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 March 1, 2012 through August 31, 2012. 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

RULE	REQUIREMENT	LOCATION IN REPORT
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 days on any one occasion. The GCCS downtime for the reporting period of March 1, 2012 through August 31, 2012 was 6.53 hours. The total downtime the 2012 calendar year to date is 12.98 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 sixty-four (64) wellfield SSM events that occurred during the reporting period. There were seventeen (17) wells started-up and twenty (20) wells 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. The 2 IC Engines are fueled by LFG diverted from Flares A-1 or A-2. The A-1 and A-2 Flares operate non-concurrently. Flares A-1 and A-2 are the backup control device for Ameresco and either Flare is brought online if the engines are not operating, or to combust LFG in excess of the Ameresco capacity. The 2 Flares act as a back-up control device for one another, when one is unable to operate.

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 one off-site LFG fired engine is operating, at least one 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. There were 0.20 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. Refer to the Flare & One Engine Downtime 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 March 1, 2012 through August 31, 2012 was 6.53 hours out of an allowable 240 hours per year. 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 March 1, 2012 through August 31, 2012.

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

The cover integrity monitoring was performed on the following dates:

- March 12, 2012;
- April 25, 2012;
- May 19, 2012;
- June 21, 2012;
- July 31, 2012; and
- August 20, 2012.

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 Methane Control Measure (CARB AB-32 LF MCM))

Quarterly Surface Emissions Monitoring (SEM), was conducted for First and Second Quarter 2012. Refer to the First and Second Quarter 2012 SEM Reports, located in Appendix G, for detailed results. The Third Quarter 2012 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:

- First Quarter 2012 – February 7 and March 23, 2012
- Second Quarter 2012 – May 8, and June 1 and 2, 2012
- Third Quarter 2012 – August 3 and 6, 2012

No exceedances were detected during the First, Second and Third Quarter 2012 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 five (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:

- First Quarter 2012 – March 23, 2012
- Second Quarter 2012 – May 23, 2012
- Third Quarter 2012 – August 6, 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 First, Second, and Third 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 First and Second Quarter 2012 H_2S monitoring.

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

Total amount of waste accepted in 2012 as of August 31st was 668,050 tons. The amount of waste accepted during the reporting period of March 1, 2012 through August 31, 2012 was approximately 492,218.51 tons. The current Waste-In-Place as of August 31, 2012 is approximately 14,751,249.40 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 March 1, 2012 through August 31, 2012 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:

- March 5, 9, 16, 19, 23, 30, and 31, 2012;
- April 2, 6, 7, 9, 20, and 21, 2012;
- May 4, 5, 18, and 19, 2012;
- June 1, 2, 5, 7, 12, 14, 20, 21, 25, 27, and 30, 2012;
- July 2, 5, 6, 9, 12, 16, 17, and 31, 2012; and
- August 3, 6, 15, 16, and 17, 2012.

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

There were seventy-two (72) 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-K035R, EW-M005R, EW-R001(P), EW-R003(P), EW-R004(P), EW-R005(P), EW-R006(P), and EW-R007(P). EW-HC1 and EW-HC3 are exempt from NSPS. Pursuant to Application Number 24016, the following wells are approved to operate at an oxygen HOV of 15 percent by volume: EW-A001, EW-A002, EW-A003, EW-A004, EW-A005, EW-A021, EW-A029, EW-A030, and EW-A032

On May 21, 2012, Wells EW-K035R, EW-M005R were decommissioned pursuant to Title V Permit Condition Number 17309 Part 18b.

On May 30, 2012, Wells EW-A001, EW-A002, EW-A003, EW-A005, EW-A021 EW-A029, EW-A030, and EW-A032 were decommissioned pursuant to Title V Permit Condition Number 17309 Part 18b. Please see Appendix B, BAAQMD Correspondence,

for the Decommissioning Notification Letters, and Appendix C, Well SSM Log, for more detail.

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 each flare were identified during the reporting period. Table 2-2 below is a summary of the total LFG flow for the reporting period of March 1, 2012 through August 31, 2012.

Table 2-2 Total LFG Flow from March 1, 2012 through August 31, 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	977.0	54.1	50,511,801.0	27,326,884.3	27,682.1
A-2 Flare	1,016.7	54.2	211,338,174.0	116,100,510.0	117,609.8

*Methane content for the A-1 Flare was determined from the October 18, 2011 source test. Methane content for the A-2 Flare was determined from the April 18, 2011 and April 9, 2012 source tests.
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 were 20 wells decommissioned and 17 wells started up during the reporting period pursuant to Permit Application Number 23460. Well Decommissioning and Startup Notification Letters were submitted to the BAAQMD and are included in Appendix B.

Application Number 23460 still allows for the installation of up to sixty-four (64) new vertical LFG wells, and the decommissioning of up to twenty-seven (27) vertical LFG wells.

As of September 1, 2012, Keller Canyon consists of eighty-one (81) vertical wells, two (2) horizontal collectors, and one (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, 2011 through August 31, 2012 was 61,193.06 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 STARTUP, SHUTDOWN, MALFUNCTION (SSM) PLAN

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 (March 1, 2012 through August 31, 2012). The following information is included as required:

- During the reporting period, sixteen (16) A-1 Flare SSM events occurred and seven (7) 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, 64 Wellfield SSM events occurred. Details are included in Appendix C, Well SSM Log.
- There were eighty-seven (87) events in total. In all 87 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)).