

# SCS FIELD SERVICES



## Caja del Rio Landfill GCCS Operations, Monitoring, and Maintenance Summary Report For September 2013

Presented to:

**Santa Fe Solid Waste Management Agency**



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# Caja del Rio Landfill GCCS Operations, Monitoring, and Maintenance Summary Report for September 2013

## ROUTINE OPERATIONS, MONITORING, AND MAINTENANCE (OM&M) SERVICES

Routine OM&M services for the Caja del Rio Landfill (Site) were provided as indicated below for September 2013.

### **Summary of Wellfield Monitoring Results**

Wellfield monitoring services were provided on September 5, and 19, 2013. The following observations were made concerning readings taken at the landfill gas (LFG) extraction wells:

- By the conclusion of the September 2013 monitoring event, all of the extraction wells met the New Source Performance Standards (NSPS) parameters for pressure (i.e., must be <0.0 inch H<sub>2</sub>O), temperature (i.e., must be <131° F), and oxygen concentration (i.e., must be <5 percent by volume).
- In general, LFG quality at the wells during the September 2013 monitoring period was fair to good. Methane concentrations ranged from approximately 25.4 percent (EW3B-2) to approximately 49.9 percent (EW2A-5). Oxygen concentrations prior to and after the wellfield adjustments ranged from 0.0 to 0.5.
- During this monitoring period, greenhouse gases were measured with a Landtec continuous gas analyzer.
- A table summarizing the results of the wellfield monitoring event is enclosed in Appendix A.

### **Summary of Blower/Flare Station Monitoring Results**

The following observations are made concerning readings taken at the blower/flare station:

- Routine blower/flare station (BFS) monitoring was performed during the September 5, 2013 monitoring event. Methane concentrations prior to and after this monitoring event were 42.7 percent and 43.3 percent, respectively. Oxygen concentrations prior to and after the wellfield adjustments were 0.5 and 0.3 percent, respectively.

- The flow rate for the GCCS prior to and after the September 5, 2013 wellfield adjustments were 201 and 200 scfm, respectively. Vacuum pressure at the blower during this monitoring event was -14.40 and -14.70 inches of water, respectively.
- Routine blower/flare station (BFS) monitoring was performed during the September 19, 2013 monitoring event. Methane concentrations prior to and after this monitoring event were 45.1 percent and 45.2 percent, respectively. Oxygen concentrations prior to and after the wellfield adjustments were 0.4.
- The flow rate for the GCCS prior to and after the September 19, 2013 wellfield adjustments was 181 and 174 scfm, respectively. Vacuum pressure at the blower during this monitoring event was from -14.40 and -14.47 inches of water, respectively.
- At the conclusion of the September 19, 2013 monitoring event, Blower 103 had 2,536 hours of operation and Blower 104 had approximately 1,952 hours of operation. Blower 103 was operating the system during the September 19, 2013 monitoring event.
- Enclosed with this report are the blower flare stations monitoring forms for the September 2013 monitoring events.
- During the September 2013 monitoring period, the GCCS was operated on a timer. In general, the GCCS operated Monday, Wednesday, Friday and Sunday from approximately 9:00 am to 2:00 pm. The GCCS was operational approximately ten percent (10%) from the period of September 1 through September 30, 2013.
- Enclosed with this report are copies of the startup, shutdown, and malfunction forms, which can be found in Appendix C.

## NON-ROUTINE SERVICES PERFORMED

No non-routine services were performed during this monitoring event.

## RECOMMENDED NON-ROUTINE SERVICES

SCS has no recommendations during this monitoring event.

**Appendix A**

**Wellfield Monitoring Results  
For September 2013**

Summary of Wellfield Data  
September 2013  
Caja del Rio Landfill

Sampling Location ID	Date	Time	CH4 (24-hr clock (% vol)	CO2 (% vol)	O2 (% vol)	Bal (% vol)	Init Temp (°F)	Adj Temp (°F)	Init Flow (in of H <sub>2</sub> O)	Adj Flow (in of H <sub>2</sub> O)	Init Static Press (in of H <sub>2</sub> O)	Adj Static Press (in of H <sub>2</sub> O)	Init Diff Press (in of H <sub>2</sub> O)	Adj Diff Press (in of H <sub>2</sub> O)	System Pressure (in of H <sub>2</sub> O)	Comments
Calibration	09/19/13	12:45	49.9	35.1	0.1	14.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Blower Inlet	09/05/13	13:32	42.7	40.7	0.5	16.1	80	80	201	201	-14.4	-14.4	NA	NA	NA	
Blower Inlet	09/05/13	15:36	43.3	40.9	0.3	15.5	80	80	200	200	-14.7	-14.7	NA	NA	NA	
Blower Inlet	09/19/13	12:57	45.1	42.0	0.4	12.5	78	78	181	181	-14.3	-14.4	NA	NA	NA	
Blower Inlet	09/19/13	15:21	45.2	43.1	0.4	11.3	74	74	174	174	-14.5	-14.5	NA	NA	NA	
EW1-1	09/05/13	15:21	45.0	37.6	0.5	16.9	74	74	4.5	4.4	-9.0	-8.9	2.02	1.92	-12.64	Dec. Flow/Vac.; Surging
EW1-1	09/19/13	14:31	47.2	40.0	0.0	12.8	80	80	11.2	11.3	-0.9	-0.9	2.39	2.40	-13.00	
EW1-2	09/05/13	15:27	44.8	37.6	0.0	17.6	81	108.1	6.8	4.9	-1.3	-1.1	4.61	2.48	-13.17	Dec. Flow/Vac.
EW1-2	09/19/13	14:27	46.9	40.7	0.1	12.3	78	78	38.9	40.5	-8.8	-8.8	1.72	1.87	-12.43	
EW2A-1	09/05/13	15:15	45.2	39.3	0.0	15.5	80	80	9.9	9.8	-3.2	-3.1	9.42	9.64	-12.93	Dec. Flow/Vac.; Surging
EW2A-1	09/19/13	14:35	45.9	41.2	0.0	12.9	80	80	9.6	9.6	-3.1	-3.2	9.29	9.25	-12.72	
EW2A-2	09/05/13	14:38	45.2	47.1	0.0	7.7	82	82	4.9	4.9	-0.1	0.0	2.48	2.48	-12.72	
EW2A-2	09/19/13	14:21	46.9	48.8	0.0	4.3	78	78	4.9	4.9	-0.2	-0.2	2.46	2.46	-12.72	
EW2A-3	09/05/13	14:44	46.9	40.6	0.0	12.5	80	80	10	9.7	-2.6	-2.6	9.89	9.37	-12.78	Dec. Flow/Vac.; Surging
EW2A-3	09/19/13	14:50	48.6	42.9	0.1	8.4	78	78	9.7	9.8	-2.9	-2.8	9.45	9.61	-12.96	
EW2A-4	09/05/13	15:08	40.7	39.6	0.0	19.7	84	84	6.3	4.7	-0.2	-0.3	3.99	2.27	-13.26	Dec. Flow/Vac.
EW2A-4	09/19/13	14:40	44.6	42.5	0.0	12.9	80	80	4.6	4.6	-0.1	-0.2	2.18	2.16	-13.00	
EW2A-5	09/05/13	14:57	48.1	46.6	0.0	5.3	81	81	9.9	9.9	-0.4	-0.4	NR	NR	-12.65	
EW2A-5	09/19/13	14:55	49.9	49.0	0.0	1.1	80	80	9.9	9.9	-0.6	-0.6	NR	10.04	-13.00	Dec. Flow/Vac.
EW2B-1	09/05/13	14:32	33.0	45.7	0.0	21.3	75	76	6.2	5.8	-0.1	-0.1	4.11	3.63	-12.83	Dec. Flow/Vac.; Surging
EW2B-1	09/19/13	14:17	37.9	48.0	0.1	14.0	72	72	5.8	5.2	-0.1	-0.1	3.52	2.88	-12.73	Dec. Flow/Vac.
EW3A-1	09/05/13	14:18	35.6	44.1	0.0	20.3	81	81	8.2	7.8	-0.2	-0.2	7.15	6.41	-13.15	
EW3A-1	09/19/13	15:02	38.8	47.3	0.0	13.9	80	80	7.8	7.2	-0.1	-0.3	6.44	5.47	-13.33	Dec. Flow/Vac.
EW3A-2	09/05/13	15:03	43.6	41.3	0.0	15.1	82	82	6.3	6.3	-0.5	-0.5	3.97	3.97	-13.50	Dec. Flow/Vac.
EW3A-2	09/19/13	14:44	46.7	43.9	0.0	9.4	80	80	6.2	6.2	-0.5	-0.5	3.87	3.85	-13.34	
EW3B-1	09/05/13	14:09	26.9	45.6	0.0	27.5	84	84	5.3	4.6	-0.2	-0.3	3.05	2.32	-12.75	
EW3B-1	09/19/13	14:03	30.9	47.9	0.0	21.2	82	82	4.6	4.1	-0.2	-0.2	2.34	1.85	-12.68	Dec. Flow/Vac.
EW3B-2	09/05/13	14:25	19.8	42.3	0.0	37.9	85	85	4.9	3.4	-0.3	-0.2	2.64	1.26	-12.73	Dec. Flow/Vac.
EW3B-2	09/19/13	14:12	25.4	46.1	0.0	28.5	80	80	3.2	2.8	-0.2	-0.2	1.16	0.88	-12.79	Dec. Flow/Vac.
EW4A-1	09/05/13	14:01	40.5	47.0	0.1	12.4	84	84	7.7	7.5	0.1	0.0	6.31	5.90	-13.18	NSPS/EG CAI; Surging; Flow Increased

Summary of Wellfield Data  
September 2013  
Caja del Rio Landfill

Sampling Location ID	Date	Time (24-hr clock)	CH4 (% vol)	CO2 (% vol)	O2 (% vol)	Bal (% vol)	Init Temp (°F)	Adj Temp (°F)	Init Flow (in of H <sub>2</sub> O)	Adj Flow (in of H <sub>2</sub> O)	Init Static Press (in of H <sub>2</sub> O)	Adj Static Press (in of H <sub>2</sub> O)	Init Diff Press (in of H <sub>2</sub> O)	Adj Diff Press (in of H <sub>2</sub> O)	System Pressure (in of H <sub>2</sub> O)	Comments
EW4A-1	09/19/13	13:56	42.1	49.3	0.0	8.6	80	80	7.8	7	-0.1	-0.2	6.36	5.12	-13.17	Dec. Flow/Vac.
EW5A-2	09/05/13	13:53	46.8	52.2	0.1	0.9	84	84	7.1	6.1	-0.3	-0.3	5.32	3.89	-14.05	Dec. Flow/Vac.
EW5A-2	09/19/13	13:43	45.0	55.0	0.0	0.0	80	80	6.1	6.1	-0.3	-0.3	4.04	4.03	-13.63	
EW6A-1	09/05/13	13:43	48.2	44.8	0.0	7.0	98	98	9.8	9.8	-0.3	-0.3	NR	NR	0.15	
EW6A-1	09/19/13	13:50	49.0	46.2	0.0	4.8	95	95	9.8	9.8	-0.4	-0.4	NR	10.04	-13.93	Dec. Flow/Vac.

Indicates landfill gas extraction well reading that does not conform with NSPS reporting requirements of pressure <0.0 inches, temperature <131°F, or O<sub>2</sub><5%.

Indicates landfill gas extraction well with at least one reading that does not conform with NSPS reporting requirements at the end of the monitoring event.

NR - not recorded

NA - not applicable

**Appendix B**  
**Blower/Flare Station Reports**  
**For**  
**September 2013 Monitoring Events**



**CAJA DEL RIO LANDFILL  
BLOWER FLARE STATION SEMI-MONTHLY CHECKLIST  
Santa Fe Solid Waste Management Agency**

DATE: 09/05/2013	TECHNICIAN: Marcia Pincus
TEMPERATURE: 83	WEATHER: Clear
JOB: 07209113.00	PRESSURE: 30.05 DIR.: Falling
WIND SPEED: 6	WIND DIRECTION: Southwest
ARRIVAL TIME: 01:00:00 PM	DEPARTURE TIME: 04:00:00 PM

FLARE STACK TEMP. (°F) 1,294		BLOWER IN USE 103			
	SUCTION PRESSURE (in H <sub>2</sub> O)	DISCHARGE PRESSURE (in H <sub>2</sub> O)	BLOWER HOURS	BLOWER INLET TEMP. (°F)	BLOWER OUTLET TEMP. (°F)
BLOWER 103	-15.00	1.50		82	99
BLOWER 104			1,952		

AIR COMPRESSOR PRES. (PSI): 165.0 SHUTDOWN VALVE PRES. (PSI): 90.0  
 PROPANE TANK (% full): 80 BURNER TIP PRES. (in. WC):  
 BY-PASS VALVE (% OPEN): 0 FLAME ARRESTOR DELTA PRES. (in. WC) 0.00  
 KNOCKOUT POT PRES PRES. (in. WC) -1.50

**FLARE STATION GAS INLET COMPOSITION (Pre-Wellfield Balancing)**

PRESSURE (In H<sub>2</sub>O): -14.40 TEMP (°F): 80 CH<sub>4</sub> (% vol.): 42.7  
 CO<sub>2</sub> (% vol.): 40.7 O<sub>2</sub> (% vol.): 0.5 BALANCE GAS (% vol.): 16.1  
 FLARE STATION FLOW RATE (SCFM): 201  
 FLARE STATION TOTAL FLOW: 20,435,120  
 YOKAGAMA RECORDING: Yes

**FLARE STATION GAS INLET COMPOSITION (Post-Wellfield Balancing)**

PRESSURE (In H<sub>2</sub>O) -14.70 TEMP (°F): 1,241 CH<sub>4</sub> (% vol.): 43.3  
 CO<sub>2</sub> (% vol.): 40.9 O<sub>2</sub> (% vol.): 0.3 BALANCE GAS (% vol.): 15.5  
 FLARE STATION FLOW RATE (SCFM): 200  
 CONDENSATE SUMP PUMP COUNTER:  
 VALVE #1: VALVE #2: VALVE #3:

Caja del Rio

09/05/2013

Page 2 of 2

HEADER LINE COMMENT: NA

SITE COMMENTS: NA

BLOWER COMMENT: NA

FLARE COMMENT: NA

CONDENSATE COMMENT: NA



**CAJA DEL RIO LANDFILL  
BLOWER FLARE STATION SEMI-MONTHLY CHECKLIST  
Santa Fe Solid Waste Management Agency**

DATE: 09/19/2013	TECHNICIAN: Mike Ferryman
TEMPERATURE: 70	WEATHER: Partly cloudy
JOB: 07209113.00	PRESSURE: 29.88 DIR.: Falling
WIND SPEED: 0	WIND DIRECTION: North
ARRIVAL TIME: 12:00:00 PM	DEPARTURE TIME: 04:00:00 PM

FLARE STACK TEMP. (°F) 1,297		BLOWER IN USE 103			
	SUCTION PRESSURE (in H <sub>2</sub> O)	DISCHARGE PRESSURE (in H <sub>2</sub> O)	BLOWER HOURS	BLOWER INLET TEMP. (°F)	BLOWER OUTLET TEMP. (°F)
BLOWER 103	-15.00		2,536	78	90
BLOWER 104			1,952		

AIR COMPRESSOR PRES. (PSI): 160.0 SHUTDOWN VALVE PRES. (PSI): 145.0  
 PROPANE TANK (% full): 78 BURNER TIP PRES. (in. WC):  
 BY-PASS VALVE (% OPEN): 0 FLAME ARRESTOR DELTA PRES. (in. WC) 0.40  
 KNOCKOUT POT PRES PRES. (in. WC) -0.10

**FLARE STATION GAS INLET COMPOSITION (Pre-Wellfield Balancing)**

PRESSURE (In H<sub>2</sub>O): -14.40 TEMP (°F): 78 CH<sub>4</sub> (% vol.): 45.1  
 CO<sub>2</sub> (% vol.): 42.0 O<sub>2</sub> (% vol.): 0.4 BALANCE GAS (% vol.): 12.5  
 FLARE STATION FLOW RATE (SCFM): 181  
 FLARE STATION TOTAL FLOW: 20,876,796  
 YOKAGAMA RECORDING: Yes

**FLARE STATION GAS INLET COMPOSITION (Post-Wellfield Balancing)**

PRESSURE (In H<sub>2</sub>O) -14.47 TEMP (°F): 74 CH<sub>4</sub> (% vol.): 45.2  
 CO<sub>2</sub> (% vol.): 43.1 O<sub>2</sub> (% vol.): 0.4 BALANCE GAS (% vol.): 11.3  
 FLARE STATION FLOW RATE (SCFM): 174  
 CONDENSATE SUMP PUMP COUNTER:  
 VALVE #1: 2,608 VALVE #2: 7,238 VALVE #3: 220

Caja del Rio

09/19/2013

Page 2 of 2

HEADER LINE COMMENT: NA

SITE COMMENTS: NA

BLOWER COMMENT: NA

FLARE COMMENT: NA

CONDENSATE COMMENT: NA

## **Appendix C**

### **Startup, Shutdown, and Malfunction Forms For September 2013**



























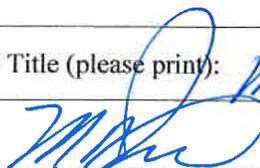








**SSM CHECKLIST FORM**  
**CAJA DEL RIO LANDFILL**  
*Landfill Gas Collection and Control System*

<p>This form is used to document actions taken during a planned startup, shutdown, or malfunction of any portion of the gas collection and control system. If any of the steps taken are not consistent with the SSM Plan, document the variations on a "SSM Plan Departure Form" and follow the reporting requirements in the SSM plan.</p>		
<p>1. Type of Event (check all that apply)    <input type="checkbox"/> Startup    <input checked="" type="checkbox"/> Shutdown    <input type="checkbox"/> Malfunction</p>		
2. Beginning of Event:	Date: 9/27/13	Time: 1415
3. End of Event:	Date: 9/29/13	Time: 904
4. Duration of Event (hours):	43	
5. Description of Affected Equipment:	GCES	
6. Cause/Reason for Startup/Shutdown/Malfunction:	Low gas flows	
7. Name and Title (please print):	M. Pincus, PM	
8. Signature:		9. Date: 10/13/13
<p>10. Did the actual steps taken vary from the procedure specified in the SSM Plan?    <input type="checkbox"/> YES    <input checked="" type="checkbox"/> NO  <i>If response is "Yes," proceed to box 11 below and complete an SSM Plan Departure Report Form. If "No," stop.</i></p>		
<p>11. Did this event result in an exceedance of any applicable emission limitation?    <input type="checkbox"/> YES    <input checked="" type="checkbox"/> NO  <i>If response is "Yes," proceed to box 12 below. If "No," stop.</i></p>		
<p>12. Describe the emission standard that was exceeded below.</p>		

This form is intended to satisfy the recordkeeping requirements of 40 CFR 63.6(e)(iii) and (iv) and 63.10(b)(2).



