2 COMBINED MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Rule 8-34-411 and §60.757(f) in the NSPS, this report is a Combined Semi-Annual Title V Report and Partial 8-34 Annual Report that is required to be submitted by Keller Canyon. 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 September 1, 2012 through February 28, 2013. The following table lists the rules and regulations that are required to be included in this Combined Report.

TABLE 2-1 COMBINED 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 C & D
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix D
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 E
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this rule.	Section 2.4 & 2.10 Appendices F & J
8-34-501.5	Monthly landfill gas flow (LFG) rates and well concentration readings for facilities subject to 8-34-404.	Section 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.	Section 2.6 & 2.7, Appendices G & H
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, 2.10.1, Appendices J & K
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 E and L
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records or 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, Appendices A & C
§60.10 (d)(5)(i)	Startup, Shutdown, Malfunction Events	Section 4.0, Appendices C & D

2.1 Collection System Operation (BAAQMD 8-34-501.1 & §60.757(f)(4))

Appendix A contains a current map of Keller Canyon's existing GCCS. Section 2.1.1 includes the GCCS downtime for the reporting period. The information contained in Section 2.1.2 includes the wellfield SSM event information.

2.1.1 Collection System Downtime

During the period covered in this report, the GCCS was not shut down for more than five (5) days on any one (1) occasion. The GCCS downtime for the reporting period of September 1, 2012 through February 28, 2013 was 2.30 hours. The total downtime for the 2012 calendar year was 13.58 hours, out of an allowable 240 hours per year. The total downtime for the 2013 calendar year to date is 1.70 hours, out of an allowable 240 hours per year. The GCCS Downtime Log for the reporting period is included in Appendix D.

2.1.2 Well Start-Up & Disconnection Log

There were 31 wellfield SSM events that occurred during the reporting period. No wells were started-up and 1 well was decommissioned during the reporting period. See Appendix C, Wellfield SSM Log for details of well disconnection and reconnection events. Start-up and Decommissioning Notifications were submitted to the BAAQMD and are included in Appendix B.

2.2 Emission Control Device Downtime (BAAQMD 8-34-501.2 & §60.757(f)(3))

The emission control system consists of two (2) Internal Combustion (IC) Engines that are owned and operated by Ameresco – Keller Canyon, LLC (Ameresco) (Site Number B7667) and operate under a separate BAAQMD Title V permit, and 2 Flares (A-1 and A-2). The 2 IC Engines are fueled by landfill gas (LFG) diverted from Flares A-1 or A-2. In 2012, the A-1 and A-2 Flares operated non-concurrently, and were the back-up control device for Ameresco, in the event that the engines were not operating or to combust LFG in excess of the Ameresco capacity. As of January 1, 2013, both flares are operating concurrently with the 2 IC Engines.

Pursuant to Title V Permit Condition Number 17309, Part 20, in order to help control surface emissions and raw LFG from being vented to the atmosphere, if only 1 off-site LFG fired engine is operating, at least 1 on-site flare (A-1 or A-2) must also be operating. This limitation does not apply to unavoidable LFG emissions that occur during collection system installation, maintenance, or repair performed in compliance with Regulation 8-34-113, 116, 117, or 118. From September 1, 2012 through December 31, 2012, there were 2.90 hours of total downtime when one engine was operating, but neither flare was operating, all due to maintenance or repairs to the flare and/or engines in 2012.

Effective January 1, 2013, Title V Permit Condition Number 17309, Part 20, requires that collected LFG shall be vented to either: (a) 1 on-site flare operating alone or (b) 1 on-site flare and 2 off-site engines operating concurrently. As of January 1, 2013 to date (February 28, 2013), there have been no instances where either or both engines were operating without concurrent operation of either flare during shutdowns outside of collection system installation, maintenance, or repair performed in compliance with Regulation 8-34-113, 116, 117, and 118. Refer to the Flare & One Engine Downtime Log and the Downtime Deviation Log, located in Appendix D, for details.

The A-1 Flare began operation in 1995, and the A-2 Flare began operation in 2007. The control system was not bypassed at any time during the reporting period. Raw LFG was not emitted during the reporting period. The SSM logs for the A-1 and A-2 Flares, and the Ameresco Engine Plant, are located in Appendix D. As indicated in Section 2.1.1, the total GCCS downtime for the reporting period of September 1, 2012 through February 28, 2013 was 2.30 hours. The GCCS Downtime Log for the reporting period is included in Appendix D.

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

Title 40 CFR §60.757(f)(2) is not applicable at Keller Canyon because a by-pass line has not been 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 Regulation 8-34-501.11 and 8-34-509 are not applicable to the A-1 and A-2 Flares because the A-1 and A-2 Flares are subject to continuous temperature monitoring as required in 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 temperatures of the A-1 and A-2 Flares are monitored with Thermo-Electric Thermocouples. The temperatures are recorded each minute with a Yokogawa DX100 digital recorder, and the data is downloaded and archived. There were no temperature deviations during the reporting period. Appendix E contains the A-1 and

A-2 Flare Temperature Deviation/Inoperative Monitor/Missing Data Reports for September 1, 2012 through February 28, 2013.

2.4 Monthly Cover Integrity Monitoring (BAAQMD 8-34-501.4)

The cover integrity monitoring was performed on the following dates:

- September 26, 2012;
- October 17, 2012;
- November 16, 2012;
- December 6, 2012;
- January 15, 2013; and
- February 26, 2013.

Refer to the Monthly Cover Integrity Monitoring Logs, included in Appendix F, for details.

2.5 Less Than Continuous Operation (BAAQMD 8-34-501.5)

Keller Canyon 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) & California Air Resources Board Assembly Bill 32 Landfill Methane Rule (CARB AB-32 LMR)

Quarterly Surface Emissions Monitoring (SEM), was conducted for Third and Fourth Quarter 2012. Refer to the Third and Fourth Quarter 2012 SEM Reports, located in Appendix G, for detailed results. The First Quarter 2013 SEM Report is not yet available, and will be included in the next Semi-Annual Report.

2.7 Component Leak Testing (BAAQMD 8-34-501.6 & 8-34-503)

Quarterly component leak testing, pursuant to BAAQMD Regulation 8-34-503, occurred during the reporting period on the following dates:

- Fourth Quarter 2012 – October 18, 26, and 30, 2012.
- First Quarter 2013 – January 15, 2013.

No exceedances were detected during the Fourth Quarter 2012 and First Quarter 2013 Component Leak testing. Refer to the Quarterly LFG Component Leak Monitoring

Reports, located in Appendix H, for detailed results of completed component leak check monitoring during the reporting period.

2.7.1 Wellfield Component Leak Testing

Pursuant to Title V Permit Condition Number 17309 Part 19(c) an additional 5 wells may be temporarily disconnected from the vacuum system in addition to the allowable well operation exemptions under BAAQMD Regulation 8 Rule 34, Sections 113, 116, 117, and 118. Any collection system components which were disconnected pursuant to Part 19(c) during the reporting period were required to be monitored for component leaks within 10 and 30 days of the initial disconnection. No wells were disconnected under Permit Condition Number 17309 Part 19(c) during the reporting period.

2.8 Quarterly Hydrogen Sulfide (H_2S) Monitoring (BAAQMD 9-1-302 and 2-6-503)

Quarterly H_2S monitoring was conducted during the reporting period on the following date:

- Fourth Quarter 2012 – December 20, 2012

Pursuant to Title V Permit Condition 17309, Part 34, the H_2S testing is required on a quarterly basis using the Draeger tube method. The Total Reduced Sulfur (TRS) content shall not exceed 300 ppmv (dry). The Fourth Quarter 2012 results were within the permitted TRS limit. Refer to the Quarterly H_2S Monitoring Log, located in Appendix I, for detailed results for Fourth Quarter 2012 H_2S monitoring. The First Quarter 2013 H_2S testing results are not yet available, and will be included in the next Semi-Annual Report.

2.9 Waste Acceptance Records (BAAQMD 8-34-501.7)

Total amount of waste accepted in 2012 was approximately 970,643.73 tons. The amount of waste accepted during the reporting period of September 1, 2012 through February 28, 2013 was approximately 444,519 tons. The amount of waste accepted in 2013 (through February 28, 2013), is approximately 141,925 tons. The current Waste-In-Place as of February 28, 2013 is approximately 15,725,473 tons.

2.10 Non-Degradable Waste Acceptance Records (BAAQMD 8-34-501.8)

The GCCS Design Plan for Keller Canyon does not indicate non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.11 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 well readings for September 1, 2012 through February 28, 2013 are included in Appendix J. 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 degrees Fahrenheit [°F]); and
- 8-34-305.4 – The oxygen concentration in each wellhead shall be less than 5 percent by volume.

Wellhead monitoring was performed on the following dates:

- September 6, 7, 12, 14, 18, 19, and 26, 2012;
- October 2, 9, 17, 18, and 24, 2012;
- November 1, 6, 16, 20, 26 and 29, 2012;
- December 4, 6, 10, 19, and 21, 2012;
- January 2, 7, 15, 21, 25, 28, and 30, 2013; and
- February 5, 7, 12, 18, 26, and 27, 2013.

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

There were 28 wells with readings that exceeded the limits set forth in BAAQMD Regulation 8-34-305 during the reporting period. Corrective action for wells was initiated within the required 5-day time period and re-monitoring was completed within 15 days of the deviation pursuant to BAAQMD Regulation 8-34-414. See Appendix K, Wellfield Deviation Log, for more detail.

2.11.2 Higher Operating Value (HOV) Wells

Pursuant to Title V Permit Condition Number 17309, Part 19(b)(i), the following wells are approved to operate at an oxygen HOV of 15 percent by volume: EW-E027R, EW-R001(P), EW-R004(P), EW-R005(P), EW-R006(P), and EW-R007(P). EW-HC1 and EW-HC3 are exempt from NSPS.

On September 12, 2012, EW-R003(P) was decommissioned pursuant to Title V Permit Condition Number 17309 Part 18b.

2.12 Gas Flow Monitoring Results (BAAQMD 8-34-501.10, 8-34-508, & §60.757(f)(1)

The A-1 and A-2 Flare LFG flow rates are measured with Thermal Instruments Model Numbers 62-9/926 (A-1 Flare) and 62-9/9500 (A-2 Flare) flow meters. The General Electric data panel displays the LFG flow, and the digital Yokogawa data recorder records LFG flow every minute and the data is downloaded and saved to a compact flash drive. The flare flow meters meet the requirements of BAAQMD Regulation 8-34-508 by recording data at least every 15 minutes. The flow meters are maintained and calibrated pursuant to manufacturer's recommendations. The flow data for the flares are available for review at Keller Canyon. Appendix L contains a summary of the monthly LFG flow rates for each flare.

No deviations of the flare flow at the A-1 Flare were identified during the reporting period. Two deviations of the flare flow at the A-2 Flare were identified during the reporting period. On December 14 and 15, 2012, condensate blockages caused liquids to reach the flow meter, causing the flow meter at the A-2 Flare to register and record anomalous flow. Corrective action was taken and no further anomalous flow was recorded. A Reportable Compliance Activity (RCA) form was filed with the BAAQMD on December 19, 2012. A Combined 10 and 30-day Non-Compliance Notification Letter was submitted to the BAAQMD on December 27, 2012.

Table 2-2 below is a summary of the total LFG flow for the reporting period of September 1, 2012 through February 28, 2013.

TABLE 2-2 TOTAL LFG FLOW FOR SEPTEMBER 1, 2012 THROUGH FEBRUARY 28, 2012

EMISSION CONTROL DEVICE	AVERAGE FLOW (SCFM)	AVERAGE CH_4 (%)*	TOTAL LFG VOLUME (SCF)	TOTAL CH_4 VOLUME (SCF)	HEAT INPUT (MMBTU)
A-1 Flare	1,503.8	56.5	176,373,254.5	100,554,420.1	101,861.6
A-2 Flare	1,169.3	55.6	234,529,060.0	130,820,262.7	132,113.8

*Methane content for the A-1 Flare was determined from the October 18, 2011 and October 16, 2012 source tests. Methane content for the A-2 Flare was determined from the April 9, 2012 source test.
scfm = standard cubic feet per minute
CH_4 = methane
scf = standard cubic feet
MMBTU = million British thermal units

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."

The GCCS was modified during the reporting period pursuant to Title V Permit Condition Number 17309, Part 18(b).

There was 1 well decommissioned and no wells started up during the reporting period pursuant to Permit Application Number 23460. A Well Decommissioning and Startup Notification Letter was submitted to the BAAQMD and is included in Appendix B.

Application Number 23460 still allows for the installation of up to 64 new vertical LFG wells, and the decommissioning of up to 26 vertical LFG wells.

As of March 1, 2013, Keller Canyon consists of 80 vertical wells, 2 horizontal collectors, and 1 leachate cleanout riser system. Pursuant to Title V Permit Condition Number 17309, Part 18(b)(ii), HC-3 and LCRS-1 were installed to prevent or control LFG migration and are not part of the GCCS, and are therefore exempt from NSPS requirements.

2.14 Compliance with Title V Permit Condition Number 16462 for S-3 Yard and Green Waste Stockpiles

The total amount of yard and green waste received at S-3 did not exceed 1,000 tons during any day. Keller Canyon's yard and green waste annual acceptance for the period of September 1, 2012 through February 28, 2013 was 36,777.8 tons, which is in compliance with the 70,200 tons limit during any consecutive 12-month period.

Records are maintained at Keller Canyon and can be made available upon request

4 START-UP, SHUTDOWN, MALFUNCTION (SSM) PLAN

4.1 SSM Log for the GCCS at Keller Canyon

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 §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.

NESHAP 40 CFR part 63, AAAA became effective on January 16, 2004. Those SSM events that occurred during the NSPS semi-annual reporting period are reported in this section (September 1, 2012 through February 28, 2013). The following information is included as required:

- During the reporting period, 25 A-1 Flare SSM events occurred and 24 A-2 Flare SSM events occurred. The A-1 and A-2 Flares were shut down and restarted during the reporting period due to the reasons noted in Appendix D, Flare SSM Log.
- During the reporting period, 31 Wellfield SSM events occurred. Details are included in Appendix C, Well SSM Log.
- There were 80 events in total. In all 80 events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan. There were no deviations from the SSM plan.
- Exceedances were not identified during the reporting period in any applicable emission limitation in the landfills NESHAP (§63.10(d)(5)(i)).
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).