, Title V Permit Condition 21617 is no longer applicable.



### 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 P of the previous combined report submitted on November 30, 2011.
§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 L

### 3.1 Flare Compliance Demonstration Test Results (BAAQMD 8-34-412)

The most recent A-3 Flare Annual Compliance Demonstration Test (performance/source test) was conducted on April 4, 2012. Results of the source test are not yet available. The Source Test Report will be submitted to the BAAQMD within 60 days of the test date, or by June 3, 2012, and will be included in the next Combined Report.

Table 3-3 shows the results of the A-3 2011 Flare Compliance Demonstration Test, averaged from three test runs. Results from the April 20, 2011 Compliance Demonstration Test are included in Appendix P of the previous combined report submitted on November 30, 2011.

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

Condition	Flare Average Results	Applicable Limit	Compliance Status
NO <sub>x</sub> , lbs/MMBTU	0.03	< 0.06	In Compliance
CO, lbs/MMBTU	0.03	<0.30	In Compliance
NMOC (ppmv @ 3% O <sub>2</sub> )	< 2.1	< 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 November 3, 2011 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."*

Compliance with 40 CFR §60.757(g)(2) is maintained by performing quarterly monitoring of landfill surface emissions. Refer to Section 2.6, Surface Emissions Monitoring for information pertaining to the SEM results. The current average LFG extraction rate for the past six months is approximately 2,042.4 scfm, adjusted to an average methane concentration of 52.05 percent (based on the April 20, 2011 annual source test). The LFG generation flow rates over time were estimated using EPA's LFG generation rate. The current recovery rate is approximately 64.59 percent of the estimate. The lack of evidence of landfill surface emissions indicates that the LFG extraction rate is adequate. The EPA equations are provided in 40 CFR §60.755 and the LFG generation and extraction estimates for the landfill using these equations are summarized in Table 3-3:

**Table 3-3 LFG Generation and Extraction Estimates**

	<b>EPA with AP-42 Generation (scfm)</b>	<b>Recovery Efficiency (%)</b>	<b>Actual &amp; Predicted Extraction (scfm)</b>
2012 (current)	3,162	64.59	2,042.4
2020	2,720	75 (estimate)	2,040.0 (estimate)
2030	2,227	75 (estimate)	1,670.3 (estimate)

Installation of new wells is independent of the ongoing operations of the GCCS. 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.

**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. This is sufficient to handle the expected peak LFG collection rate based on the LFG model estimate generation. The planned LFG mover equipment will be able to accommodate the expected LFG flow rate over the 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 Perimeter Gas Migration Monitoring Plan (PGMMP) was originally updated in January 2009 and approved by the California Department of Resources, Recycling, and Recovery (CalRecycle - formerly known as the California Integrated Waste Management Board [CIWMB]) on July 1, 2009. Due to the presence of ground water less than five feet below ground surface at four of the five proposed locations, only one of the five proposed probes was constructed, as approved by the Local Enforcement Agency (LEA) and CalRecycle on October 14, 2009. The perimeter migration monitoring system consisted of one single-level perimeter LFG monitoring probe until the week of March 22, 2010, when the probe was decommissioned at the request of the Alameda County Water District (ACWD) to prevent ground water contamination due to the presence of shallow ground water at the well. Following the decommissioning, CalRecycle approved TCRDF's request to revise the perimeter gas plan to reflect that gas probes or borehole punches are not required due to the shallow groundwater at the site that provides a hydraulic barrier to subsurface gas migration. On July 2, 2010, CalRecycle granted the TCRDF's request for a variance from the probe monitoring requirement. TCRDF prepared an update in January 2012 to the PGMMP to include this variance along with recent changes to building monitoring locations.

Buildings on-site at the TCRDF are also monitored quarterly for LFG migration.

The Fourth Quarter 2011 and First Quarter 2012 Methane-In-Structure Monitoring Events were conducted using a Photovac FID (recording methane concentrations in ppm), and a GEM 2000 (recorded methane concentration in percent).

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

- Fourth Quarter 2011 – December 19, 2011
- First Quarter 2012 – March 30, 2012

All in-structure locations were in compliance with no detections above the 1.25 percent methane limit.

The Methane-In-Structure Survey Reports for the Fourth Quarter 2011 and First Quarter 2012 events and correspondence with CalRecycle and the LEA are included in Appendix L.

#### **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**

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### **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 (November 1, 2011 through April 30, 2012) are reported in this section. The following information is included as required:

- During the reporting period, nine (9) flare SSM events occurred. The A-3 Enclosed Flare was shut down and started-up during the reporting period for the following reasons: maintenance and the cleaning of the witch's hat; inspection of the wiring for Thermocouple 1; replacement of the existing blower; installation of the new blower; isolation of the motor control fault; motor control repairs on the new second blower; annual burner tip cleaning and repair of ignition lead wire; and general cleaning/maintenance activities before the annual source test.

The time and duration of each event are presented in the Flare SSM Log, which is contained in Appendix B.

- During the reporting period, a total of three (3) wellfield SSM events occurred to allow for active filling, and well raising. In addition, 1 well (out of a possible 3) remains disconnected (Well 208), pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising). The time and duration of each event are presented in the Wellfield SSM Log, which is contained in Appendix C.
- In all, twelve (12) events, automatic systems and operator actions 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)).