2 SEMI-ANNUAL MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Regulation 8-34-411 and §60.757(f) in NSPS, this document is a Combined Semi-Annual Title V Report and Partial 8-34 Annual Report that is required to be submitted by the ALRRF. 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 June 1, 2012 through November 30, 2012. Table 2-1 lists the rules and regulations that are required to be included in this Combined Report.

Table 2-1. Semi-Annual Report Requirement

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 Appendix B
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2 Appendices A, C, D, E, & F
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 Appendices G & I
8-34-501.4, 8-34-505	Testing performed to satisfy any of the recordkeeping requirements of this rule, including wellhead monitoring.	Sections 2.4 & 2.11 Appendices K & O
8-34-501.5	Monthly landfill gas (LFG) flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.4 & 2.7 Appendices G, H, I, J, O, & Q
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 L & M
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 Collection and Control Design Plan.	Section 2.9, Appendix N
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 2.11, Appendices O & P
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 2.12, Appendix G, H, I, J, & Q
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 Appendices G, H, & I
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 2.13, Appendices B & R
§60.10(d)(5)(i)	Startup, Shutdown, and Malfunction Events	Section 4, Appendices B, C, D, E, & F

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

Appendix A includes collection system downtime logs that list the time, duration, and the reason for each shutdown. Appendix B includes the Wellfield Start-Up, Shutdown, and Malfunction (SSM) events.

2.1.1 Collection System Downtime

During this reporting period, there were twelve (12) instances in which all emission control devices did not operate. The total GCCS Downtime for the reporting period of June 1, 2012 through November 30, 2012 is 10:43 hours, all of which can be attributed to periods when all control devices were offline.

All of the time during which the Target Gas Collection Rate (TGCR) was not achieved has been counted as GCCS downtime. The total TGCR of 71.47 million British thermal units per hour (MMBTU/hr) was met for the entire reporting period from June 1, 2012 through November 30, 2012. The total GCCS downtime for the partial 2012 calendar year is 19.36 hours out of the 240 hours allowed per year by BAAQMD Regulation 8-34-113.

Each instance of collection system downtime is described in Appendix A.

2.1.2 Well Disconnection Log

As required by BAAQMD Regulation 8-34-116 and/or 8-34-117, no more than five (5) LFG collection wells or ten percent of the LFG collection wells of the GCCS were shut down at any one time. No LFG collection well was disconnected from a vacuum source for longer than 24 hours during this reporting period unless fill was actively being placed or compacted in the immediate vicinity of the well pursuant to BAAQMD Regulation 8-34-116. Appendix B includes the Wellfield SSM Log for the reporting period.

2.1.3 S-210 Liquefied Natural Gas Plant

The daily heat input limit for the S-210 Liquefied Natural Gas (LNG) Plant, pursuant to PTO Condition Number 24255, Part 2 is 1,950 MMBTU/day. As summarized in Table 2-2 below, the LNG Plant did not exceed the permitted daily heat input limit at any time during this reporting period. Appendix J includes heat input logs for the reporting period.

Table 2-2. S-210 LNG Plant Maximum Daily Heat Input Summary

Month/Year	6/2012	7/2012	8/2012	9/2012	10/2012	11/2012
LNG Plant*	1,275.5	1,272.6	1,274.3	1,218.3	1,104.6	1,141.6

* Maximum Daily Heat Input (MMBTU/day)

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the S-210 LNG Plant did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the S-210 LNG Plant also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AE for more details.

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

The A-15 Flare (back-up flare) and A-16 Flare (LNG Plant Flare) SSM Logs, which list downtimes and the reasons for the shutdowns, are located in Appendix C. Appendix D contains the SSM Logs for Turbine Number 1 (S-6) and Turbine Number 2 (S-7). Appendix E contains the SSM Logs for the S-23 and S-24 internal combustion (IC) engines. Appendix F

contains the SSM Log for the LNG Plant (S-210). The total downtime hours for the reporting period are summarized in Table 2-3:

Table 2-3. Emissions Control Device

Emission Control Device	Total Downtime June 1, 2012 through November 30, 2012 (Hours)
A-15 (Back-up Flare)[1]	4,255
A-16 (LNG Plant Flare)	37
S-6 (Turbine Number 1)	181
S-7 (Turbine Number 2)	327
S-23 (IC Engine Number 1)	737
S-24 (IC Engine Number 2)	1,568
S-210 (LNG Plant)	800

1 – Used to meet target LFG rate when other device(s) are shut down

2.2.1 LFG Bypass Operations *(§60.757(f)(2))*

During the period encompassed by this report, LFG was not diverted through a bypass line. No bypass lines have been installed at the ALRRF.

2.2.2 Key Emission Control Operating Parameters *(BAAQMD 8-34-501.11 & 8-34-509)*

S-6 and S-7 Turbines

The Key Emission Control System Operating Parameter (BAAQMD 8-34-509) for the S-6 and S-7 Turbines was determined to be combustion chamber discharge temperature, based on the Annual Source Test. The combustion temperature of both turbines is monitored on a continuous basis and shall not be less than 855 degrees Fahrenheit (°F) averaged over any three-hour period, pursuant to Title V Permit Condition Number 18773, Part 9.

The normal operating temperature of the turbines is 1,170°F. As required by Title V Permit Condition Number 18773, Part 9, continuous monitoring of the combustion temperature of the S-6 and S-7 Turbines is conducted. The combustion temperature of the S-6 and S-7 Turbine was maintained between 855°F and 1,220°F averaged over any three-hour period during this reporting period.

The daily heat input permit limit for each turbine, pursuant to Title V Condition Number 18773, Part 8 is 1,378 MMBTU/day. As summarized in Table 2-4, the turbines did not exceed the permitted daily heat input limit at any time during this reporting period.

Table 2-4. Turbine S-6 and S-7 Maximum Daily Heat Input Summary

Month/Year	6/2012	7/2012	8/2012	9/2012	10/2012	11/2012
Turbine (S-6)*	1,065.3	1,066.9	1,067.0	1,084.2	1,087.7	1,114.1
Turbine (S-7)*	1,053.0	1,053.9	1,058.4	1,074.7	1,111.7	1,117.0

* Maximum Daily Heat Input (MMBTU/day)

Appendix G includes turbine combustion temperature deviation and heat input logs for S-6 and S-7.

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the S-6 and S-7 Gas Turbines did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the S-6 and S-7 Gas Turbines also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

S-23 and S-24 IC Engines

The Key Emission Control System Operating Parameter (BAAQMD 8-34-301.4) for the S-23 and S-24 IC Engines was determined to be the carbon monoxide (CO) concentration in the engine exhaust. Pursuant to Title V Permit Condition Number 19237, Part 9, the CO concentration in the exhaust from S-23 and S-24 shall not exceed 330 parts per million by volume (ppmv) at 15 percent oxygen (O_2), dry basis. A hand-held Lancom CO monitor is used to collect CO readings to comply with this requirement.

The IC engines did not exceed the daily CO concentration limit of 330 ppmv at 15 percent O_2, dry basis, at any time during the reporting period as required by Permit Condition Number 19237, Part 9. Please refer to Appendix H for more details.

Quarterly nitrogen oxides (NO_x) emissions were monitored on the following dates:

- Third Quarter 2012 – September 18, 2012
- Fourth Quarter 2012 – October 31, 2012

Source test reports for the IC Engines 2012 Annual Source Test conducted on March 7, 2012 can be found in Appendix AA of the semi-annual report (SAR).

The IC engines did not exceed the quarterly NO_x concentration limit of 140 ppmv at 15% oxygen during quarterly monitoring events as required by BAAQMD 9-8-302.1.

The daily heat input permit limit for each IC engine pursuant to Title V Permit Condition Number 19237, Part 2 is 420 MMBTU/day. As summarized in Table 2-5 below, the engines did not exceed the permitted daily heat input limit at any time during this reporting period.

Table 2-5. IC Engine S-23 and S-24 Heat Input Summary

Month/Year	6/2012	7/2012	8/2012	9/2012	10/2012	11/2012
IC Engine (S-23)*	350.4	359.7	349.9	357.4	336.8	333.9
IC Engine (S-24)*	363.8	369.5	363.5	357.3	341.0	349.3

* Maximum Daily Heat Input (MMBTU/day)

Appendix H includes CO and NO_x measurement results and heat input logs for the reporting period.

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the S-23 and S-24 IC Engines did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the S-23 and S-24 IC Engines also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

A-15 and A-16 Flares

The Daily Heat Input Permit Limits for the A-15 and A-16 Flares, pursuant to Title V Condition Number 19235, Part 4 are 1,704 MMBTU/day and 3,168 MMBTU/day, respectively. Table 2-6 below shows the maximum daily heat input measured during this reporting period.

The A-15 and A-16 Flares did not exceed the permitted daily heat input limit at any time during this reporting period.

Table 2-6. Flares A-15 and A-16 Maximum Daily Heat Input Summary

Month/Year	6/2012	7/2012	8/2012	9/2012	10/2012	11/2012
A-15 Flare[1]	0.0	0.0	0.0	529.7	1,193.0	145.4
A-16 Flare[1]	1,676.5	2,076.2	2,043.4	2,118.7	2,562.6	2,104.5

1 – Maximum Daily Heat Input (MMBTU/day)

Appendix I includes A-15 and A-16 Flare temperature deviation and heat input logs for the reporting period.

Pursuant to BAAQMD Regulation 1 Rule 523, parametric periods of inoperation for the A-15 and A-16 Flares did not exceed 24 hours or 15 consecutive days. Parametric monitor periods of inoperation for the A-15 and A-16 Flares also did not exceed 30 calendar days per consecutive 12-month period. Please refer to Appendix AF for more details.

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

The combustion zone temperature of the A-15 Flare is continuously monitored using a thermocouple and recorded by a Yokogawa data acquisition system with local digital display. The recorded graphs and tables showing operational data (flow, temperature, operation time) of the flare indicated that the three-hour average combustion zone temperature did not drop below 1,400°F while the flare was in operation during the reporting period. Pursuant to the updated PTO Condition 19235 Part 10(a) issued by the BAAQMD on May 14, 2012, the minimum three-hour average operating temperature for the A-15 Flare is 1,481°F. From June 1, 2012 through November 30, 2012, the A-15 Flare combustion zone temperature did not drop below this 1,481°F limit.

The combustion zone temperature of the A-16 Flare is continuously monitored using a thermocouple and recorded by a Yokogawa data acquisition system with local digital display. The recorded graphs and tables showing operational data (flow, temperature, operation time) of the flare indicated that the three-hour average combustion zone temperature did not drop below 1,400°F while the flare was in operation during the reporting period. Pursuant to the updated PTO Condition 19235 Part 10(b) issued by the BAAQMD on May 14, 2012, the minimum three-hour average operating temperature for the A-16 Flare is 1,509°F. From June 1, 2012 through November 30, 2012, the A-16 Flare combustion zone temperature did not drop below this 1,509°F limit.

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

Cover integrity monitoring was performed on a monthly basis. The Monthly Cover Integrity Monitoring Reports are included in Appendix K. No areas of concern were found during the reporting period. Cover integrity monitoring was performed on the following dates:

- June 21, 2012
- July 24, 2012
- August 16, 2012
- September 25, 2012
- October 23, 2012
- November 14, 2012

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

The ALRRF does not operate under BAAQMD 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 information contained in Appendix L includes the Surface Emissions Monitoring (SEM) data for the quarterly monitoring events performed during this reporting period on the following dates:

- Third Quarter 2012 – September 12, 2012

There no locations with exceedances of the permitted limit of 500 ppmv methane detected during the Third Quarter 2012 SEM initial event. No corrective actions and re-monitoring was necessary during this monitoring period..

See Appendix L for the Third Quarter 2012 SEM Report.

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

"Quarterly tests for operations subject to Sections 8-34-503 and 506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or Section 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in ppm by volume, date of discovery, the action taken to repair the leak, date of repair, date of any required re-monitoring, and the re-monitored concentration in ppm by volume."

The quarterly LFG component leak testing events for this reporting period were performed on:

- Second Quarter 2012 – June 25, 2012 (LNG Plant). Component leaks results on other Components were completed and included in the previous SAR.
- Third Quarter 2012 – August 7, and September 7, 11, 17, and 21, 2012
- Fourth Quarter 2012 – October 5, 2012 (Flare A15) and November 19, 2012 (LNG Plant)

Fourth Quarter monitoring will be completed before December 31, 2012. Results will be included in future SAR. Please refer to Appendix M for more detail of Second, Third and Fourth Quarter Monitoring so far.

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

The waste acceptance rate for this reporting period and the current waste in-place figures, which include waste placed through November 30, 2011, are as follows:

- Waste Acceptance Rate = 606,398 tons between June 1, 2012 to November 30, 2012
- Current Waste In-Place = 43,672,703 tons, as of November 30, 2012

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

The ALRRF includes an approximately 8-acre landfill area on the eastern side of Unit 2 that has been historically segregated for asbestos disposal, as stated in the June 2003 Amended and Restated Collection and Control System Design Plan.

The amount of non-degradable asbestos waste that was placed in this area during this reporting period is 4,944.26 tons (Appendix N).

2.10 GREENWASTE GRINDING OPERATION *(BAAQMD 2-1-105.3)*

The ALRRF was issued PTO 17215 on July 21, 2008, incorporating the following 3 sources:

S-29 – Green Waste Stockpiles (subject to Condition Number 24061)

S-30 – Portable Green Waste Grinding Operation (subject to Condition Number 24062)
S-31 – Portable Diesel Engine for Green Waste Grinder (subject to Condition Number 24063)

Pursuant to PTO Condition Number 24063 Part 2, the S-31 engine did not use more than 76,205 gallons of fuel during any consecutive 12-month period. Pursuant to PTO 17215 Condition Number 24061 Part 1, the total amount of green waste received at S-29 from off-site locations did not exceed 68,040 tons during any consecutive 12-month period. No food wastes were stored or processed at S-29. Appendix AD details the total waste received and fuel usage data for the Portable Green Waste Operation.

Pursuant to ALRRF's October 2009 Compliance Plan to satisfy Alameda County Ordinance 2008-01 ("Alameda County Plant Debris Landfill Ban"), ALRRF no longer receives plant debris for disposal or alternative daily cover (ADC) as of January 1, 2010 but does accept the materials for transfer offsite to a composting and/or biofuels facility. The green waste grinding operation, including the S-31 Portable Diesel Engine for the Green Waste Grinder, stopped in January 2010, although this operation may occur in the future under allowances provided in Ordinance 2008-01 (i.e. grinding of purchase green waste for erosion control or final cover materials).

2.11 WELLFIELD MONITORING DATA *(BAAQMD 8-34-501.4 & 8-34-505)*

Wellfield monitoring was conducted on a monthly basis pursuant to BAAQMD Regulation 8-34-505. The wellfield concentration readings for June 1, 2012 through November 30, 2012 are included in Appendix O. Each well was monitored for the following:

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

The wellfield monitoring was performed on the following dates:

- June-1, 4, 7, 8, 11, 12, 15, 20, 21, 28, and 29, 2012
- July-2, 5, 6, 10, 11, 12 16, 17, 20, 23, 24, and 25, 2012
- August-1, 2, 10, 16, and 24, 2012
- September- 5, 6, 10, 14, 18, 19, 20, 21, 24, 25, 26 and 27, 2012
- October-1, 8, 9, 11, 15, 16, 17, 22, 23, 29, and 30, 2012
- November-2, 6, 7, 8, 13, 14, 15, 16, 19, 20, 21, 26, and 27, 2012

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

BAAQMD Regulation 8-34-305 (Wellhead Requirements) requires that each wellhead shall operate under a vacuum; wellhead temperature shall be less than 131°F (55 Degrees Celsius); and either the nitrogen concentration shall be less than 20 percent or the oxygen concentration shall be less than 5 percent.

Listed below is a summary of wellfield deviations during the reporting period. Wellfield monitoring reports for June 2012 through November 2012, including the well identification numbers, dates of initial exceedance, parameters exceeded, duration of exceedance, and corrective actions taken, are included in Appendix P.

June 2012

There was one (1) wellfield deviations in June 2012 for temperature on Wells 642. Corrective action at Well 642 was initiated within 5 days of the initial exceedance and all exceedances were re-monitored within 15 days of the initial exceedance. The Well 642 continued to be in exceedance.

CO Monitoring / Higher Operating Value for Temperature

CO was monitored in June 2012 at Well 642 with a reading of 15 ppm.

July 2012

There were two (2) wellfield deviations in July 2012: one for temperature on Well 642 and one for oxygen on Well 107. Corrective actions were initiated within 5 days of the initial exceedance. All exceedances were re-monitored within 15 days of the initial exceedance. No further exceedances were detected. The temperature exceedance on Well 642 from June 2012 at Well 642 was cleared in July 2012 within 15 days.

CO Monitoring / Higher Operating Value for Temperature

CO was monitored in July 2012 at Well 642 with a reading of 20 ppm.

August 2012

There were two (2) wellfield deviations in August 2012 for temperature on Well 503 and Well 577. Corrective actions were initiated within 5 days of the initial exceedance. All exceedances were re-monitored within 15 days of the initial exceedance. No further exceedances were detected on Well 577. Well 503 continued to be in exccedance as data was gathered for an HOV determination.

CO Monitoring / Higher Operating Value for Temperature

CO was monitored in August 2012 at Well 503 with a reading of 80 ppm and at Well 577 with a reading of 70 ppm.

September 2012

There were eight (8) wellfield deviations in September 2012: one for temperature on Well 503; two for oxygen on Wells 107 and 588; and five for pressure on Wells 557, 597, 621, 639, and 642. Corrective action at all wells was initiated within 5 days of the initial exceedance and all wells were re-monitored within 15 days of the initial exceedance, but Wells 557, 597, 621, 639, and 642 remained in exceedance. It was determined that the lateral was compromised and needed repair. Corrective action on Well 503 and Well 577 was implemented by submitting the HOV notification to the BAAQMD on September 28, 2012 notifying the inclusion of Well 503 to the HOV list.

CO Monitoring / Higher Operating Value for Temperature

CO was monitored in September 2012 at Well 503 with a reading of 70 ppm.

October 2012

There were six (6) wellfield deviations in October 2012. One (1) for pressure on Well 554 and five (5) for pressure on Wells 557, 597, 621, 639, and 642. Corrective action at all Wells was initiated within 5 days of the initial exceedance and all wells were re-monitored within 15 days of the initial exceedance, but Wells 557, 597, 621, 639, and 642 remained in exceedance. Corrective action on Wells 597, 621, and 642 was completed on October 19, 2012. Corrective action on Wells 557, and 639 was completed on October 22, 2012. There were no further well exceedances in October 2012.

CO Monitoring / Higher Operating Value for Temperature
No CO monitoring was required in October 2012.

November 2012

There were three (3) wellfield deviation in November 2012: one for pressure on Well 620 and two for oxygen on Wells 107 and 608. Corrective actions were initiated within 5 days of the initial exceedance. All exceedances were re-monitored within 15 days of the initial exceedance. No further exceedances were detected on Wells 107 and 608.

CO Monitoring / Higher Operating Value for Temperature
No CO monitoring was required in November 2012.

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

The LFG flow rate for the A-15 Flare is measured with a Fluid Components International (FCI) thermal mass flow meter connected to a Yokogawa digital readout and data acquisition system. The LFG flow rate for the A-16 Flare is measured with a Rosemount Annubar flow meter connected to a Yokogawa digital readout and data acquisition system. Pursuant to BAAQMD Regulation 8-34-508 the flow is monitored continuously and recorded digitally at least every 15 minutes.

Both of the turbines (S-6 and S-7) are equipped with Rosemount flow meters. Pursuant to BAAQMD Regulation 8-34-508, the flow is monitored continuously and recorded digitally at least every 15 minutes.

Both of the IC engines (S-23 and S-24) are equipped with an EMCO flow meter. Pursuant to BAAQMD Regulation 8-34-508, the flow is monitored continuously and recorded digitally by the EMCO flow meters and by the GC at least every 15 minutes.

The LNG Plant (S-210) is equipped with a Rosemount 485 Annubar flow meter. Pursuant to BAAQMD Regulation 8-34-508 the flow is monitored continuously and recorded digitally at least every 15 minutes.

The LFG flow data is available for review at the ALRRF. Appendix Q contains a summary of the monthly LFG flow rates for the flares, turbines, IC engines, and LNG Plant. Table 2-7, below, summarizes the total LFG flow for the reporting period.

Table 2-7. Control Devices LFG Flow Summary June 1, 2012 – November 30, 2012

Source	Average Flow (scfm)	CH_4 (%)	Total LFG Volume (scf)	Total CH_4 Volume (scf)	Total Heat Input (MMBTU)
A-15 (Backup Flare)[1]	1,167.5	51.2	13,597,868.0	6,962,108.4	6,946.1
A-16 (LNG Plant Flare)[2,5]	2,122.8	52.4	566,632,380.0	297,922,688.7	297,237.5
S-6 (Turbine 1)[3]	1,384.3	50.8	352,304,547.0	178,991,087.6	181,280.5
S-7 (Turbine 2)[3]	1,377.2	50.8	339,568,848.0	172,466,105.9	174,695.4
S-23 (IC Engine 1)[3,4]	396.5	51.4	98,728,371.0	50,628,261.0	49,978.5
S-24 (IC Engine 2)[3,4]	355.7	51.4	78,162,958.0	40,121,364.0	39,606.0
S-210 (LNG Plant)[3]	N/A	51.2	305,251,560.0	155,113,186.9	157,130.3

CH_4 – methane N/A – not available
1 – From Annual Source Test (5/12/2011 and 4/24/2012), average of condensate injection on and off.
2 – From Annual Source Test (6/22/2011 and 6/6/2012), average of condensate injection on and off.
3 – Average of daily GC readings
4 – Provided by PMI
5 – Byproduct gas flow from the LNG Plant to the A-16 Flare has been incorporated into the flare's total throughput.

2.13 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."

This section summarizes changes made to the ALRRF GCCS which were permitted by the BAAQMD and implemented for the reporting period. The Wellfield SSM Log listing well decommissions and start-ups is located in Appendix B. Correspondence detailing the decommissioning of wells can be found in Appendix R.

PTO Condition Number 19235, Part 1, which was assigned Application Number (AN) 23198 issued on May 26, 2011 allows the ALRRF to decommission up to one hundred (100) vertical wells and fifteen (15) horizontal wells and/or tire trench collectors, and to install up to one hundred and twenty (120) vertical wells and twenty five (25) horizontal wells and/or tire trench collectors.
The BAAQMD approved the application, which was assigned to Application Number (AN) 23198, and issued a PTO for the requested actions on May 26, 2011.

Table 2-8 below summarizes the status of permitted wellfield decommissionings and installations per the PTO Condition Number 19235 Part 1(b), as updated by Application Number (AN) 23198 issued on May 26, 2011.

Table 2-8. Wellfield Decommissionings and Installations per PTO Condition Number 19235, Part 1, Updated by Application Number (AN) 23198

	Decommissioning Actions		Installations	
	Vertical Wells	Horizontal wells/ Tire Trench Collectors	Vertical Wells	Horizontal wells/ Tire Trench Collectors
Actions permitted under PTO Condition No. 19235	100	15	120	25
Actions performed by WMAC per PTO Condition No. 19235	37	4	31	5
Remaining actions permitted under PTO Condition No. 19235	63	11	89	20

Per the updated PTO Condition Number 19235, Part 1, as of November 30, 2012 there were one hundred and twenty-four (124) vertical wells, two (2) horizontal trench collector, and 1 leachate collection system cleanout riser (LCRS) installed at ALRRF pursuant to AN 23198.

2.14 MONITORING REPORTS

Section I.F of the Title V Permit requires the ALRRF to submit all monitoring records to the BAAQMD at least once every six months, except where more frequent reporting is required. Monitoring was conducted for the following sources during this reporting period.

2.14.1 A-6 and A-7 – Fogging System

Title V Permit Condition Number 18773, Part 4 allows discretionary operation of the turbines' fogging system (A-6 and A-7). Permit Condition Number 18773, Part 5 requires ALRRF to maintain operational records on the days each of the turbines and the fogging system are operated.

ALRRF did not operate the fogging system during this reporting period. A logbook for the fogging system is maintained at the ALRRF.

2.14.2 Sulfur Monitoring

Title V Permit Condition Number 18773, Part 10 requires that a monthly sulfur (as hydrogen sulfide [H_2S]) sample be collected. The sample must be taken at the main LFG header with a Draeger tube, and the reading shall not exceed 150 ppmv. Table 2-9, below, summarizes all H_2S samples collected during this reporting period.

Table 2-9. Monthly H_2S Sampling Results

Date	Location Sample Taken	H_2S Concentration
6/21/2012	Inlet to Turbines	35 ppmv
7/24/2012	Inlet to Turbines	35 ppmv
8/16/2012	Inlet to Turbines	20 ppmv
9/25/2012	Inlet to Turbines	20 ppmv
10/23/2012	Inlet to Turbines	30 ppmv
11/14/2012	Inlet to Turbines	40 ppmv

2.14.3 LFG Condensate Injection

Title V Permit Condition Number 19235, Part 3 allows injection of LFG condensate into Flares A-15 and A-16 providing that the condensate injection rate does not exceed 3,600 and 7,200 gallons during any day, respectively. On February 2, 2010, the BAAQMD updated the A-15 Flare condensate injection rate pursuant to Permit Application Number 21044. The revised LFG condensate injection rate for the A-15 Flare pursuant to Permit Condition No. 19235, Part 3, is 4,320 gallons per day.

Table 2-10 below summarizes the maximum daily LFG condensate injection for every month during this reporting period:

Table 2-10. Monthly LFG Condensate Injection

Month/Year	A-15 Flare Maximum Daily LFG Condensate Injection[1]	A-16 Flare Maximum Daily LFG Condensate Injection[1]
June 2012	0.0	565.13
July 2012	0.0	3,106.5
August 2012	0.0	713.6
September 2012	0.0	2,249.9
October 2012	0.0	1,649.3
November 2012	0.0	1,003.2

1 – Permit limit for the A-15 Flare is 4,320 gallons per day. Permit limit for the A-16 Flare is 7,200 gallons per day.

As shown in Table 2-10, LFG condensate injection in the A-15 Flare did not exceed 4,320 gallons per day and the A-16 Flare did not exceed 7,200 gallons per day during this reporting period, in compliance with Permit Condition Number 19235, Part 3. Appendix S contains daily condensate injection rate tables for the reporting period.

2.14.4 S-99 - Non-Retail Gasoline Dispensing Facility

Title V Permit Condition Number 16516 requires that a Static Pressure Performance Test (Leak Test) ST-38 be conducted on the S-99 Gasoline Dispensing Facility at least once in each consecutive 12-month period. ALRRF performed a Leak Test on July 27, 2012 during which S-99 passed all Static Pressure Performance Tests. Leak Test summary results were submitted to the BAAQMD and U.S. Environmental Protection Agency (EPA) Region 9 by the testing firm, and is included in Appendix T.

Permit Condition Number 20813 requires that the facility's annual gasoline throughput not exceed 30,000 gallons in any consecutive 12-month period.

The ALRRF maintains monthly records of the gasoline throughput at S-99 that shows full compliance with the approved throughput limit. Appendix T contains monthly throughput records for this reporting period. The records indicate that 4,337 gallons of gasoline fuel was dispensed during this semi-annual reporting period.

2.14.5 VOC-Laden Soil

Volatile organic compound laden (VOC-laden) soil is defined by the BAAQMD as any soil that contains VOCs, as defined in BAAQMD Regulation 8-40-206, at a concentration of 50 parts per million by weight (ppmw) or less. Condition Number 19235, Part 20 of the Title V Permit requires that ALRRF limit the quantity of VOC-laden soil handled per day so that no more than 15 pounds of total carbon could be emitted to the atmosphere per day. ALRRF is in compliance with this requirement.

VOC-laden soil receipts, soil VOC concentrations, and emission calculations for this reporting period are located in Appendix U.

2.14.6 S-19 - Transfer Tank with Siphon Pump

Title V Permit Condition Number 20774, Parts 1 and 3, limit the wastewater throughput from S-19 to 1,576,800 gallons in any consecutive 12-month period. Table 2-11 compares the actual consecutive 12-month rolling wastewater throughput for the S-19 transfer tank with the permit limit. During the reporting period, no wastewater was directed through S-19 (all wastewater went directly to S-12) and no waste material was collected from the siphon pump during this reporting period.

Table 2-11 Monthly 12-Month Rolling LFG Condensate Throughput

	Consecutive 12-Month S-19 Throughput (Gallons)	Waste Material Collected from the Siphon Pump (Gallons)
PERMIT LIMIT	**1,576,800**	**20,750**
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0

The S-19 transfer tank is also subject to the requirements of BAAQMD Regulation 8, Rule 8 (Oil/Water Separators). This regulation requires an inspection and leak check (readings not to exceed 500 ppmv methane) of all gaskets, all flanges, tank condition, and connections of gauges and pipes on a quarterly basis.

The quarterly S-19 Inspection and Leak Checks were conducted on the following dates:

- Third Quarter 2012 – August 6, 2012

No leaks were detected during the reporting period. All of the records for S-19 covering this reporting period are included in Appendices V and Z, and are in full compliance with the terms of Permit Condition Number 20774 and the requirements of BAAQMD Regulation 8, Rule 8.

2.14.7 Diesel Engines S-190, S-191, S-192, S-193, S-194, S-195, S196, S-197, S-198, S-199, S-200, S-201, S-206, S-207, S-208, S-209, and S-214

Fuel usage and operating hour records for all the engines are included in Appendix W.

Operating Hours of Diesel Engines S-190, S-194, S-195, S-196, S-199, S-200, and S-201

Title V Permit Condition Numbers 20800 and 20812 require that ALRRF operate diesel engines S-190, S-194, S-195, and S-196 for no more than 100 hours per calendar year.

Diesel engines S-190, S-194, and S-195 are no longer in use as of February 2008 and diesel engine S-196 is no longer in use as of August 2009. See Appendix R of the previous Combined Report dated June 30, 2010 for the Permit Surrender Letter for S-196, S-197, S-198, and S-214.

Emergency use diesel engines S-199, S-200 and S-201 commenced operation in March 2008. S-199, S-200, and S-201 were added to PTO 16864 and operated in compliance pursuant to PTO Condition Number 22850, which limits operation of S-199, S-200, and S-201 to no more than 50 hours per calendar year for maintenance and testing. ALRRF operated these engines in compliance with Title V Permit Condition Number 20812 and PTO Condition Number 22850 for the reporting period, and the hours are as follows (Table 2-12):

Fuel Usage of Diesel Engines S-193, S-197, S-198

Title V Permit Condition Number 20801 requires that diesel fuel usage at each remaining engine, S-193, S-197, and S-198, not exceed the rates listed in the table below during any consecutive 12-month period.

Diesel engines S-197 and S-198 are no longer in use as of December 2009. See Appendix R of the previous Combined Report dated June 30, 2010 for the Permit Surrender Letter for S-196, S-197, S-198, and S-214.

ALRRF operated these engines in full compliance with Title V Permit Condition Number 20812 during the consecutive 12-month period ending on November 30, 2012 as follows in Table 2-12.

Table 2-12. Diesel Engines Fuel Usage

Engine	December-11 to November-12 Fuel Usage (Gallons)	Permit Limit (Gallons/year)
S-193	141	62,196
S-197	0	34,690
S-198	0	75,336

Operating Hours of Diesel Engines S-206, S-208, S-209, and S-214

PTO permit Condition Number 24425, issued in August 2009, requires that ALRRF not operate diesel engine S-214 for more than 80 hours in any calendar year. Diesel engine S-214 is no longer in use as of December 2009. See Appendix R of the previous Combined Report dated June 30, 2010 for the Permit Surrender Letter for S-196, S-197, S-198, and S-214.

On August 31, 2010, WMAC notified the BAAQMD of the start-up of the S-217 and S-218 diesel engines. In September 2010, the S-207 diesel engine was replaced by the S-218 diesel engine at Tipper #93 and the S-209 diesel engine was replaced by the S-217 diesel engine at Tipper #71. Effective October 21, 2010, the S-206, S-208, S-217, and S-218 diesel engines

were subject to the operational limits outlined in BAAQMD Permit Condition 24578. Pursuant to BAAQMD PTO Condition 24578 Part 3, the total combined operating time for the S-206, S-208, S-217, and S-218 diesel engines shall not exceed 29,200 hours during any consecutive 12-month period.

Daily operating records for S-206, S-208, S-214, S-217 and S-218 are maintained onsite at the ALRRF.

ALRRF operated in full compliance with the PTO Condition 24578 during the 12-month consecutive period ending November 30, 2012. A summary of operating hours are listed below in Table 2-13.

Table 2-13. Diesel Engines Operating Hours

Engine	Hours Operated 2012	Hours Operated in 12-Month Period Ending November 30, 2012	Operations Limits
S-206	948	952	
S-218	1,859	2,162	
S-208	415	591	
S-217	2,077	2,082	
Combined S-206,S-218, S-208, and S-217	5,299	5,787	29,200 Hours 12-Months*
S-214	0	0	80

* Limit according to BAAQMD Condition 24578 Part 3.

2.14.8 Carbon Monoxide Emissions Tracking

PTO Condition Number 24373 limits the rolling 12-month CO emissions rate for each non-mobile combustion device onsite and for the entire site as a whole.

CO Emissions for the A-15 and A-16 Flares; the S-6 and S-7 Turbines; the S-23 and S-24 IC Engines; the S-31, S-193, S-197, S-198, S-199, S-200, S-201, S-206, S-207, S-208, S-209, and S-214 portable diesel-fired engines; and other portable diesel-fired sources under 50 horsepower were calculated using CO emissions factors and monthly operating hours as stipulated in PTO Condition Number 24373. Please refer to Appendices Q, W, and X for details. The maximum potential CO emissions for the portable diesel-fired engines as required by PTO Condition Number 24373 Part 3(b) can also be found in Appendix W.

ALRRF operated in full compliance with PTO Condition Numbers 24373 during the 12-month consecutive period ending November 30, 2012 as follows in Table 2-14.

Table 2-14. Site-Wide CO Emissions

Source	12-Month CO Emissions (Tons)	Rolling 12- Month Permit Limit (Tons)
A-15 (Backup Flare)	0.115	93.268
A-16 (LNG Plant Flare)	6.892	115.632
S-6 (Turbine 1)	14.710	56.064
S-7 (Turbine 2)	16.065	56.064
S-23 (IC Engine 1)	31.646	38.062
S-24 (IC Engine 2)	29.081	38.062
Portable Engines	3.524	N/A
Total (Site-wide)	102.031	225.0

2.14.9 S-140 SBR 1 and S-141 SBR 2 – Aerated Biological Reactors

Title V Permit Condition Number 20922 was revised on August 3, 2006 to include an alternative compliance demonstration method. Permit Condition Number 20922, Part 1 limits the quarterly average total organic carbon (TOC) concentration in the wastewater to less than 52 ppmw with a maximum daily throughput of 52,400 gallons to each tank. Alternatively, emissions of precursor organic compounds (POC) are limited to 10 pounds per day. Part 2 of the revised permit condition limits either the rolling 12-month wastewater throughput for S-140 and S-141 to 6,460,000 gallons or 12-month total POC emissions to less than 1,230 pounds. The rolling 12-month wastewater throughput for S-140 and S-141 was 80,295 gallons as of the end of this reporting period. See Appendix Z for flow records for S-140 and S-141.

Table 2-15 below compares Permit Condition Number 20922 concentration limits for S-140 (SBR 1) and S-141 (SBR 2) followed by the actual analytical results for selected constituents obtained during the Second Quarter 2012 waste water sampling event on May 24, 2012 and the Third Quarter 2012 event on September 21, 2012. For Second Quarter 2012 and Third Quarter 2012, monitoring was completed by obtaining a sample at the LCRS and at the S-140 Reactor, which was the only reactor in use during each of the two quarters.

Table 2-15 Analytical Results Summary for SBR 1 and SBR 2

Compound	Concentration Limit (ppbw)	Second Quarter 2012 Average (ppbw)	Third Quarter 2012 Average (ppbw)	Annual Average Results (ppbw)
Benzene	80	2.1	2.1	1.69
Chloroform	470	ND	ND	ND
1,4 Dichlorobenzene	1,020	6.8	7.8	5.58
Methylene Chloride	2,530	ND	ND	ND
Naphthalene	3,590	3.9	3.8	3.84
Perchloroethylene (Tetracholoroethylene)	430	ND	ND	ND
Trichloroethylene (Trichloroethene)	1,290	ND	ND	ND
Vinyl Chloride	30	ND	ND	ND

ppbw – parts per billion by weight
ND – Non-Detect (below detection limit)

Table 2-16 presents the results of TOC testing by quarter and by annual average. Pursuant to Permit Condition Number 20922 if the TOC concentration exceeds the permit limit of 52 ppmw, POC emissions must be calculated using the equation in Permit Condition Number 20922, Part 5h. The calculated total POC emissions for the 12-month period ending in November 30, 2012 were 0.016 pounds. This is less than the 1,230 pounds POC emission limit set in the permit.

Table 2-16. Total Organic Compounds Results Summary

Constituents	Concentration Limit (ppmw)	Second Quarter 2012 (ppbw)	Third Quarter 2012 (ppbw)
TOC concentration	52	0.017	0.019
Average Annual TOC Concentration	52	0.016	

Appendix Z contains the laboratory VOC analytical results and the monthly throughput records for S-140 and S-141. The monitored quarterly and annual concentrations are within the Permit Condition Number 20922 limits.

4 STARTUP, SHUTDOWN, AND MALFUNCTION REPORT

4.1 SSM REPORTS FOR THE GCCS AT ALRRF

The NESHAP contained in 40 CFR part 63, AAAA for Municipal Solid Waste 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 a Startup, Shutdown, and Malfunction (SSM) event occurred during the reporting period. The reports required by §63.1980(a) of the NESHAP and §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 §63.10(d)(5)(i) of the General Provisions.

The following is information covering SSM events that occurred during this reporting period:

- During the reporting period, ninety-two (92) wellfield SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix B.
- During the reporting period, seventeen (17) Backup Flare (A-15) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix C.
- During the reporting period, fifteen (15) LNG Plant Flare (A-16) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix C.
- During the reporting period, seventeen (17) Turbine Number 1 (S-6) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix D.
- During the reporting period, twenty-two (22) Turbine Number 2 (S-7) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix D.
- During the reporting period, sixty-seven (67) IC Engine Number 1 (S-23) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix E.
- During the reporting period, one hundred and seventeen (117) IC Engine Number 2 (S-24) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix E.
- During the reporting period, one hundred and nine (109) LNG Plant (S-210) SSM events occurred. The time and duration of each event is presented in the SSM Log contained in Appendix F.
- In all four-hundred and fifty-six (456) events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan and there were no deviations from the SSM Plan.

- No exceedances of any applicable emission limitation in the landfills NESHAP (63.10(d)(5)(i)) occurred during this reporting period.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).