

# Bridgeton Landfill, LLC

## Monthly Data Submittals

May 2015

Required by Section 52.E of Agreed Order, Case No. 13SL-CC01088  
Effective May 13, 2013

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#### Provided Separately:

- Flare Raw Data Excel Spreadsheet
- Gas Wellfield Raw Data Excel Spreadsheet

June 20, 2015

## Commentary on Data

June 20, 2015

The following observations and comments are offered for the May 2015 data, exclusive of temperature data for the GIW series wells, which are undergoing Heat Extraction System evaluation:

### Gas Volume

- As seen in Attachment B-2, gas collection volumetric rate in May averaged 4655 SCFM, as normalized per the MDNR weekly flow and TRS sampling results.

### Gas Quality

- Attachments D and E contain the monthly data related to gas quality and temperature as measured at the respective wellheads. Four vertical wells decreased by 30°F or more in May; the majority due to minimal flow conditions. Additionally, 6 vertical wells increased by 30°F or more, and are all within the historical gas temperature norms for these wells, and result from re-establishment of gas flow from these wells.
- Attachment E-1 details the vertical wells had oxygen levels over 5% at one or more weekly monitoring events in May. These consisted of 12 older GEW wells (<#-120) that are experiencing low flows; 5 new GEW wells (>#-120) that are experiencing restricted flows; 2 GIW wells that have low gas flow; and 6 SEW wells that are shallow extractors. By the end of the month, the majority (76%) of these wells still exhibited oxygen at the wellhead at or greater than 5%. All these wells, except the new GEWs are low-flow/vacuum sensitive wells with valves only slightly open. On-going tuning and maintenance and pump operation is being performed to manage the oxygen content. The wells are in the south quarry area where the flexible membrane liner cap is in place to prevent atmospheric intrusion into the waste mass.
- A detailed review of the gas extraction wells in the neck area was conducted. Temperature is consistent with previous months in each of the monitorable wells in vicinity to the neck. Carbon monoxide (CO) results from May showed stable month-over-month; wells remain within historical norms.
- All wells in the North Quarry continue to exhibit a maximum wellhead temperature under 145° F for the month of May, with the exception of GEW-054, that had a maximum temperature of 150.0° F during the month, which is within the historical operational range for this well. Therefore, monthly carbon monoxide testing has continued until this well gas temperature is below 140° F. Carbon monoxide (CO) results showed 30 ppmv for this well. GEW-008 and GEW-053 continue to show low level detection CO concentrations similar to previous monthly sampling events. Carbon monoxide (CO) results showed non-detect (ND) for all other North quarry wells. Review of weekly gas quality in Attachment F reveals that all of the active North Quarry gas

wells continue to have low, if any, oxygen and healthy methane and carbon dioxide levels indicating normal wellfield conditions for aged waste at all locations, consistent with well conditions observed in the North Quarry for some time.

#### Settlement

- The South Quarry exhibited monthly maximum settlement up to **1.7 feet (see Attachment F)** for the month of May; slightly less than the previous month. The rate of settlement directly south of the neck continues to be small and stable compared to previous months.

#### Bird Monitoring and Mitigation

- Bridgeton Landfill conducted bird monitoring during May 2015 in accordance with the Approved Bird Hazard Monitoring and Mitigation Plan. Logs of bird population observations were provided to the Airport on a weekly basis. No change in bird population or bird hazards were observed and no bird mitigation measures were necessary.

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**ATTACHMENT A**

**WORK COMPLETED AND PLANNED**

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**Bridgeton Landfill, LLC**  
**Monthly Summary of Work Completed and Planned**

***Work Completed in May 2015***

**Gas Collection and Control System**

- Continued operation and maintenance of GCCS System and GIW wells.
- Resumed installation of 18" diameter header upgrade.

**Alternative Heat Extraction System**

- Continued operation and maintenance of the HES.

**Leachate Management System**

- Continued routine operation of previously installed and upgraded features.

**Pre-Treatment Facility**

- Ongoing operation of facility.

**Other Projects:**

- Initiated low area fill project on east side of south quarry fill area.

## ***Work Planned for June 2015***

### Gas Collection and Control System

- Continue operation and maintenance of GCCS system.
- Continue upgrades to GCCS system as required.

### Alternative Heat Extraction System

- Expand HES to additional GIWs

### Leachate Management System

- Continue routine operation of previously installed and upgraded features.
- Install new pump in LCS-2.

### Pre-Treatment Facility

- Ongoing operation of facility.

### Other Projects:

- Complete low area fill project on east side of south quarry fill area.

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**ATTACHMENT B**

**DAILY FLARE MONITORING DATA**

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**ATTACHMENT B-1**

**FLOW DATA TABLE**

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**Daily Flare Monitoring Data - Bridgeton Landfill**  
**May 2015**

Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	E. Aux. Utility Flare	
5/1/2015	1,362	1,604	1,653	392	5,011
5/2/2015	1,377	1,585	1,638	340	4,939
5/3/2015	1,360	1,573	1,648	307	4,888
5/4/2015	1,267	1,267	1,522	328	4,383
5/5/2015	1,233	1,427	1,488	288	4,437
5/6/2015	1,216	1,472	1,566		4,255
5/7/2015	1,137	1,596	1,740		4,473
5/8/2015	1,231	1,557	1,815		4,603
5/9/2015	1,474	1,522	1,336		4,331
5/10/2015	1,296	1,268	1,630		4,194
5/11/2015	1,036	1,758	1,710		4,504
5/12/2015	1,043	1,708	1,767		4,517
5/13/2015	1,086	1,703	1,706		4,495
5/14/2015	1,266	1,424	1,908		4,598
5/15/2015	1,093	1,821	1,851		4,765
5/16/2015	1,050	1,848	1,915		4,813
5/17/2015	1,085	1,701	1,954		4,739
5/18/2015	1,125	1,651	1,976		4,752
5/19/2015	1,262	1,264	2,142	163	4,832
5/20/2015	959	1,745	2,012		4,716
5/21/2015	1,087	1,637	2,031		4,755
5/22/2015	1,168	1,606	2,042		4,815
5/23/2015	1,152	1,572	2,078		4,802
5/24/2015	1,250	1,529	2,034		4,813
5/25/2015	1,316	1,509	1,998		4,823
5/26/2015	1,270	1,522	2,003		4,795
5/27/2015	1,150	1,497	1,964		4,610
5/28/2015	1,278	1,468	1,986		4,733
5/29/2015	1,302	1,459	1,928		4,689
5/30/2015	1,293	1,380	1,945		4,619
5/31/2015	1,196	1,466	1,945		4,607
				Average	4,655

\* Flows normalized to \*\*Blower Outlet Flowmeter - EPA Method 2 measurement verified

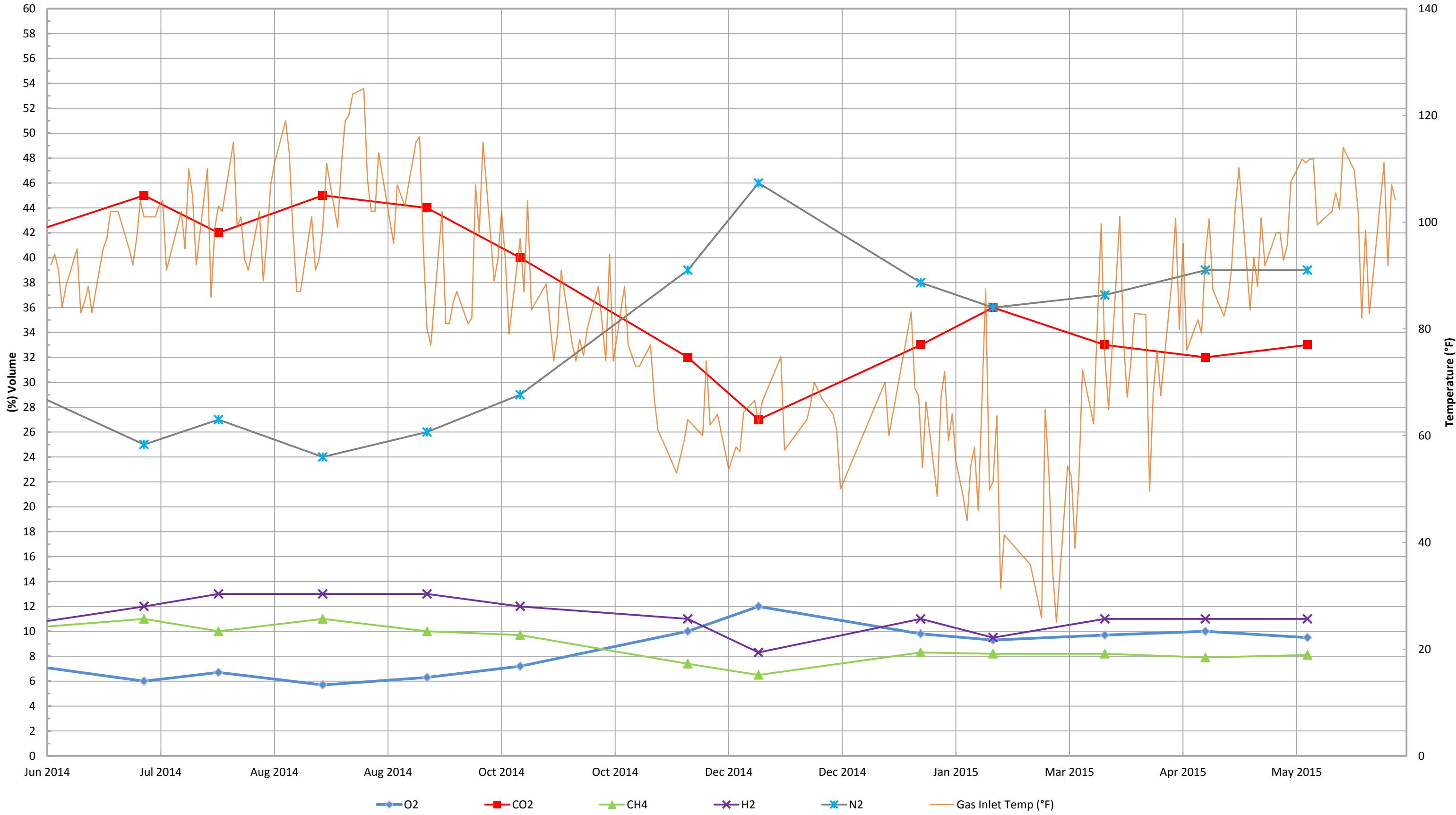
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**ATTACHMENT B-2**

**FLOW DATA GRAPHS**

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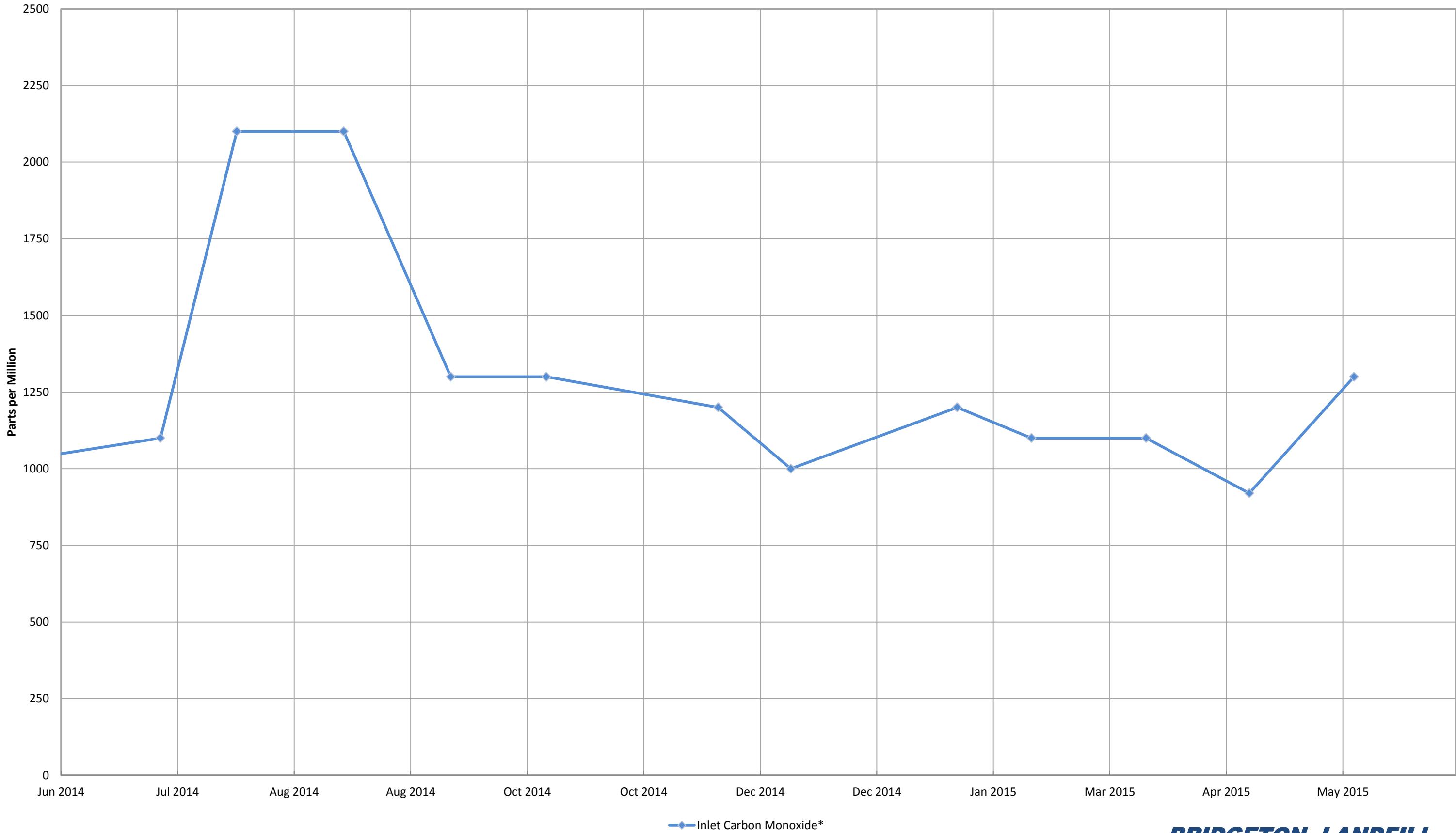
## Inlet Gas and Temperature\*



\*Gas data collected from Laboratory Reports. Temperature data collected from GEM 2000 field readings.

**BRIDGETON LANDFILL**

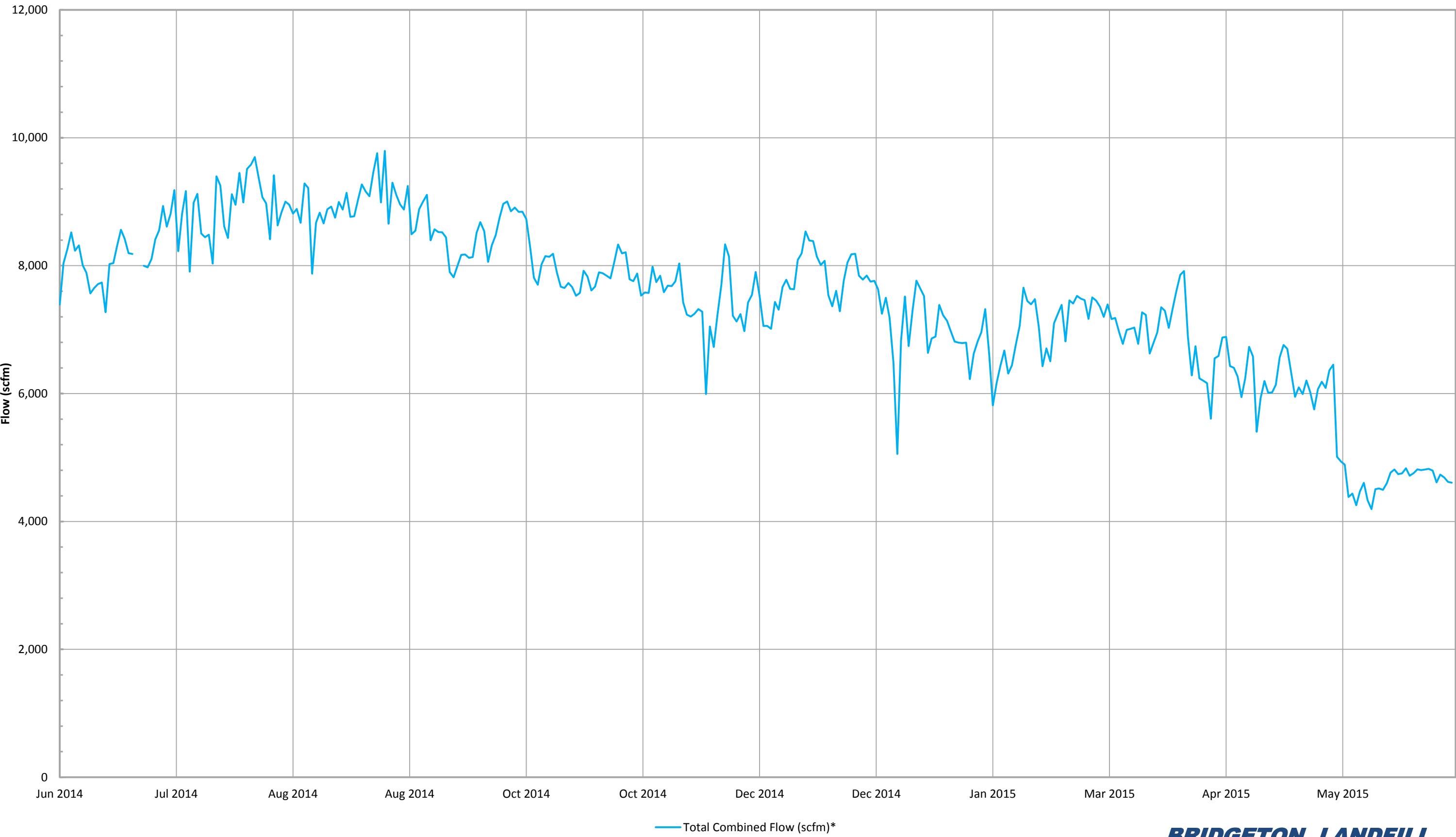
## Inlet Carbon Monoxide\*



**BRIDGETON LANDFILL**

\*Data collected from Laboratory Reports.

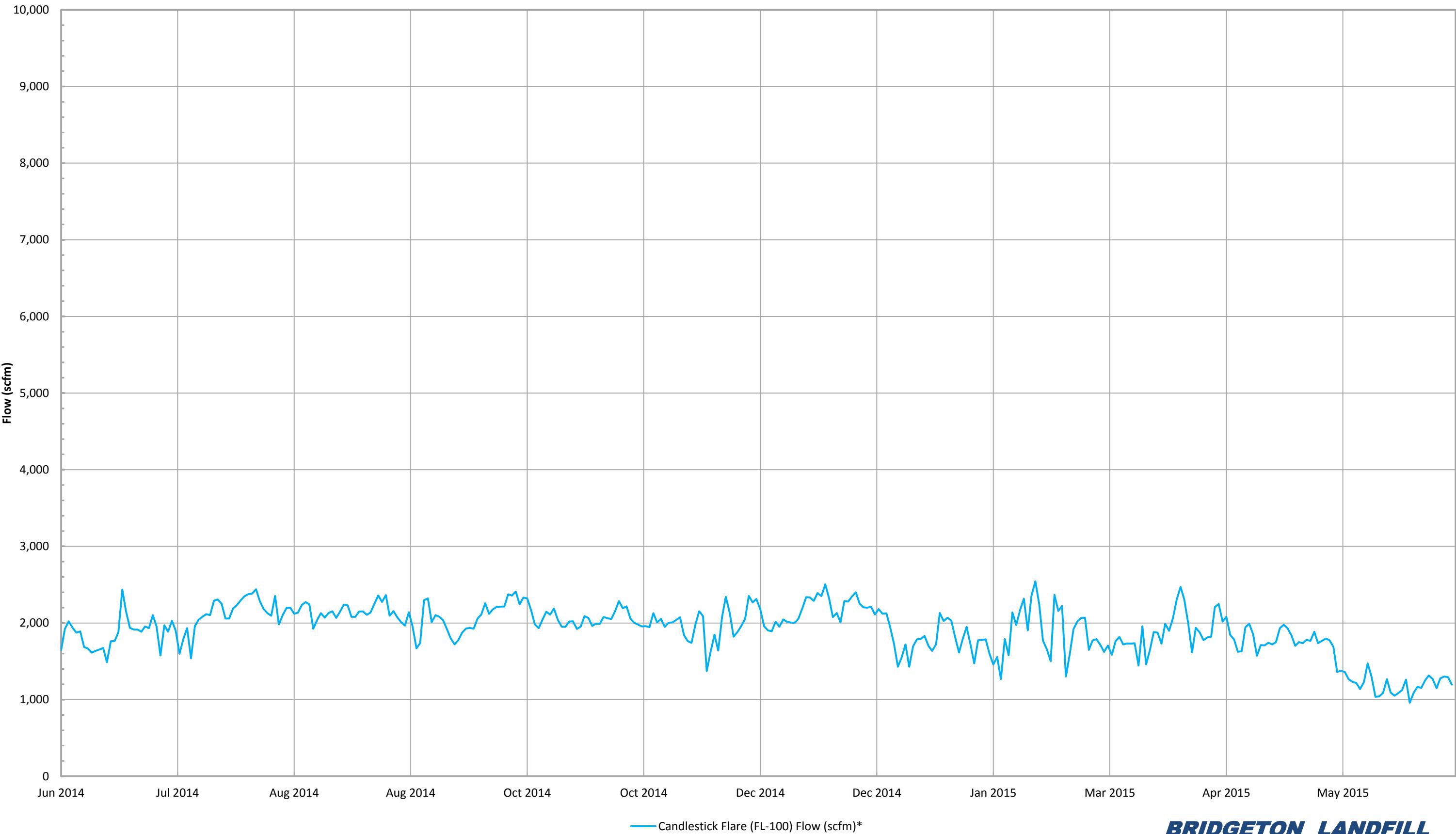
## Total Combined Flow (scfm)\*



\*Combined flow is based on tabulated flow data collected daily from each device.

**BRIDGETON LANDFILL**

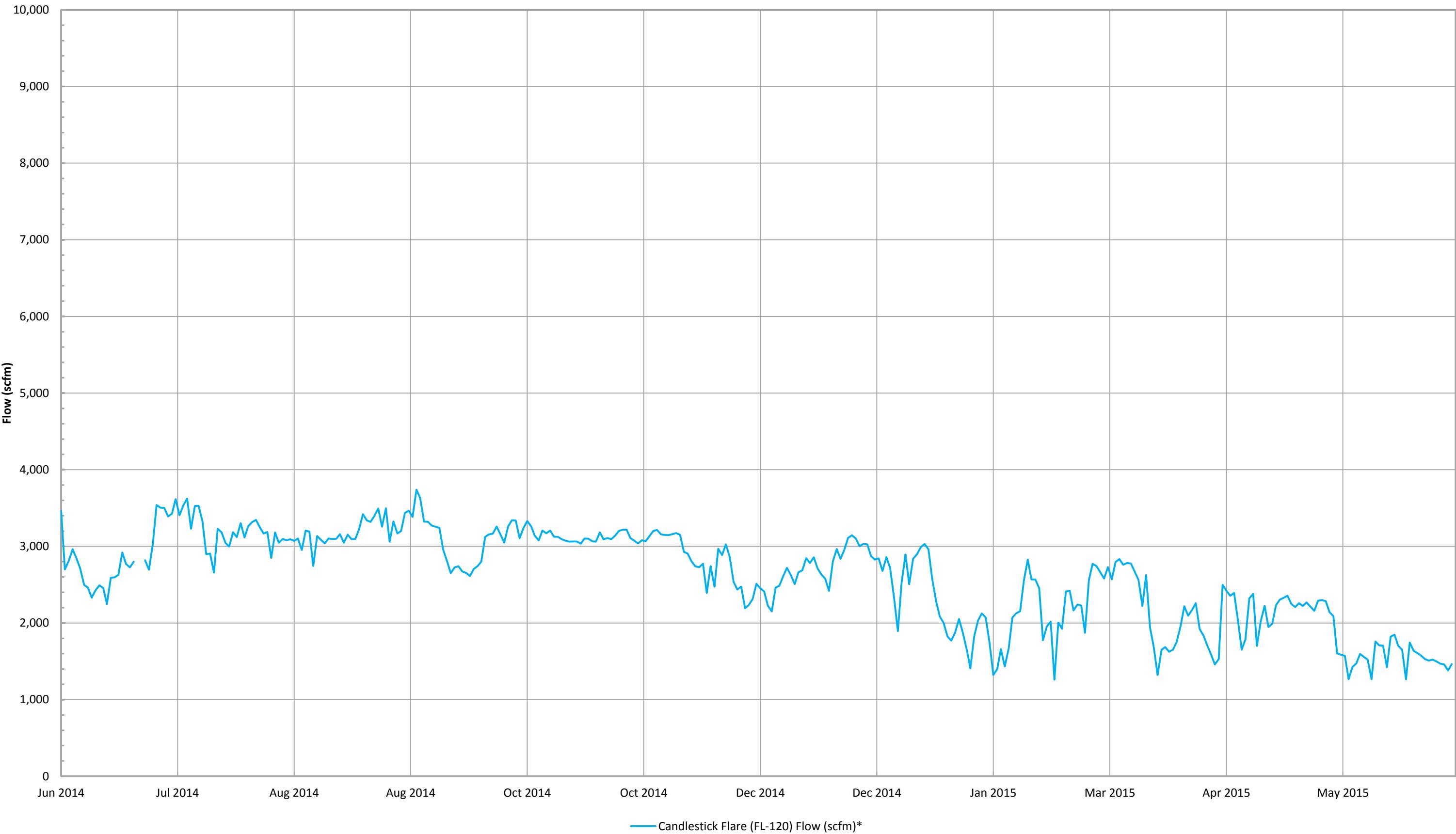
## Candlestick Flare (FL-100) Flow (scfm)\*



\*Flow is based on tabulated flow data collected daily.

**BRIDGETON LANDFILL**

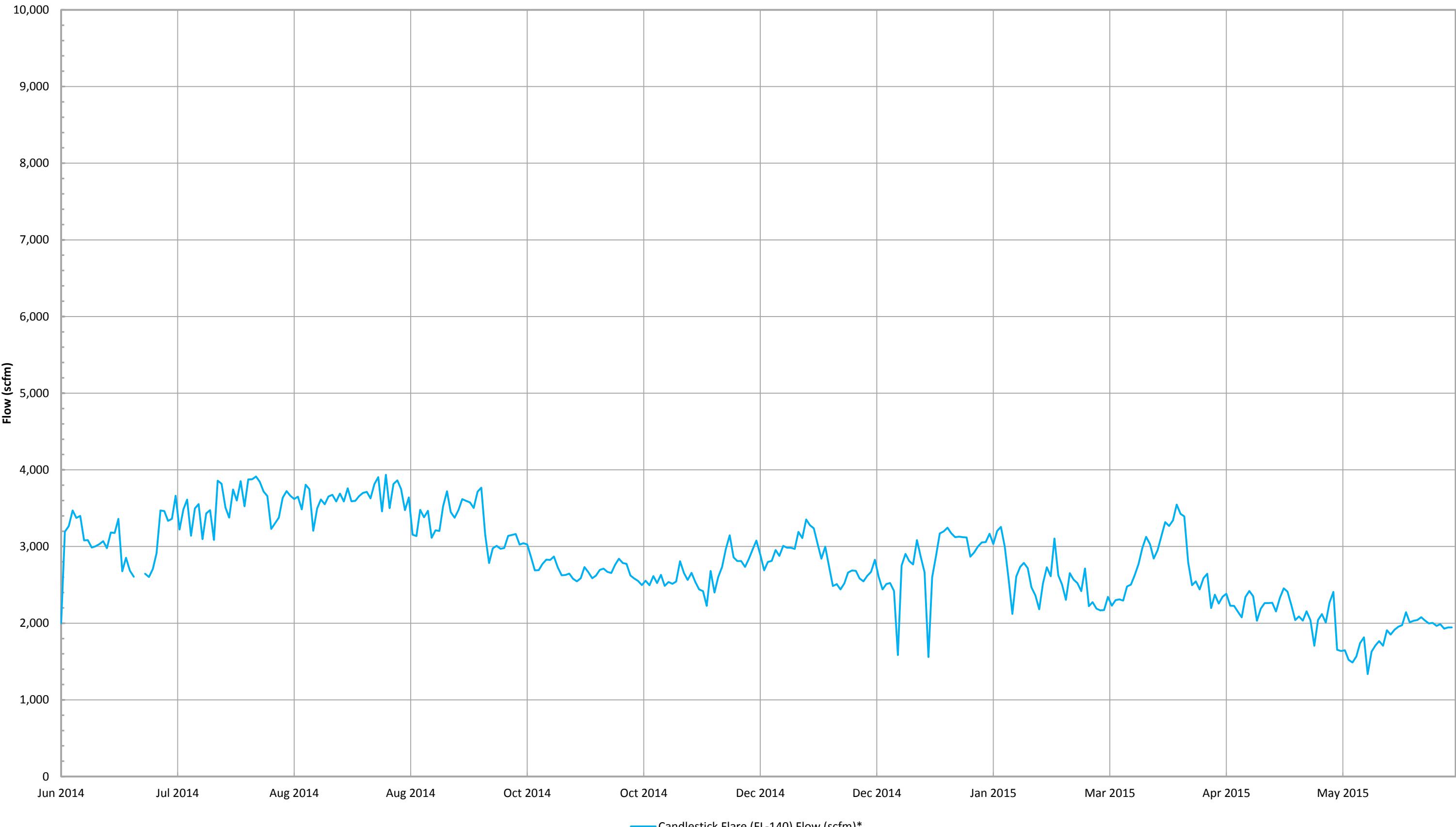
## Candlestick Flare (FL-120) Flow (scfm)\*



\*Flow is based on tabulated flow data collected daily.

**BRIDGETON LANDFILL**

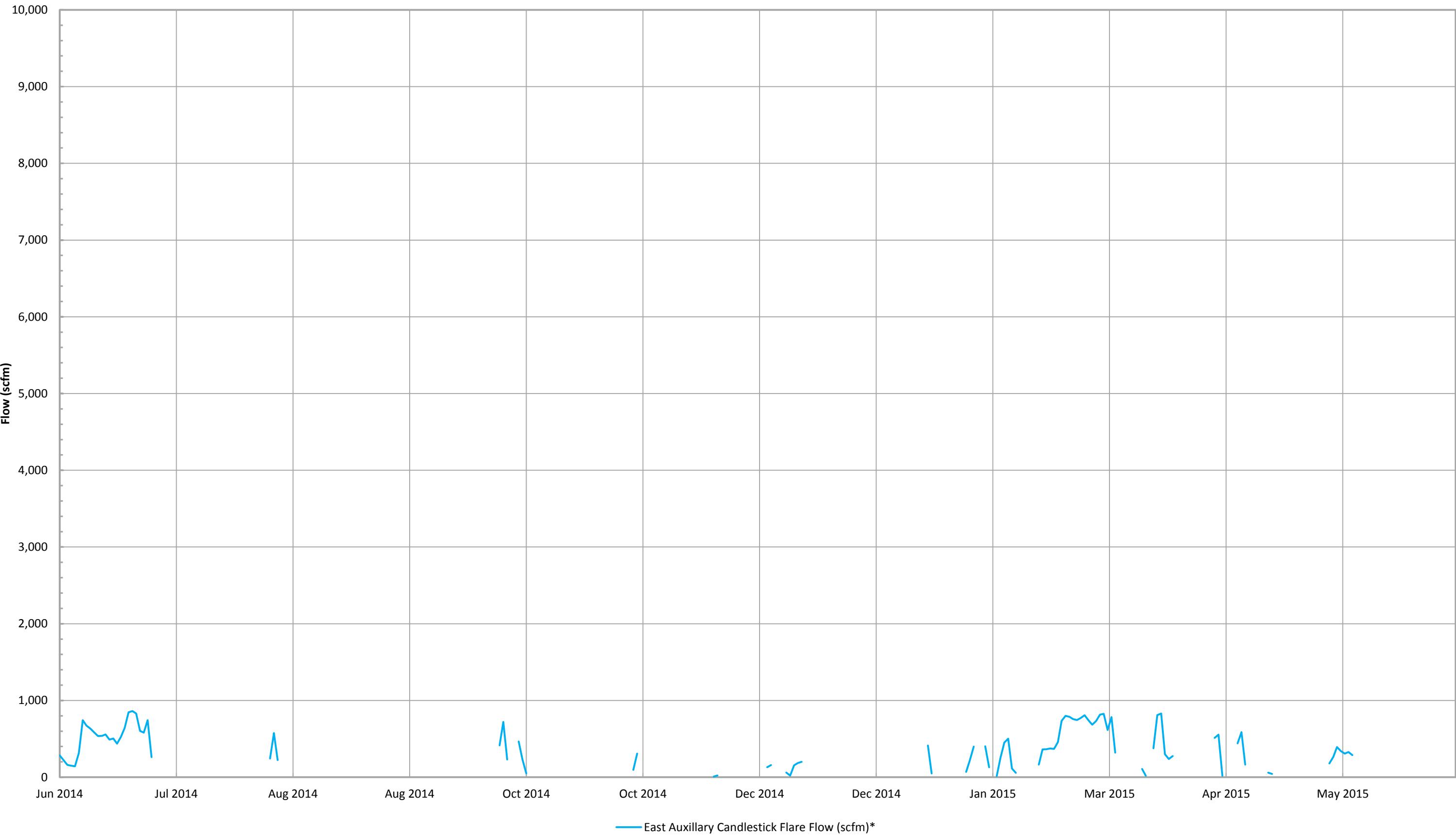
## Candlestick Flare (FL-140) Flow (scfm)\*



\*Flow is based on tabulated flow data collected daily.

**BRIDGETON LANDFILL**

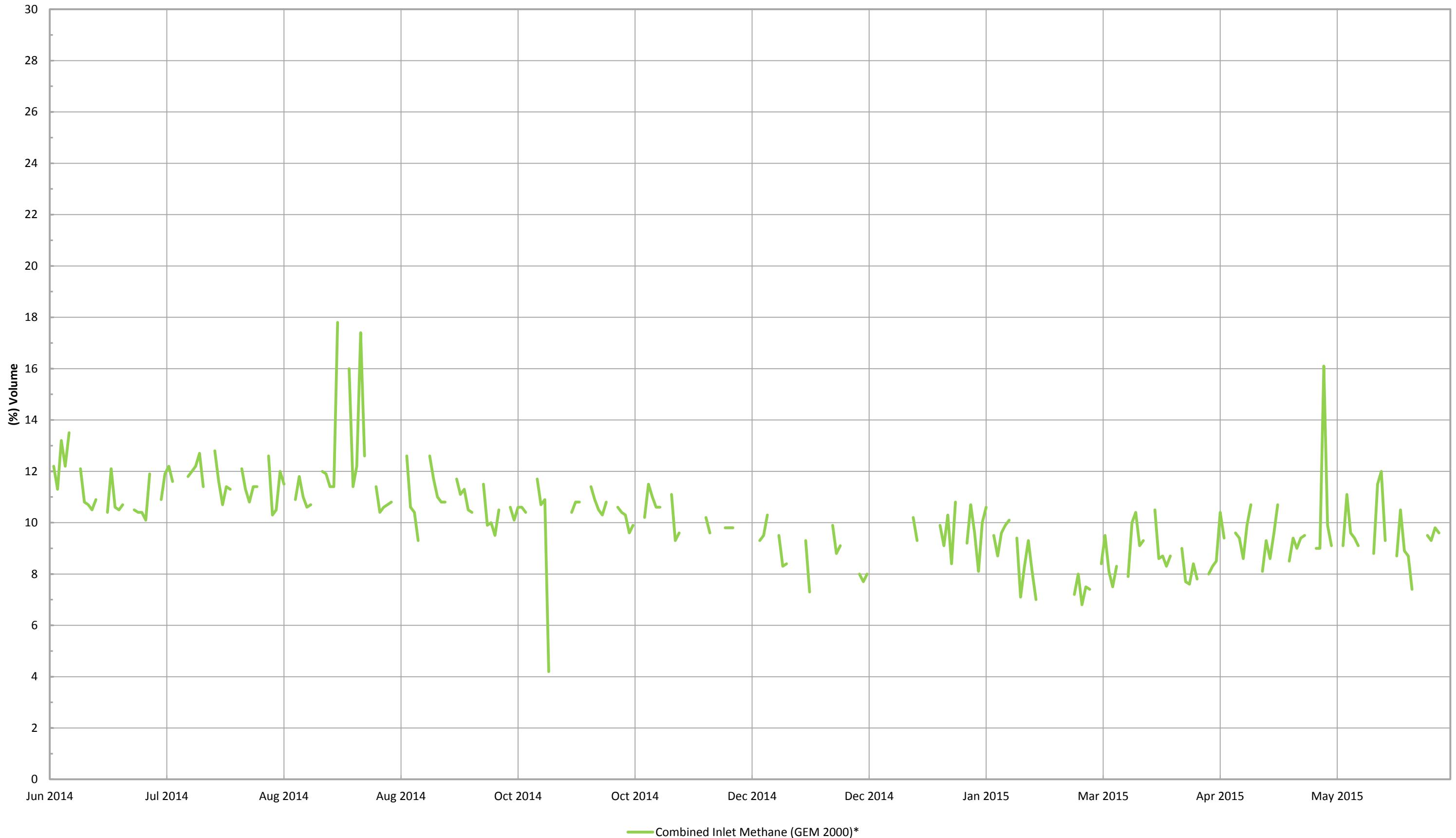
## East Auxillary Candlestick Flare Flow (scfm)\*



\*Flow is based on tabulated flow data collected daily.

**BRIDGETON LANDFILL**

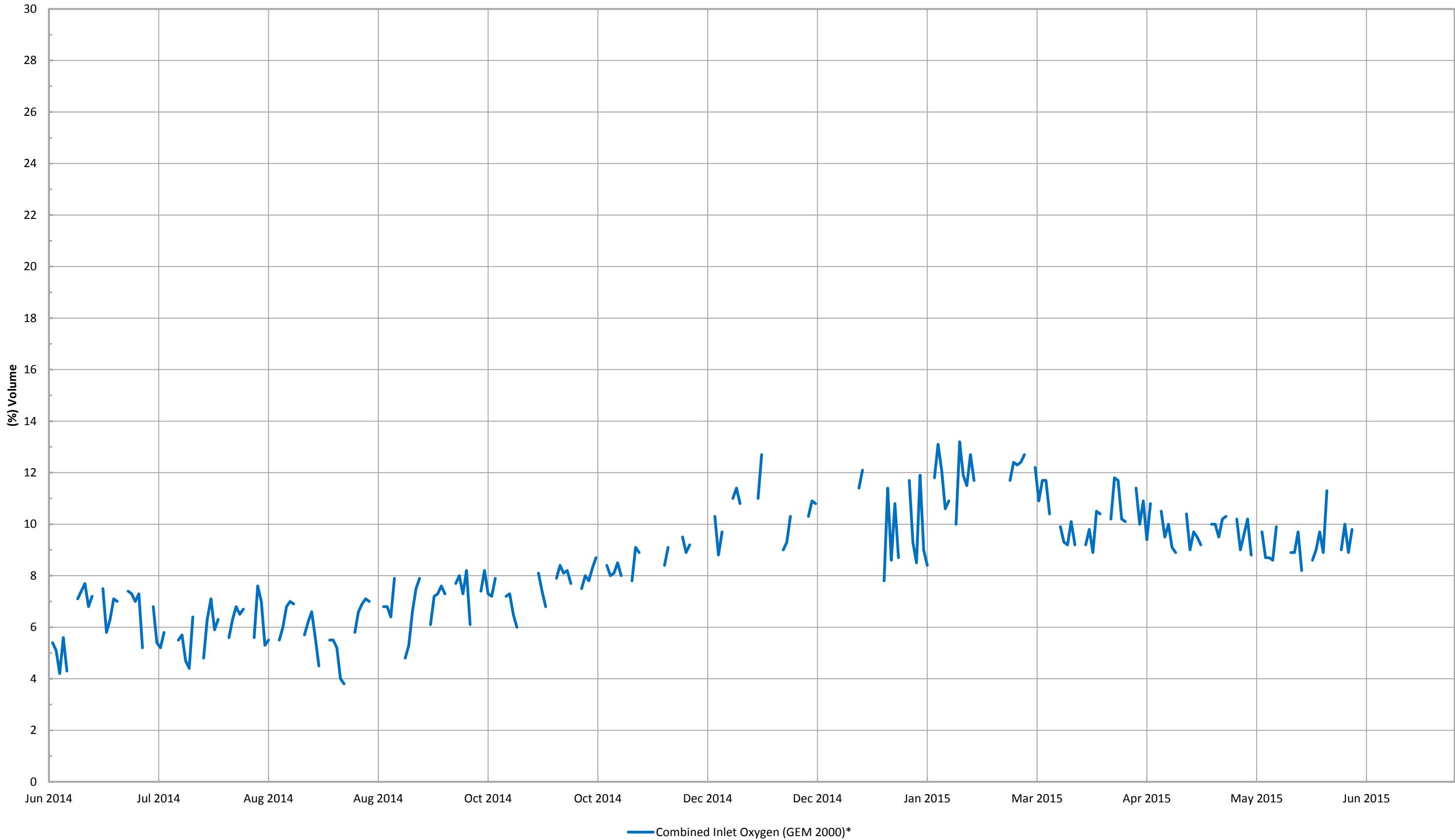
## Combined Inlet Methane (GEM 2000)\*



\*Gas data collected from GEM 2000 field monitoring instrument.

**BRIDGETON LANDFILL**

## Combined Inlet Oxygen (GEM 2000)\*



\*Gas data collected from GEM 2000 field monitoring instrument.

**BRIDGETON LANDFILL**

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**ATTACHMENT B-3**

**FLARE TRS / FLARE STATION FLOW**

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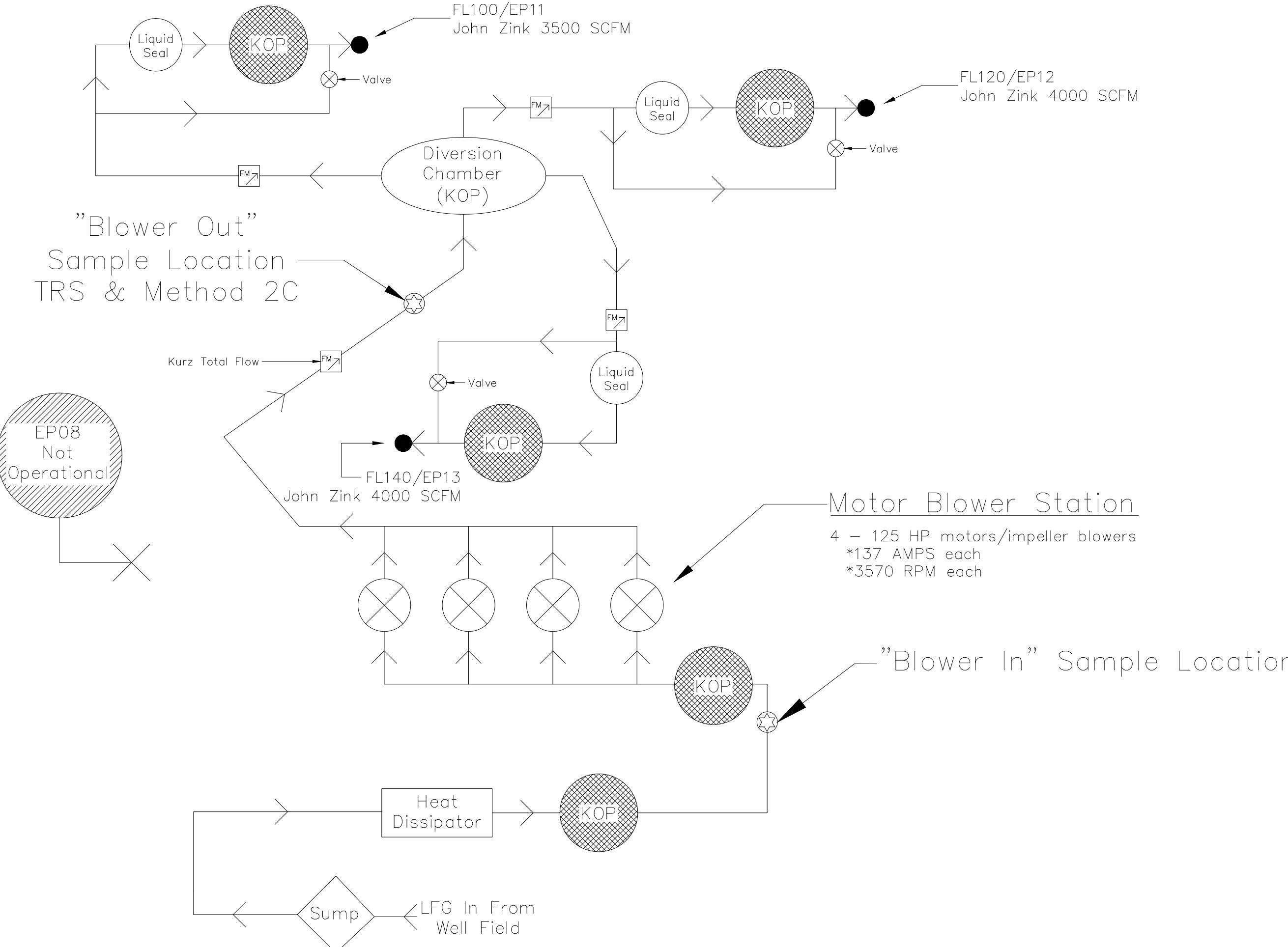
**TABLE 1**  
**Summary of Key LFG Tested Parameters**  
**Flare Compound: Blower Outlet**

**Bridgeton Landfill, LLC.**  
**March 12 to June 02, 2015**

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm <sub>vd</sub>
1	3/12/2015	52.38	4033	1518
2	3/18/2015	58.30	4702	817 874
3	3/24/2015	62.90	4815	832 834
4	4/1/2015	64.99	4742	881 922 1200 1300
5	4/8/2015	68.58	4984	1400 1100
6	4/14/2015	67.26	4888	1100 1700
7	4/21/2015	63.29	4751	1300 1200
8	4/28/2015	62.56	4752	1200 1100
9	5/5/2015	62.94	4174	1300 1200
10	5/12/2015	62.13	4695	1300 1300
11	5/19/2015	59.17	4480	1400 1500
12	5/26/2015	64.87	4581	1400 1400
13	6/2/2015	60.34	4388	1300 1300

① Flow based on EPA Method 2C (& Method 3C and 4) data collection from "Blower Outlet" Method 1 location for approximately 90 minutes

② TRS analyzed per EPA Method 15/16, collected from "Blower Outlet" location for approximately 5-10 minutes



PREPARED FOR:  
BRIDGETON LANDFILL,  
LLC

FIGURE 1 - FLARE COMPOUND  
PROCESS FLOW DIAGRAM  
13570 ST. CHARLES ROCK ROAD  
BRIDGETON, MISSOURI

Weaver  
Consultants  
Group

WEAVER CONSULTANTS  
GROUP  
6301 EAST HWY AB  
COLUMBIA, MISSOURI 65201  
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DRAWN BY: DT  
REVIEWED BY: DAR  
DATE: 5/20/2015  
FILE: 0120-131-10  
CAD: Figure 1 - Flow Diagram  
SHEET 1 OF 1

PARAMETER		EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date Start	Test Date	5/5/15	5/5/15	5/5/15	5/5/15
	Run Start Time	10:10:28	10:50:08	11:32:55	8:50
	Run Finish Time	10:41:03	11:19:23	12:08:35	9:59
	Net Traversing Points	6	8	8	16 (2 x 8)
⌚	Net Run Time, minutes	0:30:35	0:29:15	0:35:40	1:09:20
C <sub>p</sub>	Pitot Tube Coefficient	0.99	0.99	0.99	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.51	29.51	29.51	29.51
% H <sub>2</sub> O	Moisture Content of LFG, %	10.00	10.00	10.00	12.54
% H <sub>2</sub> O <sub>sat</sub>	Moisture Saturation at LFG Temperature, %				
M <sub>fd</sub>	Dry Mole Fraction	0.900	0.900	0.900	0.875
%CH <sub>4</sub>	Methane, %	7.70	7.70	7.70	7.80
%CO <sub>2</sub>	Carbon Dioxide, %	33.00	33.00	33.00	32.00
%O <sub>2</sub>	Oxygen, %	9.10	9.10	9.10	9.70
%Balance	Assumed as Nitrogen, %	37.00	37.00	37.00	39.50
%H <sub>2</sub>	Hydrogen, %	11.00	11.00	11.00	11.00
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	29.26	29.26	29.26	29.73
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	28.13	28.13	28.13	28.25
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	0.16	0.91	0.90	23.23
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	29.56	29.54	29.54	31.22
t <sub>s</sub>	Average Stack Gas Temperature, °F	102	113	115	127
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.183	0.197	0.063	0.825
v <sub>s</sub>	Average LFG Velocity, feet/second	29.77	31.20	17.67	62.71
A <sub>s</sub>	Stack Crossectional Area, square feet	0.92	1.23	1.23	1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	1,375	1,881	1,062	4,179
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	1,513	2,069	1,168	4,703
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,646	2,297	1,301	5,091
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	6,265	8,571	4,837	19,342
LFG <sub>CH4</sub>	Methane, lb/hr	264.6	362.0	204.3	814.5
	Methane, grains/dscf	22.45	22.45	22.45	22.74
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	3,111.1	4,255.9	2,401.7	9,166.7
	Carbon Dioxide, grains/dscf	263.93	263.93	263.93	255.94
LFG <sub>O2</sub>	Oxygen, lb/hr	623.8	853.3	481.5	2020.3
	Oxygen, grains/dscf	52.92	52.92	52.92	56.41
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	2,220.3	3,037.4	1,714.0	7,202.4
	Balance gas as Nitrogen, grains/dscf	188.37	188.37	188.37	201.09
LFG <sub>H4</sub>	Hydrogen, lb/hr	47.5	65.0	36.7	144.3
	Hydrogen, grains/dscf	4.03	4.03	4.03	4.03

			Blower Out Sample #1	Blower Out Sample #2
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd			0.56
	Hydrogen Sulfide Rate, lb/hr			0.01
	Hydrogen Sulfide Rate, grains/dscf			0.000
COS	Carbonyl Sulfide Concentration, ppmd			0.56
	Carboynl Sulfide Rate, lb/hr			0.02
	Carbonyl Sulfide Rate, grains/dscf			0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd			0.56
	Methyl Mercaptan Rate, lb/hr			0.02
	Methyl Mercaptan Rate, grains/dscf			0.000
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd			0.56
	Ethyl Mercaptan Rate, lb/hr			0.02
	Ethyl Mercaptan Rate, grains/dscf			0.001
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd			1,100.00
	Dimethyl Sulfide Rate, lb/hr			44.49
	Dimethyl Sulfide Rate, grains/dscf			1,242
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd			0.64
	Carbon Disulfide Rate, lb/hr			0.03
	Carbon Disulfide Rate, grains/dscf			0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd			570.00
	Dimethyl Disulfide Rate, lb/hr			34.95
	Dimethyl Disulfide Rate, grains/dscf			0.976
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd			2,200.00
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr			91.74
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf			2.561

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

*Tuesday, May 05, 2015*

LOCATION	TIME	METHOD 2	Q -SCFM FLEETZOOM	$\Delta$	KURZ
BLOWER OUT	8:50	4,703	6,533	28.0%	4,045
FL100	10:10	1,513	1,978	23.5%	
FL120	10:50	2,069	2,409	14.1%	
FL 140	11:32	1,168	2,348	50.3%	
		<b>4,750</b>	<b>6,735</b>	<b>29.5%</b>	<b>4,193</b>

NOTE: Ambient temperatures warm, all sample locations including blower out **saturated**, significant water droplets present.  
FL140 continued to have erratic DP measurements, either due to moisture in stack or liquid seal levels.

May 26, 2015

Weaver Consultants Group  
ATTN: David Randall  
6301 East Highway AB  
Columbia, MO 65201



ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175  
TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15  
UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project Number: 0120-131-10-47  
Lab Number: G050601-01/02

Enclosed are results for sample(s) received 5/06/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to David Randall on 5/19/15.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Total Number of Pages: 153



Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/06/15  
 Matrix: Air  
 Reporting Units: ppmv

**EPA 15/16**

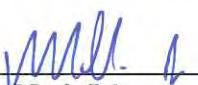
Lab No.:	G050601-01	G050601-02		
Client Sample I.D.:	Blower Outlet #2 1534	Blower Outlet #1 J1720		
Date/Time Sampled:	5/5/15 9:11	5/5/15 8:54		
Date/Time Analyzed:	5/6/15 11:21	5/6/15 11:59		
QC Batch No.:	150505GC3A1	150505GC3A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.8	2.8		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.56	29 d	5.6
Carbonyl Sulfide	ND	0.56	ND	0.56
Methyl Mercaptan	ND	0.56	180 d	5.6
Ethyl Mercaptan	ND	0.56	2.5	0.56
Dimethyl Sulfide	1,100 d	56	950 d	56
Carbon Disulfide	0.64	0.56	0.57	0.56
Dimethyl Disulfide	570 d	56	130 d	5.6
Total Reduced Sulfur	2,200	0.56	1,400	0.56

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: \_\_\_\_\_

  
 Mark Johnson  
 Operations Manager

Date 5/21/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

page 1 of 1

QC Batch No.: 150505GC3A1  
Matrix: Air  
Units: ppmv

**QC for Sulfur Compounds by EPA 15/16**

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/5/15 16:12		5/5/15 15:49		5/5/15 16:01			
Analyst Initials:	AS		AS		AS			
Datafile:	05may003		05may001		05may002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Hydrogen Sulfide	ND	0.20	95	70-130%	94	70-130%	0.5	<30
Carbonyl Sulfide	ND	0.20	97	70-130%	98	70-130%	0.7	<30
Methyl Mercaptan	ND	0.20	98	70-130%	96	70-130%	2.8	<30
Ethyl Mercaptan	ND	0.20	102	70-130%	100	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	102	70-130%	100	70-130%	1.9	<30
Carbon Disulfide	ND	0.20	93	70-130%	95	70-130%	2.1	<30
Dimethyl Disulfide	ND	0.20	96	70-130%	98	70-130%	1.8	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date:

5/5/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

**Client:** Weaver Consultants Group  
**Attn:** David Randall  
**Project Name:** Bridgeton Weekly GCCS TRS Sampling  
**Project No.:** 0120-131-10-47  
**Date Received:** 05/06/15  
**Matrix:** Air  
**Reporting Units:** % v/v

**ASTM D1946**

Lab No.:	G050601-01	G050601-02		
Client Sample I.D.:	Blower Outlet #2 Can 1534	Blower Outlet #1 Can J1720		
Date/Time Sampled:	5/5/15 9:11	5/5/15 8:54		
Date/Time Analyzed:	5/7/15 10:40	5/7/15 10:55		
QC Batch No.:	150507GC8A1	150507GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.8	2.8		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	11	2.8	9.9	2.8
Carbon Dioxide	33	0.028	31	0.028
Oxygen/Argon	9.2	1.4	10	1.4
Nitrogen	37	2.8	41	2.8
Methane	7.8	0.0028	7.0	0.0028

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 5/7/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150507GC8A1

Matrix: Air

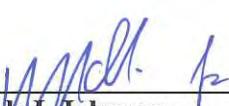
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS	LCSD	
Date/Time Analyzed:	5/7/15 9:27	5/7/15 8:16	5/7/15 8:31	
Analyst Initials:	AS	AS	AS	
Datafile:	07may004	07may001	07may002	
Dilution Factor:	1.0	1.0	1.0	
ANALYTE	Results	RL	% Rec.	Criteria
Hydrogen	ND	1.0	92	70-130%
Carbon Dioxide	ND	0.010	93	70-130%
Oxygen/Argon	ND	0.50	102	70-130%
Nitrogen	ND	1.0	102	70-130%
Methane	ND	0.0010	106	70-130%

ND = Not Detected (Below RL)

Reviewed/Approved By:

  
Mark J. Johnson

Operations Manager

Date:

5/7/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

PARAMETER		EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date Start	Test Date Run Start Time Run Finish Time Net Traversing Points	5/12/15 9:28:26 9:56:56 6	5/12/15 10:05:40 10:31:45 8	5/12/15 11:01:34 11:11:29 8	5/12/15 7:32 9:12 16 (2 x 8)
⌚	Net Run Time, minutes	0:28:30	0:26:05	0:09:55	1:39:39
C <sub>p</sub>	Pitot Tube Coeficient	0.99	0.99	0.99	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.53	29.53	29.53	29.53
% H <sub>2</sub> O	Moisture Content of LFG, %	10.00	10.00	10.00	3.62
% RH	Relative Humidity, %	75.0	80.4	98.0	46.20
M <sub>fd</sub>	Dry Mole Fraction	0.900	0.900	0.900	0.964
%CH <sub>4</sub>	Methane, %	6.80	6.80	6.80	6.80
%CO <sub>2</sub>	Carbon Dioxide, %	28.50	28.50	28.50	28.50
%O <sub>2</sub>	Oxygen, %	11.00	11.00	11.00	11.00
%Balance	Assumed as Nitrogen, %	44.00	44.00	44.00	44.00
%H <sub>2</sub>	Hydrogen, %	9.20	9.20	9.20	9.20
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	29.66	29.66	29.66	29.66
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	28.50	28.50	28.50	29.24
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	0.23	0.91	0.91	22.98
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	29.59	29.61	29.65	31.13
t <sub>s</sub>	Average Stack Gas Temperature, °F	87	93	100	109
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.106	0.198	0.101	0.862
V <sub>s</sub>	Average LFG Velocity, feet/second	22.20	30.48	21.89	62.10
A <sub>s</sub>	Stack Crossectional Area, square feet	0.92	1.23	1.23	1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	1,054	1,909	1,356	4,695
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	1,160	2,100	1,492	4,865
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,228	2,245	1,612	5,041
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	4,870	8,819	6,266	21,689
LFG <sub>CH4</sub>	Methane, lb/hr	179.1	324.4	230.5	797.8
	Methane, grains/dscf	19.83	19.83	19.83	19.83
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	2,059.6	3,730.1	2,650.1	9,173.1
	Carbon Dioxide, grains/dscf	227.94	227.94	227.94	227.94
LFG <sub>O2</sub>	Oxygen, lb/hr	578.0	1046.8	743.7	2574.3
	Oxygen, grains/dscf	63.97	63.97	63.97	63.97
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	2,024.0	3,665.7	2,604.3	9,014.5
	Balance gas as Nitrogen, grains/dscf	224.00	224.00	224.00	224.00
LFG <sub>H4</sub>	Hydrogen, lb/hr	30.5	55.2	39.2	135.6
	Hydrogen, grains/dscf	3.37	3.37	3.37	3.37

			Blower Out Sample #1	Blower Out Sample #2
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd		28.00	30.00
	Hydrogen Sulfide Rate, lb/hr		0.70	0.75
	Hydrogen Sulfide Rate, grains/dscf		0.017	0.019
COS	Carbonyl Sulfide Concentration, ppmd		0.51	0.51
	Carboynl Sulfide Rate, lb/hr		0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf		0.001	0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd		180.00	180.00
	Methyl Mercaptan Rate, lb/hr		6.33	6.33
	Methyl Mercaptan Rate, grains/dscf		0.157	0.157
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd		2.40	2.30
	Ethyl Mercaptan Rate, lb/hr		0.11	0.10
	Ethyl Mercaptan Rate, grains/dscf		0.003	0.003
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd		840.00	910.00
	Dimethyl Sulfide Rate, lb/hr		38.17	41.35
	Dimethyl Sulfide Rate, grains/dscf		0.949	1.028
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd		0.51	0.52
	Carbon Disulfide Rate, lb/hr		0.03	0.03
	Carbon Disulfide Rate, grains/dscf		0.001	0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd		110.00	110.00
	Dimethyl Disulfide Rate, lb/hr		7.58	7.58
	Dimethyl Disulfide Rate, grains/dscf		0.188	0.188
① E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd		1,300.00	1,300.00
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr		60.91	60.91
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf		1.514	1.514

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

*Tuesday, May 12, 2015*

LOCATION	TIME	METHOD 2	Q -SCFM	Δ	KURZ
BLOWER OUT	7:32	4,865	6,264	22.3%	4,472
FL100	9:28	1,160	1,421	18.4%	
FL120	10:05	2,100	2,577	18.5%	
FL 140	11:01	1,492	2,497	40.2%	
		4,752	6,495	26.8%	4,582

June 2, 2015

Weaver Consultants Group  
ATTN: David Randall  
6301 East Highway AB  
Columbia, MO 65201



ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175  
TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15  
UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project Number: 0120-131-10-47  
Lab Number: G051309-01/02

Enclosed are results for sample(s) received 5/13/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to David Randall on 6/01/15.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

Note: The cover letter is an integral part of this analytical report.



## CHAIN OF CUSTODY RECORD

Project No.: Q120-131-1047		Project Name: BRIDGTON WEEKLY GCCS THIS SAMPLING M		Turnaround Time		Deliverables		Page:	
Report To:	David Randall		P.O. No.:	Standard	48 hours <input checked="" type="checkbox"/>	EDD <input checked="" type="checkbox"/>	Condition upon receipt:		
Company:	Weaver Consultants Group		Bill to:	Same Day	72 hours <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Street:	130 EAST Highway AB			24 hours	96 hours <input type="checkbox"/>	LEVEL 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>	
City/State/Zip:	Columbia MO 65101			Other:		LEVEL 4 <input type="checkbox"/>	Chilled _____ deg C		
Phone & Fax:	David Randall@wcrgrl.com		Billing	ANALYSIS REQUEST					
e-mail:									
LAB USE ONLY		SAMPLE IDENTIFICATION							
GO51309-01 ↓ -02		Blower outlet #1 #J-1718 Blower outlet #2 #J-1721		Sample Date	5/12/15	5/12/15 08:24	LFG <input checked="" type="checkbox"/>	C <input checked="" type="checkbox"/>	X <input type="checkbox"/>
				Sample Time	09:00	Q104	4FC <input type="checkbox"/>	C <input type="checkbox"/>	X <input type="checkbox"/>
				Matrix					
				Container Type					

AUTHORIZATION TO PERFORM WORK		DATE/TIME		DATE/TIME	
SAMPLED BY	WIT TECHNOLOGY	COMPANY	COMPANY	RECEIVED BY	RECEIVED BY
REINQUIRISHED BY	John Holt	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
REINQUIRISHED BY	John Holt	DATE/TIME	DATE/TIME	RECEIVED BY	RECEIVED BY
REINQUIRISHED BY	WPS	DATE/TIME	DATE/TIME	RECEIVED BY	RECEIVED BY
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other _____					
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy					
Preservation: H=HCL N=None / Container: B=Bag C=Can V=VOA O=Other					
Comments: Instructions & collection times cont'd via email from Randall to 5/14/15.					

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/13/15  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
G051309

EPA 15/16

Lab No.:	G051309-01	G051309-02		
Client Sample I.D.:	Blower Outlet #1 J1718	Blower Outlet #2 J1721		
Date/Time Sampled:	5/12/15 8:24	5/12/15 9:00		
Date/Time Analyzed:	5/14/15 15:10	5/14/15 15:46		
QC Batch No.:	150514GC3A1	150514GC3A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.5	2.5		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	28 d	5.1	30 d	5.1
Carbonyl Sulfide	ND	0.51	ND	0.51
Methyl Mercaptan	180 d	5.1	180 d	5.1
Ethyl Mercaptan	2.4	0.51	2.3	0.51
Dimethyl Sulfide	840 d	51	910 d	51
Carbon Disulfide	ND	0.51	0.52	0.51
Dimethyl Disulfide	110 d	5.1	110 d	5.1
Total Reduced Sulfur	1,300	0.51	1,300	0.51

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: Mark Johnson  
Mark Johnson  
Operations Manager

Date 5/13/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150514GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
G051309

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/14/15 9:49		5/14/15 9:20		5/14/15 9:31			
Analyst Initials:	AS		AS		AS			
Datafile:	14may003		14may001		14may002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	92	70-130%	91	70-130%	1.2	<30
Carbonyl Sulfide	ND	0.20	111	70-130%	110	70-130%	1.4	<30
Methyl Mercaptan	ND	0.20	98	70-130%	101	70-130%	2.3	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	113	70-130%	1.4	<30
Dimethyl Sulfide	ND	0.20	97	70-130%	96	70-130%	0.9	<30
Carbon Disulfide	ND	0.20	95	70-130%	95	70-130%	0.4	<30
Dimethyl Disulfide	ND	0.20	87	70-130%	91	70-130%	4.0	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date:

5/14/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

Client: Weaver Consultants Group  
Attn: David Randall  
Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project No.: 0120-131-10-47  
Date Received: 05/13/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051309-01	G051309-02		
Client Sample I.D.:	Blower Outlet #1 J1718	Blower Outlet #2 J1721		
Date/Time Sampled:	5/12/15 8:24	5/12/15 9:00		
Date/Time Analyzed:	5/21/15 11:35	5/21/15 11:50		
QC Batch No.:	150521GC8A1	150521GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.5	2.5		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	8.8	2.5	9.2	2.5
Carbon Dioxide	28	0.025	29	0.025
Oxygen/Argon	11	1.3	11	1.3
Nitrogen	44	2.5	43	2.5
Methane	6.7	0.0025	6.9	0.0025

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
Mark Johnson  
Operations Manager

Date 5/13/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150521GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/21/15 8:57	5/21/15 8:12		5/21/15 8:27				
Analyst Initials:	AS		AS		AS			
Datafile:	21may003		21may.ru		21may001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	111	70-130%	110	70-130%	0.7	<30
Carbon Dioxide	ND	0.010	94	70-130%	93	70-130%	0.5	<30
Oxygen/Argon	ND	0.50	98	70-130%	98	70-130%	0.4	<30
Nitrogen	ND	1.0	99	70-130%	99	70-130%	0.1	<30
Methane	ND	0.0010	117	70-130%	114	70-130%	2.7	<30

ND = Not Detected (Below RL)

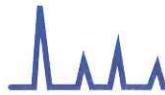
Reviewed/Approved By:

  
Mark J. Johnson  
Operations Manager

Date:

5/31/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

PARAMETER	EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date Start	Test Date Run Start Time Run Finish Time Net Traversing Points			5/19/15 7:26 11:18 16 (2 x 8)
$\Theta$	Net Run Time, minutes			3:51:30
$C_p$	Pitot Tube Coeficient			0.99
$P_{Br}$	Barometric Pressure, inches of Mercury			29.72
% H <sub>2</sub> O	Moisture Content of LFG, %			4.44
% RH	Relative Humidity, %			46.20
M <sub>fd</sub>	Dry Mole Fraction			0.956
%CH <sub>4</sub>	Methane, %			7.60
%CO <sub>2</sub>	Carbon Dioxide, %			31.00
%O <sub>2</sub>	Oxygen, %			10.00
%Balance	Assumed as Nitrogen, %			40.50
%H <sub>2</sub>	Hydrogen, %			9.90
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole			29.61
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole			29.09
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O			18.90
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury			31.11
t <sub>s</sub>	Average Stack Gas Temperature, °F			108
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O			0.793
V <sub>s</sub>	Average LFG Velocity, feet/second			59.69
A <sub>s</sub>	Stack Crossectional Area, square feet			1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm			4,480
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm			4,679
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm			4,846
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr			20,653
LFG <sub>CH4</sub>	Methane, lb/hr Methane, grains/dscf			850.8 22.16
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr Carbon Dioxide, grains/dscf			9,520.0 247.94
LFG <sub>O2</sub>	Oxygen, lb/hr Oxygen, grains/dscf			2232.9 58.15
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr Balance gas as Nitrogen, grains/dscf			7,916.8 206.18
LFG <sub>H4</sub>	Hydrogen, lb/hr Hydrogen, grains/dscf			139.3 3.63

			Blower Out Sample #1	Blower Out Sample #2
<b>H<sub>2</sub>S</b>	Hydrogen Sulfide Concentration, ppmd Hydrogen Sulfide Rate, lb/hr Hydrogen Sulfide Rate, grains/dscf		31.00 0.74 0.019	37.00 0.88 0.023
<b>COS</b>	Carbonyl Sulfide Concentration, ppmd Carboynl Sulfide Rate, lb/hr Carbonyl Sulfide Rate, grains/dscf		0.51 0.02 0.001	0.51 0.02 0.001
<b>CH<sub>4</sub>S</b>	Methyl Mercaptan Concentration, ppmd Methyl Mercaptan Rate, lb/hr Methyl Mercaptan Rate, grains/dscf		200.00 6.71 0.175	190.00 6.38 0.166
<b>C<sub>2</sub>H<sub>6</sub>S</b>	Ethyl Mercaptan Concentration, ppmd Ethyl Mercaptan Rate, lb/hr Ethyl Mercaptan Rate, grains/dscf		2.30 0.10 0.003	2.60 0.11 0.003
<b>(CH<sub>3</sub>)<sub>2</sub>S</b>	Dimethyl Sulfide Concentration, ppmd Dimethyl Sulfide Rate, lb/hr Dimethyl Sulfide Rate, grains/dscf		850.00 36.85 0.960	1,000.00 43.36 1.129
<b>CS<sub>2</sub></b>	Carbon Disulfide Concentration, ppmd Carbon Disulfide Rate, lb/hr Carbon Disulfide Rate, grains/dscf		0.56 0.03 0.001	0.56 0.03 0.001
<b>C<sub>2</sub>H<sub>6</sub>S<sub>2</sub></b>	Dimethyl Disulfide Concentration, ppmd Dimethyl Disulfide Rate, lb/hr Dimethyl Disulfide Rate, grains/dscf		150.00 9.86 0.257	120.00 6.38 0.166
<b>① E<sub>TRS-SO2</sub></b>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd TRS-->SO <sub>2</sub> Emission Rate, lb/hr TRS-->SO <sub>2</sub> Emission Rate, grains/dscf		1,400.00 62.58 1.630	1,500.00 67.06 1.746

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

*Tuesday, May 19, 2015*

LOCATION	TIME	METHOD 2	Q -SCFM	$\Delta$	KURZ
BLOWER OUT	7:26	4,679	4,583	-2.1%	4,601
FL100					
FL120					
FL 140					

No individual stack Method 2C data collected, man lift not available.

June 5, 2015



Weaver Consultants Group  
ATTN: David Randall  
6301 East Highway AB  
Columbia, MO 65201

ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946

LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175

TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15

UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project Number: 0120-131-10-47  
Lab Number: G052002-01/02

Enclosed are results for sample(s) received 5/20/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to David Randall on 6/04/15.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

Note: The cover letter is an integral part of this analytical report.

CHAIN OF CUSTODY RECORD												
		TURNAROUND TIME		DELIVERABLES		PAGE:		1 OF		1		
<b>Project No.:</b> <u>0120-131-10-47</u>	<b>Project Name:</b> Bridgeton Weekly GCCS TRS Sampling	Standard	48 hours	<input type="checkbox"/>	EDD	<input type="checkbox"/>	Condition upon receipt:	<input type="checkbox"/>	No	<input type="checkbox"/>		
		Same Day	72 hours	<input type="checkbox"/>	EDF	<input type="checkbox"/>	Sealed Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
		24 hours	96 hours	<input type="checkbox"/>	Level 3	<input type="checkbox"/>	Intact Yes	<input type="checkbox"/>	No	<input type="checkbox"/>		
		Other		<input type="checkbox"/>	Level 4	<input type="checkbox"/>	Chilled		deg C			
		ANALYSIS REQUEST										
<b>Report To:</b> David A. Randall	<b>P.O. No.:</b>											
<b>Company:</b> Weaver Consultants Group	<b>Bill to:</b>	Ms. Michele Clark										
<b>Street:</b> 6301 East Highway AB	<--Same											
<b>City/State/Zip:</b> Columbia, MO 65201												
<b>Phone &amp; Fax:</b> 888-660-0346												
<b>e-mail:</b> drandall@weaverboos.com												
LAB USE ONLY		SAMPLE IDENTIFICATION										
G052002-01	Blower Outlet #1, Can #	1020	SAMPLE DATE	5/19/2015	TIME	1745	CONTAINER QTY/TYPE	C-1L	LFG	PRESERVE-MATRIX	MATRIX	
1 -02	Blower Outlet #2, Can #	1017		5/19/2015		849		C-1L	LFG			
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATL Other _____												
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy						Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other						
COMMENTS						DATE/TIME						
DAVID RANDALL	RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	RECEIVED BY	DAVID RANDALL	RELINQUISHED BY	DATE/TIME	RECEIVED BY	DAVID RANDALL	RELINQUISHED BY	
<i>David Randall</i>	<i>DR</i>	<i>05/19/15 09:10</i>	<i>Jean Decker</i>	<i>05/19/15 09:10</i>	<i>Jean Decker</i>	<i>David Randall</i>	<i>DR</i>	<i>05/19/15 09:10</i>	<i>Jean Decker</i>	<i>David Randall</i>	<i>DR</i>	

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/20/15  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
G052002

EPA 15/16

Lab No.:	G052002-01	G052002-02		
Client Sample I.D.:	Blower Outlet #1 1620	Blower Outlet #2 1617		
Date/Time Sampled:	5/19/15 7:45	5/19/15 8:49		
Date/Time Analyzed:	5/21/15 10:12	5/21/15 10:47		
QC Batch No.:	150521GC3A1	150521GC3A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.5	2.5		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	31 d	5.1	37 d	5.1
Carbonyl Sulfide	ND	0.51	ND	0.51
Methyl Mercaptan	200 d	5.1	190 d	5.1
Ethyl Mercaptan	2.3	0.51	2.6	0.51
Dimethyl Sulfide	850 d	51	1,000 d	51
Carbon Disulfide	0.56	0.51	0.56	0.51
Dimethyl Disulfide	150 d	51	120 d	5.1
Total Reduced Sulfur	1,400	0.51	1,500	0.51

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: \_\_\_\_\_



Mark Johnson  
Operations Manager

Date 6/4/15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

page 1 of 1

QC Batch No.: 150521GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
G052002

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/21/15 8:55		5/21/15 11:20		5/21/15 11:31			
Analyst Initials:	AS		AS		AS			
Datafile:	21may001		21may009		21may010			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	76	70-130%	79	70-130%	4.7	<30
Carbonyl Sulfide	ND	0.20	95	70-130%	99	70-130%	4.3	<30
Methyl Mercaptan	ND	0.20	90	70-130%	91	70-130%	1.8	<30
Ethyl Mercaptan	ND	0.20	105	70-130%	109	70-130%	3.8	<30
Dimethyl Sulfide	ND	0.20	101	70-130%	102	70-130%	1.7	<30
Carbon Disulfide	ND	0.20	82	70-130%	84	70-130%	2.2	<30
Dimethyl Disulfide	ND	0.20	77	70-130%	83	70-130%	7.7	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date: 6/4/15

The cover letter is an integral part of this analytical report.



AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/20/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 4 of 5  
G052002

**ASTM D1946**

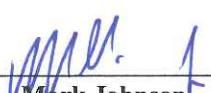
Lab No.:	G052002-01	G052002-02		
Client Sample I.D.:	Blower Outlet #1 1620	Blower Outlet #2 1617		
Date/Time Sampled:	5/19/15 7:45	5/19/15 8:49		
Date/Time Analyzed:	5/29/15 8:16	5/29/15 8:30		
QC Batch No.:	150528GC8A2	150528GC8A2		
Analyst Initials:	AS	AS		
Dilution Factor:	2.5	2.5		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	9.7	2.5	9.9	2.5
Carbon Dioxide	31	0.025	31	0.025
Oxygen/Argon	10	1.3	9.9	1.3
Nitrogen	41	2.5	40	2.5
Methane	7.6	0.0025	7.8	0.0025

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_



Mark Johnson

Date 6/4/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150528GC8A2

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/28/15 15:51	5/29/15 9:48		5/29/15 10:23				
Analyst Initials:	AS	AS		AS				
Datafile:	28may025	28may069		28may070				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	91	70-130%	92	70-130%	1.1	<30
Carbon Dioxide	ND	0.010	91	70-130%	91	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	100	70-130%	101	70-130%	0.6	<30
Nitrogen	ND	1.0	101	70-130%	101	70-130%	0.5	<30
Methane	ND	0.0010	126	70-130%	122	70-130%	3.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

  
Mark J. Johnson  
Operations Manager

Date:

6/4/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

PARAMETER	EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date Start	Test Date Run Start Time Run Finish Time Net Traversing Points			5/26/15 8:17 9:52 16 (2 x 8)
$\Theta$	Net Run Time, minutes			1:35:01
$C_p$	Pitot Tube Coeficient			0.99
$P_{Br}$	Barometric Pressure, inches of Mercury			29.27
% H <sub>2</sub> O	Moisture Content of LFG, %			6.89
% RH	Relative Humidity, %			53.00
M <sub>fd</sub>	Dry Mole Fraction			0.931
%CH <sub>4</sub>	Methane, %			8.30
%CO <sub>2</sub>	Carbon Dioxide, %			31.00
%O <sub>2</sub>	Oxygen, %			9.90
%Balance	Assumed as Nitrogen, %			40.00
%H <sub>2</sub>	Hydrogen, %			9.60
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole			29.54
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole			28.75
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O			24.09
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury			31.04
t <sub>s</sub>	Average Stack Gas Temperature, °F			126
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O			0.894
V <sub>s</sub>	Average LFG Velocity, feet/second			64.87
A <sub>s</sub>	Stack Crossectional Area, square feet			1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm			4,581
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm			4,896
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm			5,266
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr			21,073
LFG <sub>CH4</sub>	Methane, lb/hr Methane, grains/dscf			950.1 24.20
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr Carbon Dioxide, grains/dscf			9,735.0 247.94
LFG <sub>O2</sub>	Oxygen, lb/hr Oxygen, grains/dscf			2260.5 57.57
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr Balance gas as Nitrogen, grains/dscf			7,995.6 203.64
LFG <sub>H4</sub>	Hydrogen, lb/hr Hydrogen, grains/dscf			138.1 3.52

			Blower Out Sample #1	Blower Out Sample #2
<b>H<sub>2</sub>S</b>	Hydrogen Sulfide Concentration, ppmd Hydrogen Sulfide Rate, lb/hr Hydrogen Sulfide Rate, grains/dscf		0.56 0.01 0.000	45.00 1.09 0.028
<b>COS</b>	Carbonyl Sulfide Concentration, ppmd Carboynl Sulfide Rate, lb/hr Carbonyl Sulfide Rate, grains/dscf		0.56 0.02 0.001	0.56 0.02 0.001
<b>CH<sub>4</sub>S</b>	Methyl Mercaptan Concentration, ppmd Methyl Mercaptan Rate, lb/hr Methyl Mercaptan Rate, grains/dscf		130.00 4.46 0.114	190.00 6.52 0.166
<b>C<sub>2</sub>H<sub>6</sub>S</b>	Ethyl Mercaptan Concentration, ppmd Ethyl Mercaptan Rate, lb/hr Ethyl Mercaptan Rate, grains/dscf		1.60 0.07 0.002	2.50 0.11 0.003
<b>(CH<sub>3</sub>)<sub>2</sub>S</b>	Dimethyl Sulfide Concentration, ppmd Dimethyl Sulfide Rate, lb/hr Dimethyl Sulfide Rate, grains/dscf		850.00 37.69 0.960	1,000.00 44.34 1.129
<b>CS<sub>2</sub></b>	Carbon Disulfide Concentration, ppmd Carbon Disulfide Rate, lb/hr Carbon Disulfide Rate, grains/dscf		0.62 0.03 0.001	0.62 0.03 0.001
<b>C<sub>2</sub>H<sub>6</sub>S<sub>2</sub></b>	Dimethyl Disulfide Concentration, ppmd Dimethyl Disulfide Rate, lb/hr Dimethyl Disulfide Rate, grains/dscf		220.00 14.79 0.377	86.00 4.67 0.119
<b>① E<sub>TRS-SO2</sub></b>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd TRS-->SO <sub>2</sub> Emission Rate, lb/hr TRS-->SO <sub>2</sub> Emission Rate, grains/dscf		1,400.00 64.00 1.630	1,400.00 64.00 1.630

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

*Tuesday, May 26, 2015*

LOCATION	TIME	METHOD 2	Q -SCFM	Δ	KURZ
BLOWER OUT	8:17	4,896	4,903	0.1%	5,096
FL100					
FL120					
FL 140					

No individual stack Method 2C data collected, man lift not available.

June 9, 2015



Weaver Consultants Group  
ATTN: David Randall  
6301 East Highway AB  
Columbia, MO 65201

ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946

LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175

TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15

UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project Number: 0120-131-10-47  
Lab Number: G052704-01/02

Enclosed are results for sample(s) received 5/27/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to David Randall on 6/08/15.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.



Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/27/15  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
G052704

EPA 15/16

Lab No.:	G052704-01	G052704-02		
Client Sample I.D.:	Blower Outlet #1, Can #1535	Blower Outlet #2, Can #1621		
Date/Time Sampled:	5/26/15 9:09	5/26/15 8:27		
Date/Time Analyzed:	5/27/15 13:49	5/27/15 14:32		
QC Batch No.:	150527GC3A1	150527GC3A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.8	2.8		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.56	45 d	5.6
Carbonyl Sulfide	ND	0.56	ND	0.56
Methyl Mercaptan	130 d	56	190 d	5.6
Ethyl Mercaptan	1.6	0.56	2.5	0.56
Dimethyl Sulfide	850 d	56	1,000 d	56
Carbon Disulfide	0.62	0.56	0.62	0.56
Dimethyl Disulfide	220 d	56	86 d	5.6
Total Reduced Sulfur	1,400	0.56	1,400	0.56

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary dilution

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/5/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150527GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
G052704

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/27/15 12:46		5/27/15 12:24		5/27/15 12:35			
Analyst Initials:	AS		AS		AS			
Datafile:	27may003		27may001		27may002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	99	70-130%	95	70-130%	3.8	<30
Carbonyl Sulfide	ND	0.20	107	70-130%	100	70-130%	6.9	<30
Methyl Mercaptan	ND	0.20	109	70-130%	108	70-130%	0.9	<30
Ethyl Mercaptan	ND	0.20	100	70-130%	98	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	109	70-130%	106	70-130%	3.1	<30
Carbon Disulfide	ND	0.20	105	70-130%	100	70-130%	4.6	<30
Dimethyl Disulfide	ND	0.20	112	70-130%	108	70-130%	3.8	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date: 6/5/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 05/27/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 4 of 5  
G052704

**ASTM D1946**

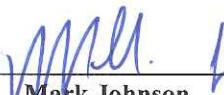
Lab No.:	G052704-01	G052704-02		
Client Sample I.D.:	Blower Outlet #1, Can #1535	Blower Outlet #2, Can #1621		
Date/Time Sampled:	5/26/15 9:09	5/26/15 8:27		
Date/Time Analyzed:	5/29/15 8:45	5/29/15 8:59		
QC Batch No.:	150528GC8A2	150528GC8A2		
Analyst Initials:	AS	AS		
Dilution Factor:	2.8	2.8		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	9.5	2.8	9.7	2.8
Carbon Dioxide	31	0.028	31	0.028
Oxygen/Argon	9.9	1.4	9.9	1.4
Nitrogen	40	2.8	40	2.8
Methane	8.3	0.0028	8.2	0.0028

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_

  
 Mark Johnson  
 Operations Manager

Date 6/5/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150528GC8A2

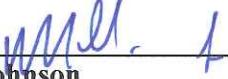
Matrix: Air  
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/28/15 15:51	5/29/15 9:48		5/29/15 10:23				
Analyst Initials:	AS		AS		AS			
Datafile:	28may025		28may069		28may070			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	91	70-130%	92	70-130%	1.1	<30
Carbon Dioxide	ND	0.010	91	70-130%	91	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	100	70-130%	101	70-130%	0.6	<30
Nitrogen	ND	1.0	101	70-130%	101	70-130%	0.5	<30
Methane	ND	0.0010	126	70-130%	122	70-130%	3.6	<30

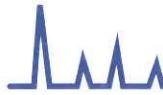
ND = Not Detected (Below RL)

Reviewed/Approved By:

  
Mark J. Johnson  
Operations Manager

Date: 6/5/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

PARAMETER		EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date Start	Test Date Run Start Time Run Finish Time Net Traversing Points	6/2/15 10:23:31 10:43:26 6	6/2/15 10:53:41 11:18:21 8	6/2/15 11:30:36 11:51:16 8	6/2/15 8:41 10:06 16 (2 x 8)
⌚	Net Run Time, minutes	0:19:55	0:24:40	0:20:40	1:24:59
C <sub>p</sub>	Pitot Tube Coeficient	0.99	0.99	0.99	0.99
P <sub>Br</sub>	Barometric Pressure, inches of Mercury	29.72	29.72	29.72	29.72
% H <sub>2</sub> O	Moisture Content of LFG, %	10.00	10.00	10.00	6.04
% RH	Relative Humidity, %	100.0	100.0	100.0	48.50
M <sub>fd</sub>	Dry Mole Fraction	0.900	0.900	0.900	0.940
%CH <sub>4</sub>	Methane, %	11.20	11.50	13.40	8.20
%CO <sub>2</sub>	Carbon Dioxide, %	33.50	34.10	35.40	31.00
%O <sub>2</sub>	Oxygen, %	9.90	10.00	9.50	9.70
%Balance	Assumed as Nitrogen, %	35.30	33.30	29.30	39.00
%H <sub>2</sub>	Hydrogen, %	10.10	11.10	12.40	10.00
M <sub>d</sub>	Dry Molecular Weight, lb/lb-Mole	29.80	29.60	29.23	29.19
M <sub>s</sub>	Wet Molecular weight, lb/lb-Mole	28.62	28.44	28.10	28.51
P <sub>g</sub>	Flue Gas Static Pressure, inches of H <sub>2</sub> O	0.39	0.10	1.52	22.00
P <sub>s</sub>	Absolute Flue Gas Pressure, inches of Mercury	29.78	29.70	29.79	31.34
t <sub>s</sub>	Average Stack Gas Temperature, °F	94	97	107	120
ΔP <sub>avg</sub>	Average Velocity Head, inches of H <sub>2</sub> O	0.121	0.065	0.193	0.783
V <sub>s</sub>	Average LFG Velocity, feet/second	23.74	17.54	30.58	60.34
A <sub>s</sub>	Stack Crossectional Area, square feet	0.92	1.23	1.23	1.35
Q <sub>sd</sub>	Dry Volumetric Flow Rate, dry scfm	1,121	1,094	1,879	4,388
Q <sub>s</sub>	Standard Volumetric Flow Rate, scfm	1,233	1,203	2,067	4,653
Q <sub>aw</sub>	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,313	1,291	2,252	4,898
Q <sub>lb/hr</sub>	Dry Air Flow Rate at Standard Conditions, lb/hr	5,201	5,041	8,552	19,946
LFG <sub>CH4</sub>	Methane, lb/hr	313.7	314.3	629.2	899.2
	Methane, grains/dscf	32.65	33.53	39.07	23.91
LFG <sub>CO2</sub>	Carbon Dioxide, lb/hr	2,573.8	2,556.3	4,560.2	9,325.8
	Carbon Dioxide, grains/dscf	267.93	272.73	283.13	247.94
LFG <sub>O2</sub>	Oxygen, lb/hr	553.0	545.1	889.8	2121.7
	Oxygen, grains/dscf	57.57	58.15	55.25	56.41
LFG <sub>N2</sub>	Balance gas as Nitrogen, lb/hr	1,726.3	1,589.0	2,402.5	7,468.1
	Balance gas as Nitrogen, grains/dscf	179.71	169.53	149.17	198.55
LFG <sub>H4</sub>	Hydrogen, lb/hr	35.5	38.1	73.2	137.8
	Hydrogen, grains/dscf	3.70	4.07	4.54	3.66

			Blower Out Sample #1	Blower Out Sample #2
H <sub>2</sub> S	Hydrogen Sulfide Concentration, ppmd			5.10 18.00
	Hydrogen Sulfide Rate, lb/hr			0.12 0.42
	Hydrogen Sulfide Rate, grains/dscf			0.003 0.011
COS	Carbonyl Sulfide Concentration, ppmd			0.55 0.59
	Carboynl Sulfide Rate, lb/hr			0.02 0.02
	Carbonyl Sulfide Rate, grains/dscf			0.001 0.001
CH <sub>4</sub> S	Methyl Mercaptan Concentration, ppmd			180.00 150.00
	Methyl Mercaptan Rate, lb/hr			0.59 4.93
	Methyl Mercaptan Rate, grains/dscf			0.016 0.131
C <sub>2</sub> H <sub>6</sub> S	Ethyl Mercaptan Concentration, ppmd			2.50 2.40
	Ethyl Mercaptan Rate, lb/hr			0.76 0.10
	Ethyl Mercaptan Rate, grains/dscf			0.020 0.003
(CH <sub>3</sub> ) <sub>2</sub> S	Dimethyl Sulfide Concentration, ppmd			850.00 950.00
	Dimethyl Sulfide Rate, lb/hr			0.76 40.35
	Dimethyl Sulfide Rate, grains/dscf			0.020 1.073
CS <sub>2</sub>	Carbon Disulfide Concentration, ppmd			0.59 0.59
	Carbon Disulfide Rate, lb/hr			0.94 0.03
	Carbon Disulfide Rate, grains/dscf			0.025 0.001
C <sub>2</sub> H <sub>6</sub> S <sub>2</sub>	Dimethyl Disulfide Concentration, ppmd			110.00 100.00
	Dimethyl Disulfide Rate, lb/hr			1.16 5.20
	Dimethyl Disulfide Rate, grains/dscf			0.031 0.138
①E <sub>TRS-SO2</sub>	TRS-->SO <sub>2</sub> Emission Concentration, ppmd			1,300.00 1,300.00
	TRS-->SO <sub>2</sub> Emission Rate, lb/hr			56.93 56.93
	TRS-->SO <sub>2</sub> Emission Rate, grains/dscf			1.514 1.514

① TRS assumed moelcular mass = SO<sub>2</sub>, 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO<sub>2</sub> emitted from the stack

*Tuesday, June 02, 2015*

LOCATION	TIME	METHOD 2	Q -SCFM FLEETZOOM	$\Delta$	KURZ
BLOWER OUT	8:41	4,653	4,422	-5.2%	4,425
FL100	10:23	1,233	1,243	0.9%	
FL120	10:53	1,203	1,228	2.1%	
FL 140	11:30	2,067	2,077	0.5%	
		4,503	4,548	1.0%	4,581

June 12, 2015

Weaver Consultants Group  
ATTN: David Randall  
6301 East Highway AB  
Columbia, MO 65201



ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175  
TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15  
UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

#### LABORATORY TEST RESULTS

Project Name: Bridgeton Weekly GCCS TRS Sampling  
Project Number: 0120-131-10-47  
Lab Number: G060303-01/02

Enclosed are results for sample(s) received 6/03/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to David Randall on 6/11/15.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.



18501 E. Gale Ave., Suite 130  
City of Industry, CA 91748  
Ph: 626-964-4032  
Fax: 626-964-5832

**CHAIN OF CUSTODY RECORD**

AUTHORIZATION TO PERFORM WORK		METHOD OF TRANSPORT (circle one):	
RELINQUISHED BY 	DATE/TIME 6-2-15 WPS	Walk-In	FedEx
RELINQUISHED BY 	DATE/TIME 6-2-15 WPS	UPS	Courier
RELINQUISHED BY 	DATE/TIME 6-2-15 WPS	ATL	Other _____
		COMMENTS	
		COMPANY Weaver Consultants Group	DATE/TIME 03/26/2015
		COMPANY Weaver Consultants Group	DATE/TIME 06/02/15, 08:00-11:00
		RECEIVED BY 	DATE/TIME 6-3-15 0947
		RECEIVED BY 	DATE/TIME 6-3-15 0947
		RECEIVED BY 	DATE/TIME 6-3-15 0947

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03-5/7/09

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 06/03/15  
 Matrix: Air  
 Reporting Units: ppmv

Page 2 of 5  
G060303

EPA 15/16

Lab No.:	G060303-01	G060303-02		
Client Sample I.D.:	Blower Outlet #1 - Can 1615	Blower Outlet #2 - Can 1616		
Date/Time Sampled:	6/2/15 8:40	6/2/15 9:08		
Date/Time Analyzed:	6/3/15 15:06	6/3/15 15:40		
QC Batch No.:	150603GC3A1	150603GC3A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.7	3.0		
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	5.1	0.55	18 d	5.9
Carbonyl Sulfide	ND	0.55	ND	0.59
Methyl Mercaptan	180 d	5.5	150 d	5.9
Ethyl Mercaptan	2.5	0.55	2.4	0.59
Dimethyl Sulfide	850 d	55	950 d	59
Carbon Disulfide	0.59	0.55	ND	0.59
Dimethyl Disulfide	110 d	5.5	100 d	5.9
Total Reduced Sulfur	1,300	0.55	1,300	0.59

ND = Not Detected (below RL)

RL = Reporting Limit

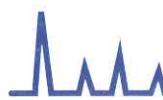
d = Reported from a secondary dilution

Reviewed/Approved By: \_\_\_\_\_

*Mark Johnson*  
Mark Johnson  
Operations Manager

Date 6/8/15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150603GC3A1  
Matrix: Air  
Units: ppmv

Page 3 of 5  
G060303

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/3/15 9:31		6/3/15 9:07		6/3/15 9:20			
Analyst Initials:	AS		AS		AS			
Datafile:	03jun003		03jun001		03jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	78	70-130%	79	70-130%	0.8	<30
Carbonyl Sulfide	ND	0.20	95	70-130%	96	70-130%	0.9	<30
Methyl Mercaptan	ND	0.20	95	70-130%	97	70-130%	2.7	<30
Ethyl Mercaptan	ND	0.20	95	70-130%	95	70-130%	0.7	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	99	70-130%	1.4	<30
Carbon Disulfide	ND	0.20	88	70-130%	90	70-130%	2.1	<30
Dimethyl Disulfide	ND	0.20	93	70-130%	100	70-130%	6.4	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

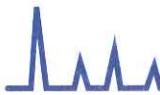
Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date:

6/8/15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: Weaver Consultants Group  
 Attn: David Randall  
 Project Name: Bridgeton Weekly GCCS TRS Sampling  
 Project No.: 0120-131-10-47  
 Date Received: 06/03/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 4 of 5  
G060303

**ASTM D1946**

Lab No.:	G060303-01	G060303-02		
Client Sample I.D.:	Blower Outlet #1 - Can 1615	Blower Outlet #2 - Can 1616		
Date/Time Sampled:	6/2/15 8:40	6/2/15 9:08		
Date/Time Analyzed:	6/4/15 18:30	6/4/15 18:45		
QC Batch No.:	150604GC8A1	150604GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.7	3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	10	2.7	10	3.0
Carbon Dioxide	31	0.027	31	0.030
Oxygen/Argon	9.7	1.4	9.6	1.5
Nitrogen	39	2.7	39	3.0
Methane	8.2	0.0027	8.1	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: Mark Johnson

Mark Johnson  
Operations Manager

Date 6-11-15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150604GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	6/4/15 14:11	6/4/15 12:58		6/4/15 13:13				
Analyst Initials:	AS		AS		AS			
Datafile:	04jun011		04jun006		04jun007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	111	70-130%	111	70-130%	0.7	<30
Carbon Dioxide	ND	0.010	95	70-130%	94	70-130%	0.5	<30
Oxygen/Argon	ND	0.50	100	70-130%	100	70-130%	0.4	<30
Nitrogen	ND	1.0	101	70-130%	101	70-130%	0.4	<30
Methane	ND	0.0010	122	70-130%	121	70-130%	1.0	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Date: 6-11-15

Mark J. Johnson  
Operations Manager

The cover letter is an integral part of this analytical report.



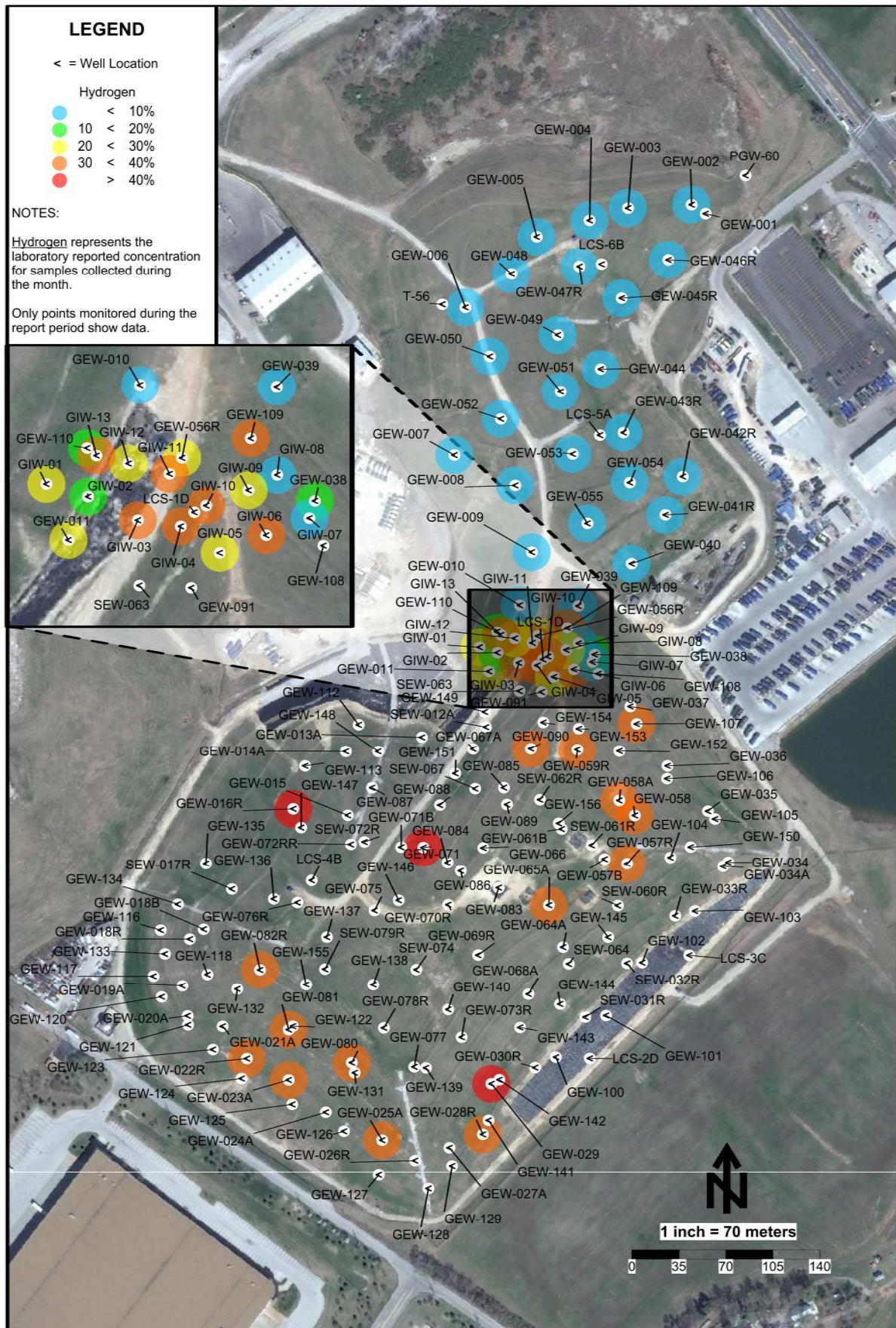
Air TECHNOLOGY Laboratories, Inc.

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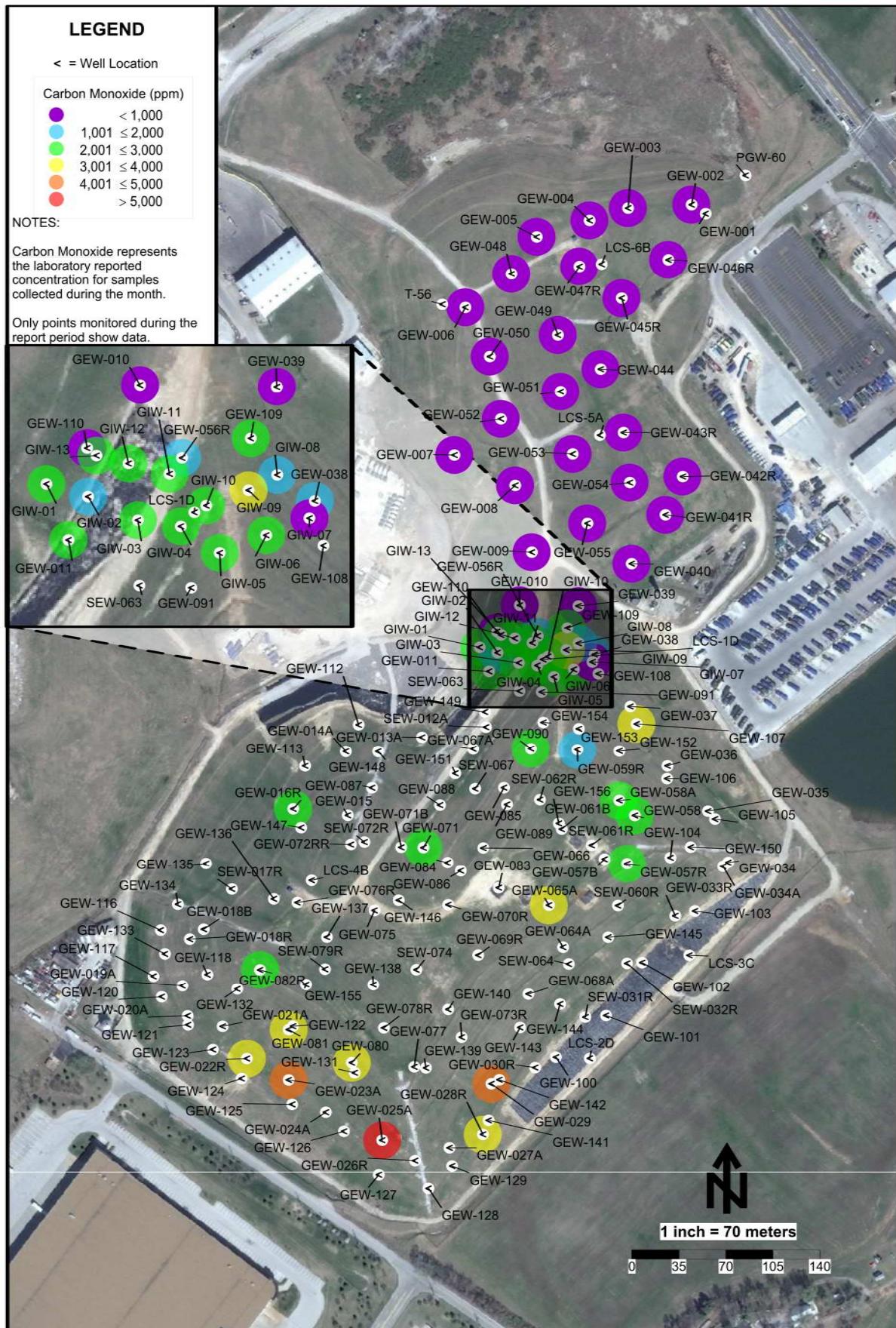
**ATTACHMENT C**

**GAS WELL ANALYSES MAPS**

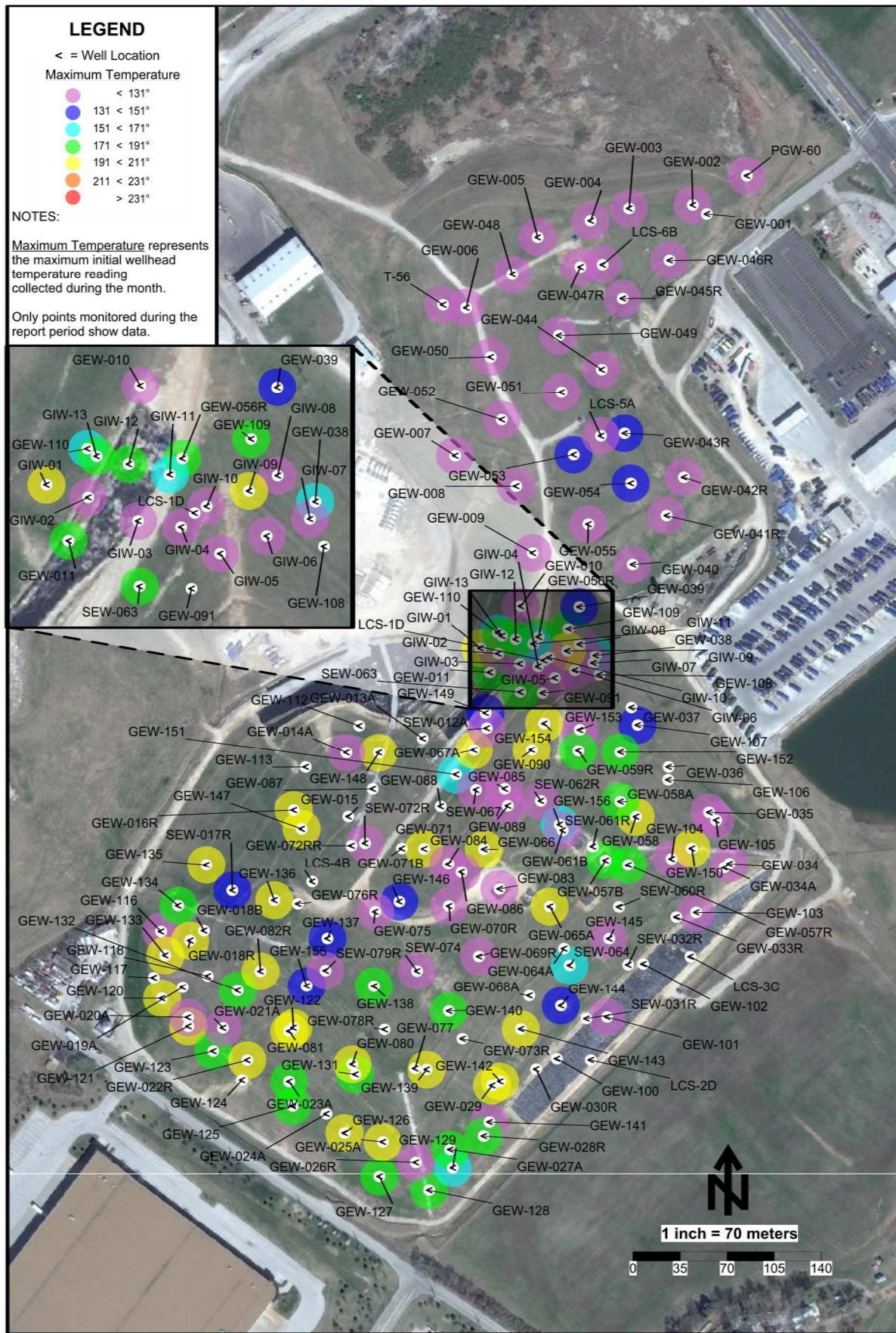
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Hydrogen Data Map - May 2015 - Bridgeton Landfill



Carbon Monoxide Data Map - May 2015 - Bridgeton Landfill



Initial Temperature Maximums - May 2015 - Bridgeton Landfill

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**ATTACHMENT D**

**HYDROGEN / CARBON MONOXIDE DATA**

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**ATTACHMENT D-1**

**LAB ANALYSIS SUMMARY**

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## Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(% volume)					(ppmv)
North Quarry							
GEW-002	3/17/2015	55.0	39.0	ND	4.7	0.1	ND
GEW-002	4/29/2015	53.0	40.0	ND	5.4	0.0	ND
GEW-002	5/12/2015	57.0	40.0	ND	ND	ND	ND
GEW-003	3/17/2015	53.0	42.0	ND	3.7	ND	ND
GEW-003	4/29/2015	49.0	39.0	ND	11.0	0.1	ND
GEW-003	5/12/2015	53.0	38.0	ND	8.4	0.1	ND
GEW-004	3/17/2015	55.0	38.0	ND	5.4	0.1	ND
GEW-004	4/29/2015	53.0	40.0	ND	6.0	0.1	ND
GEW-004	5/12/2015	57.0	39.0	ND	ND	0.0	ND
GEW-005	3/17/2015	55.0	37.0	ND	7.2	0.1	ND
GEW-005	4/29/2015	53.0	38.0	ND	8.6	0.1	ND
GEW-005	5/12/2015	56.0	36.0	ND	6.6	0.0	ND
GEW-006	3/18/2015	52.0	36.0	2.2	9.7	ND	ND
GEW-006	5/12/2015	57.0	37.0	ND	4.9	ND	ND
GEW-007	3/18/2015	55.0	39.0	ND	4.8	ND	ND
GEW-007	5/13/2015	58.0	39.0	ND	ND	ND	ND
GEW-008	2/24/2015	47.0	42.0	2.0	7.2	2.6	30
GEW-008	3/18/2015	50.0	42.0	ND	3.5	2.6	33
GEW-008	4/10/2015	51.0	44.0	ND	ND	2.6	33
GEW-008	5/13/2015	52.0	42.0	ND	3.4	2.2	35
GEW-009	2/24/2015	45.0	38.0	1.8	14.0	1.0	ND
GEW-009	3/18/2015	50.0	41.0	ND	6.5	1.0	ND
GEW-009	4/10/2015	49.0	40.0	ND	8.5	0.6	ND
GEW-009	5/13/2015	53.0	40.0	ND	5.4	0.7	ND
GEW-040	2/13/2015	50.0	40.0	ND	7.4	ND	ND
GEW-040	3/17/2015	50.0	39.0	2.4	8.5	ND	ND
GEW-040	4/10/2015	54.0	43.0	ND	ND	ND	ND
GEW-040	5/12/2015	57.0	40.0	ND	ND	ND	ND
GEW-041R	2/13/2015	53.0	39.0	ND	7.7	ND	ND
GEW-041R	3/17/2015	55.0	39.0	ND	5.2	ND	ND
GEW-041R	5/12/2015	58.0	39.0	ND	ND	ND	ND
GEW-042R	3/17/2015	55.0	39.0	ND	4.8	ND	ND
GEW-042R	4/29/2015	55.0	39.0	ND	4.6	ND	ND
GEW-042R	5/12/2015	52.0	34.0	3.0	11.0	ND	ND
GEW-043R	2/13/2015	56.0	42.0	ND	ND	0.4	ND
GEW-043R	3/18/2015	54.0	41.0	ND	3.4	0.6	ND
GEW-043R	5/12/2015	57.0	41.0	ND	ND	0.0	ND
GEW-044	5/12/2015	53.0	34.0	ND	12.0	ND	ND
GEW-045R	4/29/2015	59.0	38.0	ND	ND	ND	ND
GEW-045R	5/12/2015	60.0	37.0	ND	ND	ND	ND
GEW-046R	4/29/2015	52.0	39.0	ND	8.1	0.1	ND
GEW-046R	5/12/2015	56.0	38.0	ND	5.2	0.1	ND
GEW-047R	3/17/2015	52.0	37.0	ND	9.7	0.1	ND
GEW-047R	4/29/2015	55.0	41.0	ND	3.3	0.1	ND
GEW-047R	5/12/2015	56.0	40.0	ND	3.7	ND	ND
GEW-048	3/17/2015	56.0	38.0	ND	4.8	0.0	ND
GEW-048	4/29/2015	55.0	40.0	ND	5.0	0.0	ND

### Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(% volume)					(ppmv)
GEW-048	5/12/2015	57.0	38.0	ND	4.3	ND	ND
GEW-049	3/17/2015	49.0	34.0	ND	15.0	0.2	ND
GEW-049	4/29/2015	49.0	36.0	ND	14.0	0.1	ND
GEW-049	5/12/2015	54.0	37.0	ND	7.8	0.1	ND
GEW-050	3/17/2015	51.0	35.0	2.7	11.0	0.1	ND
GEW-050	5/12/2015	58.0	39.0	ND	ND	0.1	ND
GEW-051	3/17/2015	50.0	36.0	2.5	9.9	1.5	ND
GEW-051	5/12/2015	57.0	39.0	ND	ND	1.3	ND
GEW-052	3/18/2015	52.0	37.0	ND	9.9	ND	ND
GEW-052	5/12/2015	54.0	38.0	ND	7.7	ND	ND
GEW-053	3/17/2015	50.0	40.0	ND	3.7	4.9	52
GEW-053	4/29/2015	48.0	43.0	ND	ND	7.1	55
GEW-053	5/13/2015	51.0	40.0	ND	ND	5.2	63
GEW-054	2/26/2015	51.0	41.0	ND	ND	4.5	ND
GEW-054	3/17/2015	46.0	35.0	3.1	11.0	4.4	ND
GEW-054	4/24/2015	51.0	41.0	ND	ND	4.6	ND
GEW-054	5/13/2015	53.0	41.0	ND	ND	4.4	30
GEW-055	2/24/2015	50.0	41.0	ND	5.3	2.2	ND
GEW-055	3/17/2015	51.0	40.0	ND	5.8	2.4	34
GEW-055	4/10/2015	52.0	41.0	ND	3.9	2.0	ND
GEW-055	5/13/2015	55.0	41.0	ND	ND	1.5	ND

## Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(% volume)					(ppmv)
South Quarry							
GEW-010	2/24/2015	36.0	40.0	3.4	19.0	1.3	110
GEW-010	3/18/2015	42.0	44.0	2.3	9.1	2.0	130
GEW-010	4/10/2015	54.0	39.0	ND	4.3	0.5	83
GEW-010	5/7/2015	41.0	36.0	2.6	20.0	0.7	75
GEW-011	3/31/2015	3.3	58.0	ND	5.4	31.0	2500
GEW-011	5/13/2015	3.4	50.0	ND	21.0	23.0	2200
GEW-016R	3/31/2015	0.5	53.0	ND	4.9	38.0	2500
GEW-016R	5/13/2015	0.6	55.0	ND	ND	41.0	2500
GEW-022R	3/31/2015	3.0	65.0	ND	ND	28.0	3600
GEW-022R	5/13/2015	1.9	62.0	ND	ND	32.0	4000
GEW-023A	3/31/2015	0.1	65.0	ND	3.7	28.0	4000
GEW-023A	5/13/2015	0.1	65.0	ND	ND	31.0	4800
GEW-025A	3/31/2015	0.1	65.0	ND	3.6	28.0	4100
GEW-025A	5/13/2015	0.2	64.0	ND	ND	30.0	6000
GEW-026R	3/31/2015	0.3	65.0	2.2	7.9	23.0	4700
GEW-028R	5/13/2015	1.9	50.0	3.6	13.0	30.0	3400
GEW-029	3/31/2015	0.2	55.0	ND	ND	41.0	3700
GEW-029	5/13/2015	0.2	55.0	ND	ND	40.0	4100
GEW-034	3/31/2015	15.0	63.0	ND	3.5	16.0	1100
GEW-035	3/31/2015	3.0	53.0	2.8	12.0	28.0	2900
GEW-038	2/24/2015	0.2	47.0	4.7	17.0	31.0	2800
GEW-038	3/30/2015	0.1	30.0	11.0	38.0	20.0	1800
GEW-038	4/15/2015	0.2	41.0	6.5	24.0	28.0	2600
GEW-038	5/7/2015	0.1	25.0	12.0	44.0	17.0	1900
GEW-039	2/24/2015	33.0	50.0	ND	9.3	6.2	250
GEW-039	3/18/2015	32.0	57.0	ND	ND	7.6	390
GEW-039	4/15/2015	32.0	57.0	ND	ND	8.2	450
GEW-039	5/7/2015	36.0	52.0	ND	4.9	5.2	250
GEW-056R	2/24/2015	13.0	35.0	2.7	41.0	8.6	480
GEW-056R	3/18/2015	16.0	41.0	2.4	30.0	11.0	650
GEW-056R	4/10/2015	14.0	41.0	1.9	32.0	10.0	680
GEW-056R	5/7/2015	12.0	51.0	ND	9.7	26.0	1400
GEW-057R	3/31/2015	0.5	54.0	1.7	6.0	36.0	2600
GEW-057R	5/12/2015	0.5	55.0	ND	3.4	39.0	2600
GEW-058	3/31/2015	0.8	56.0	ND	3.9	37.0	2700
GEW-058	5/8/2015	0.9	54.0	1.7	7.3	35.0	2600
GEW-058A	3/31/2015	0.4	50.0	2.6	9.4	36.0	2600
GEW-058A	5/8/2015	0.4	46.0	4.3	16.0	33.0	2300
GEW-059R	3/31/2015	0.8	51.0	1.8	6.3	39.0	1700
GEW-059R	5/8/2015	1.5	51.0	1.5	5.3	39.0	1600
GEW-065A	3/31/2015	0.4	58.0	ND	3.7	35.0	3300
GEW-065A	5/12/2015	0.4	59.0	ND	ND	37.0	3400
GEW-071	3/31/2015	0.5	54.0	ND	ND	41.0	2500
GEW-071	5/13/2015	0.5	53.0	ND	ND	43.0	2500
GEW-080	3/30/2015	0.3	64.0	ND	3.0	30.0	5000
GEW-080	5/13/2015	0.3	59.0	ND	3.3	35.0	4000
GEW-081	5/13/2015	0.3	61.0	ND	ND	35.0	3900

## Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(% volume)					(ppmv)
GEW-082R	3/30/2015	1.0	55.0	ND	3.3	38.0	2500
GEW-082R	5/13/2015	0.9	52.0	1.7	5.8	38.0	2500
GEW-084	3/31/2015	1.9	65.0	ND	ND	29.0	3000
GEW-090	3/31/2015	1.7	51.0	1.9	6.6	37.0	2400
GEW-090	5/13/2015	6.3	50.0	ND	ND	39.0	2400
GEW-102	3/31/2015	0.7	60.0	ND	ND	35.0	2600
GEW-107	3/31/2015	0.3	55.0	2.0	7.3	34.0	3500
GEW-107	5/13/2015	0.3	50.0	3.5	13.0	30.0	3200
GEW-109	2/24/2015	1.6	54.0	2.2	7.7	34.0	2100
GEW-109	3/18/2015	2.6	56.0	1.6	5.7	33.0	2400
GEW-109	4/15/2015	1.6	52.0	2.4	8.4	34.0	2400
GEW-109	5/7/2015	2.6	54.0	1.7	6.0	35.0	2200
GEW-110	2/26/2015	19.0	51.0	2.4	8.8	18.0	1300
GEW-110	3/18/2015	1.3	53.0	2.5	8.9	33.0	2500
GEW-110	4/10/2015	15.0	40.0	3.6	27.0	14.0	1200
GEW-110	5/7/2015	11.0	32.0	5.4	41.0	10.0	970
GEW-116	3/31/2015	20.0	63.0	ND	2.9	12.0	1300
GIW-01	2/13/2015	2.3	64.0	1.5	5.6	26.0	2700
GIW-01	3/18/2015	2.4	54.0	4.3	15.0	22.0	2300
GIW-01	4/10/2015	3.0	67.0	ND	ND	27.0	2600
GIW-01	5/6/2015	4.0	65.0	ND	ND	26.0	2800
GIW-02	2/11/2015	0.9	58.0	3.8	14.0	24.0	2400
GIW-02	3/18/2015	3.6	63.0	ND	ND	30.0	2500
GIW-02	4/10/2015	10.0	57.0	ND	6.0	25.0	1600
GIW-02	5/6/2015	9.4	41.0	3.6	26.0	19.0	1300
GIW-03	2/10/2015	0.3	60.0	ND	5.0	32.0	3300
GIW-03	3/30/2015	0.3	39.0	8.4	31.0	21.0	2200
GIW-03	4/10/2015	0.5	62.0	ND	ND	34.0	3300
GIW-03	5/6/2015	0.4	51.0	3.4	12.0	31.0	2800
GIW-04	2/10/2015	0.4	57.0	3.0	11.0	28.0	2800
GIW-04	3/18/2015	0.4	55.0	1.9	6.8	35.0	3400
GIW-04	4/8/2015	0.4	52.0	3.4	12.0	31.0	3000
GIW-04	5/6/2015	0.4	49.0	3.4	12.0	34.0	2800
GIW-05	2/11/2015	0.5	59.0	2.4	8.7	29.0	2800
GIW-05	3/18/2015	0.6	61.0	ND	3.1	34.0	3200
GIW-05	4/10/2015	0.7	60.0	ND	3.5	34.0	3000
GIW-05	5/6/2015	2.1	48.0	4.7	17.0	28.0	2200
GIW-06	2/11/2015	0.6	58.0	2.7	9.7	29.0	2000
GIW-06	3/18/2015	0.8	61.0	ND	4.3	32.0	2300
GIW-06	4/8/2015	0.8	63.0	ND	ND	32.0	1900
GIW-06	5/6/2015	0.8	64.0	ND	ND	32.0	2300
GIW-07	2/11/2015	20.0	56.0	2.7	9.7	11.0	970
GIW-07	3/18/2015	26.0	58.0	ND	ND	12.0	1100
GIW-07	4/8/2015	29.0	58.0	ND	ND	9.6	800
GIW-07	5/6/2015	28.0	58.0	ND	3.2	9.7	970
GIW-08	2/11/2015	22.0	64.0	ND	4.9	7.2	1300
GIW-08	3/18/2015	23.0	65.0	ND	2.9	7.3	1300
GIW-08	4/8/2015	23.0	65.0	ND	3.3	7.5	1100

## Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub> /Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(% volume)					(ppmv)
GIW-08	5/6/2015	23.0	66.0	ND	ND	7.0	1300
GIW-09	2/11/2015	0.7	68.0	ND	3.5	26.0	3400
GIW-09	3/18/2015	0.8	67.0	ND	ND	26.0	3400
GIW-09	4/8/2015	0.8	64.0	ND	3.6	28.0	3400
GIW-09	5/6/2015	0.8	67.0	ND	3.5	26.0	3400
GIW-10	2/10/2015	0.2	53.0	3.6	13.0	30.0	3900
GIW-10	3/18/2015	0.3	54.0	ND	3.0	41.0	3500
GIW-10	4/8/2015	0.7	54.0	ND	ND	42.0	3200
GIW-10	5/6/2015	3.5	53.0	ND	ND	39.0	2600
GIW-11	2/11/2015	1.9	55.0	3.8	15.0	24.0	2400
GIW-11	3/18/2015	1.5	60.0	ND	ND	34.0	3200
GIW-11	4/10/2015	2.5	53.0	2.5	10.0	30.0	2700
GIW-11	5/6/2015	2.1	54.0	2.5	9.9	30.0	2700
GIW-12	2/11/2015	3.4	31.0	8.4	44.0	13.0	1100
GIW-12	3/30/2015	3.5	27.0	10.0	49.0	10.0	790
GIW-12	4/10/2015	2.3	55.0	3.4	14.0	25.0	2300
GIW-12	5/6/2015	3.5	62.0	1.6	6.9	25.0	2500
GIW-13	2/11/2015	3.7	63.0	ND	4.7	27.0	2200
GIW-13	3/18/2015	2.9	62.0	ND	3.4	30.0	2300
GIW-13	4/10/2015	4.6	58.0	ND	6.6	29.0	2100
GIW-13	5/6/2015	3.7	60.0	ND	3.7	30.0	2400
Flare Station <sup>1</sup>	2/10/2015	8.2	36.0	9.3	36.0	9.5	1100
Flare Station <sup>2</sup>	3/12/2015	8.2	33.0	9.7	37.0	11.0	1100
Flare Station <sup>2</sup>	4/8/2015	7.9	32.0	10.0	39.0	11.0	920
Flare Station <sup>2</sup>	5/5/2015	8.1	33.0	9.5	39.0	11.0	1300

Notes:

ND = Analyte not detected in sample.

1. Flare Station Inlet measured at Flare Base Inlet

2. Flare Station Inlet measured at EPA Method 2 flow port (blower outlet)

---

**ATTACHMENT D-2**

**LAB ANALYSIS REPORTS**

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June 1, 2015

Republic Services  
ATTN: Jim Getting  
13570 St. Charles Rock Rd.  
Bridgeton, MO 63044



ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175  
TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15  
UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill  
Lab Number: G051104-01/26

Enclosed are results for sample(s) received 5/11/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in blue ink that appears to read "Mark Johnson".

Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

Note: The cover letter is an integral part of this analytical report.



18501 E. Gale Ave., Suite 130  
 City of Industry, CA 91748  
 Ph: 626-964-4032  
 Fx: 626-964-5832

### CHAIN OF CUSTODY RECORD

Project No.:	Project Name:	TURNAROUND TIME		DELIVERABLES		PAGE:	1 OF 3
		Standard	48 hours <input checked="" type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:		
	Bridgeton Landfill	Same Day	<input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>	
		24 hours	<input type="checkbox"/>	Level 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>	
		Other:	<input type="checkbox"/>	Level 4 <input type="checkbox"/>	Chilled _____ deg C		
Report To:	Jim Getting	BILLING		ANALYSIS REQUEST			
Company:	Republic Services	P.O. No.:	PO4862452				
Street:	13570 St. Charles Rock Rd.	Bill to:	Republic Services				
City/State/Zip:	Bridgeton, MO 63044						
Phone & Fax:	314-683-3921						
e-mail:	JGetting@republicservices.com						
LAB USE ONLY		SAMPLE IDENTIFICATION		COMMENTS			
6051104 - 01		Outlet A	DATE SAMPLE: 5/6/2015	TIME SAMPLE: 1430	CONTAINER QTY/TYPE: C	MATRIX: D1946 + CO, H2	REMARKS: <i>Collection date control via mail from Ayers 5/11/15</i>
- 02		Outlet B	5/6/2015	926	C LFG NA	X	
- 03		Inlet A	5/6/2015	934	C LFG NA	X	
- 04		Inlet B	5/6/2015	950	C LFG NA	X	
- 05		GIW-6	5/6/2015	959	C LFG NA	X	
- 06		GIW-7	5/6/2015	900	C LFG NA	X	
- 07		GIW-8	5/6/2015	913	C LFG NA	X	
- 08		GIW-9	5/6/2015	928	C LFG NA	X	
- 09		GIW-10	5/6/2015	938	C LFG NA	X	
- 10		GIW-4	5/6/2015	1033	C LFG NA	X	
			5/6/2015	1047	C LFG NA	X	
AUTHORIZATION TO PERFORM WORK:		Dave Penoyer	COMPANY: Republic Services	DATE/TIME:			
SAMPLER BY:		Ryan Ayers	COMPANY: Republic Services	DATE/TIME:			
RELINQUISHED BY		DATE/TIME: 5-8-15 1430	RECEIVED BY	DATE/TIME:			
RELINQUISHED BY		DATE/TIME: 5-11-15 0830	RECEIVED BY: <i>DRJ</i>	DATE/TIME: 5/11/15 0830			
RELINQUISHED BY		DATE/TIME:	RECEIVED BY:	DATE/TIME:			
METHOD OF TRANSPORT (circle one):		Walk-In FedEx UPS Courier ATLI Other					
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy							Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other
							Rev. 03 - 5/7/09



**ANIT TECHNOLOGY**  
Laboratories, Inc.  
01 E. Gale Ave., Suite 130  
of Industry, CA 91748  
626-964-4032  
626-964-5632

CHAIN OF CUSTODY RECORD						
	TURNAROUND TIME	DELIVERABLES	PAGE:	2	OF	
<b>Project No.:</b>	Standard	48 hours <input type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:		
	Same Day	72 hours <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>	
	24 hours	96 hours <input type="checkbox"/>	Level 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>	
	Other:		Level 4 <input type="checkbox"/>	Chilled _____	deg C _____	
<b>Report To:</b>	<b>BILLING</b>					<b>ANALYSIS REQUEST</b>
<b>Company:</b> Republic Services	<b>P.O. No.:</b>	PO4862452				
<b>Street:</b> 13570 St. Charles Rock Rd.	<b>Bill to:</b>	Republic Services				
<b>City/State/Zip:</b> Bridgeton, MO 63044		Attn: Mike Lambrich				
<b>Phone &amp; Fax:</b> 314-683-3921		13570 St. Charles Rock Rd.				
<b>e-mail:</b> <a href="mailto:JGetting@publicservices.com">JGetting@publicservices.com</a>		Bridgeton, MO 63044				
<b>LAB USE ONLY</b>	<b>SAMPLE IDENTIFICATION</b>					
505104-11	GIW-3	SAMPLE DATE	SAMPLE TIME	COUNTAINER QTY/TYPE	PRESERVE MATRIX	D1946 + CO_H2
-12	GIW-12	5/6/2015	1102	C LFG NA	X	
-13	GIW-13	5/6/2015	1117	C LFG NA	X	
-14	GIW-2	5/6/2015	1128	C LFG NA	X	
-15	GIW-5	5/6/2015	1140	C LFG NA	X	
-16	GIW-11	5/6/2015	1402	C LFG NA	X	
-17	GIW-1	5/6/2015	1420	C LFG NA	X	
-18	GEW-38	5/7/2015	1435	C LFG NA	X	
-19	GEW-109	5/7/2015	1100	C LFG NA	X	
-20	GEW-39	5/7/2015	1115	C LFG NA	X	
		5/7/2015	1338	C LFG NA	X	
<b>AUTHORIZATION TO PERFORM WORK:</b> <b>Dave Penoyer</b> COMPANY: Republic Services DATE/TIME:						<b>COMMENTS</b>
SAMPLED BY: <b>Ryan Ayers</b>	COMPANY: Republic Services	DATE/TIME:				
RELINQUISHED BY: <b>Red X</b>	DATE/TIME: <b>5-8-15 1430</b>	RECEIVED BY: <b>Red X</b>	DATE/TIME:			
RELINQUISHED BY: <b>Red X</b>	DATE/TIME: <b>5/11/15 0830</b>	RECEIVED BY: <b>Red X</b>	DATE/TIME: <b>5/11/15 0830</b>			
<b>METHOD OF TRANSPORT (circle one):</b> Walk-In FedEx UPS Courier ATLi Other _____						Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other
						Rev. 03 - 5/7/09
						DISTRIBUTION: White & Yellow - Lab Copies Pink - Customer Copy



**TECHNOLOGY**  
01 E. Gale Ave., Suite 130  
of Industry, CA 91748  
626-964-4032  
626-964-5832  
*Laboratories, Inc.*

**CHAIN OF CUSTODY RECORD**

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Client: Republic Services  
Attn: Jim Getting  
Project Name: Bridgeton Landfill  
Project No.: NA  
Date Received: 05/11/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051104-01	G051104-02		G051104-03		G051104-04		
Client Sample I.D.:	Outlet A	Outlet B		Inlet A		Inlet B		
Date/Time Sampled:	5/5/15 9:26	5/5/15 9:34		5/5/15 9:50		5/5/15 9:59		
Date/Time Analyzed:	5/27/15 17:02	5/27/15 17:17		5/27/15 17:31		5/27/15 17:46		
QC Batch No.:	150527GC8A1	150527GC8A1		150527GC8A1		150527GC8A1		
Analyst Initials:	AS	AS		AS		AS		
Dilution Factor:	2.4	3.2		3.2		3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	11	2.4	11	3.2	10	3.2	9.3	3.0
Carbon Dioxide	33	0.024	33	0.032	32	0.032	29	0.030
Oxygen/Argon	9.5	1.2	9.4	1.6	9.7	1.6	11	1.5
Nitrogen	39	2.4	38	3.2	39	3.2	43	3.0
Methane	8.1	0.0024	8.0	0.0032	7.9	0.0032	7.1	0.0030
Carbon Monoxide	0.13	0.0024	0.13	0.0032	0.13	0.0032	0.12	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
Attn: Jim Getting  
Project Name: Bridgeton Landfill  
Project No.: NA  
Date Received: 05/11/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051104-05	G051104-06	G051104-07	G051104-08
Client Sample I.D.:	GIW-6	GIW-7	GIW-8	GIW-9
Date/Time Sampled:	5/6/15 9:00	5/6/15 9:13	5/6/15 9:28	5/6/15 9:38
Date/Time Analyzed:	5/27/15 18:00	5/27/15 18:15	5/27/15 18:30	5/27/15 18:44
QC Batch No.:	150527GC8A1	150527GC8A1	150527GC8A1	150527GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	2.9	3.0	3.0	3.0
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	32	2.9	9.7	3.0
Carbon Dioxide	64	0.029	58	0.030
Oxygen/Argon	ND	1.4	ND	1.5
Nitrogen	ND	2.9	3.2	3.0
Methane	0.81	0.0029	28	0.0030
Carbon Monoxide	0.23	0.0029	0.097	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: \_\_\_\_\_



Mark Johnson  
Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
Attn: Jim Getting  
Project Name: Bridgeton Landfill  
Project No.: NA  
Date Received: 05/11/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051104-09	G051104-10	G051104-11	G051104-12
Client Sample I.D.:	GIW-10	GIW-4	GIW-3	GIW-12
Date/Time Sampled:	5/6/15 10:33	5/6/15 10:47	5/6/15 11:02	5/6/15 11:17
Date/Time Analyzed:	5/27/15 18:59	5/27/15 19:14	5/27/15 19:28	5/27/15 19:43
QC Batch No.:	150527GC8A1	150527GC8A1	150527GC8A1	150527GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.3	3.4	3.4	3.2
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	39	3.3	34	3.4
Carbon Dioxide	53	0.033	49	0.034
Oxygen/Argon	ND	1.6	3.4	1.7
Nitrogen	ND	3.3	12	3.4
Methane	3.5	0.0033	0.42	0.0034
Carbon Monoxide	0.26	0.0033	0.28	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Jim Getting  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/11/15  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 5 of 13  
G051104

**ASTM D1946**

Lab No.:	G051104-13	G051104-14	G051104-15	G051104-16
Client Sample I.D.:	GIW-13	GIW-2	GIW-5	GIW-11
Date/Time Sampled:	5/6/15 11:28	5/6/15 11:40	5/6/15 14:02	5/6/15 14:20
Date/Time Analyzed:	5/27/15 19:58	5/27/15 20:12	5/28/15 8:40	5/28/15 8:55
QC Batch No.:	150527GC8A1	150527GC8A1	150527GC8A1	150527GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.2	3.3	3.0	3.0
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	30	3.2	19	3.3
Carbon Dioxide	60	0.032	41	0.033
Oxygen/Argon	ND	1.6	3.6	1.6
Nitrogen	3.7	3.2	26	3.3
Methane	3.7	0.0032	9.4	0.0033
Carbon Monoxide	0.24	0.0032	0.13	0.0033

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark Johnson

Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

**Client:** Republic Services  
**Attn:** Jim Getting  
**Project Name:** Bridgeton Landfill  
**Project No.:** NA  
**Date Received:** 05/11/15  
**Matrix:** Air  
**Reporting Units:** % v/v

Page 6 of 13  
G051104

**ASTM D1946**

Lab No.:	G051104-17	G051104-18		G051104-19		G051104-20		
<b>Client Sample I.D.:</b>	GIW-1		GEW-38		GEW-109		GEW-39	
<b>Date/Time Sampled:</b>	5/6/15 14:35		5/7/15 11:00		5/7/15 11:15		5/7/15 13:38	
<b>Date/Time Analyzed:</b>	5/28/15 9:09		5/28/15 9:24		5/28/15 12:11		5/28/15 12:26	
<b>QC Batch No.:</b>	150527GC8A1		150527GC8A1		150527GC8A1		150527GC8A1	
<b>Analyst Initials:</b>	AS		AS		AS		AS	
<b>Dilution Factor:</b>	3.0		3.2		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v						
Hydrogen	26	3.0	17	3.2	35	3.0	5.2	3.0
Carbon Dioxide	65	0.030	25	0.032	54	0.030	52	0.030
Oxygen/Argon	ND	1.5	12	1.6	1.7	1.5	ND	1.5
Nitrogen	ND	3.0	44	3.2	6.0	3.0	4.9	3.0
Methane	4.0	0.0030	0.11	0.0032	2.6	0.0030	36	0.0030
Carbon Monoxide	0.28	0.0030	0.19	0.0032	0.22	0.0030	0.025	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark Johnson

Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/11/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 7 of 13  
G051104

**ASTM D1946**

Lab No.:	G051104-21	G051104-22	G051104-23	G051104-24
Client Sample I.D.:	GEW-56R	GEW-10	GEW-110	GEW-59R
Date/Time Sampled:	5/7/15 14:03	5/7/15 14:15	5/7/15 14:28	5/8/15 9:10
Date/Time Analyzed:	5/28/15 12:41	5/28/15 12:55	5/28/15 13:10	5/28/15 13:24
QC Batch No.:	150528GC8A1	150528GC8A1	150528GC8A1	150528GC8A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.0	3.0	3.0	2.8
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>	<b>Result % v/v</b>	<b>RL % v/v</b>
Hydrogen	26	3.0	0.69 d	0.030
Carbon Dioxide	51	0.030	36	0.030
Oxygen/Argon	ND	1.5	2.6	1.5
Nitrogen	9.7	3.0	20	3.0
Methane	12	0.0030	41	0.0030
Carbon Monoxide	0.14	0.0030	0.0075	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary Analysis. QC Batch: 150601GC8A1

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 6-1-15

The cover letter is an integral part of this analytical report



AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/11/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 8 of 13  
G051104

**ASTM D1946**

Lab No.:	G051104-25	G051104-26		
Client Sample I.D.:	GEW-58	GEW-58A		
Date/Time Sampled:	5/8/15 9:26	5/8/15 9:54		
Date/Time Analyzed:	5/28/15 13:39	5/28/15 13:54		
QC Batch No.:	150528GC8A1	150528GC8A1		
Analyst Initials:	AS	AS		
Dilution Factor:	2.8	2.8		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	35	2.8	33	2.8
Carbon Dioxide	54	0.028	46	0.028
Oxygen/Argon	1.7	1.4	4.3	1.4
Nitrogen	7.3	2.8	16	2.8
Methane	0.92	0.0028	0.38	0.0028
Carbon Monoxide	0.26	0.0028	0.23	0.0028

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: 

Mark Johnson  
Operations Manager

Date 6-1-15

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Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

QC Batch No.: 150527GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/27/15 16:18		5/27/15 15:05		5/27/15 15:20			
Analyst Initials:	AS		AS		AS			
Datafile:	27may008		27may003		27may004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	98	70-130%	97	70-130%	0.8	<30
Carbon Dioxide	ND	0.010	91	70-130%	92	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	98	70-130%	99	70-130%	0.2	<30
Nitrogen	ND	1.0	99	70-130%	99	70-130%	0.1	<30
Methane	ND	0.0010	90	70-130%	110	70-130%	19.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Date:

6-1-15

Mark J. Johnson  
Operations Manager

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150527GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/27/15 16:18		5/27/15 15:34		5/27/15 15:49			
Analyst Initials:	AS		AS		AS			
Datafile:	27may008		27may005		27may006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Monoxide	ND	0.0010	79	70-130%	80	70-130%	1.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Date:

6-1-15

Mark J. Johnson  
Operations Manager

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150528GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/28/15 11:57	5/28/15 10:44		5/28/15 10:58				
Analyst Initials:	AS		AS		AS			
Datafile:	28may009		28may004		28may005			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	93	70-130%	93	70-130%	0.4	<30
Carbon Dioxide	ND	0.010	91	70-130%	90	70-130%	0.5	<30
Oxygen/Argon	ND	0.50	99	70-130%	99	70-130%	0.2	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.2	<30
Methane	ND	0.0010	96	70-130%	95	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Date:

6-1-15

Mark J. Johnson  
Operations Manager

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150528GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/28/15 11:57		5/28/15 11:13		5/28/15 11:28			
Analyst Initials:	AS		AS		AS			
Datafile:	28may009		28may006		28may007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Carbon Monoxide	ND	0.0010	83	70-130%	83	70-130%	0.0	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Date: 6-1-15

Mark J. Johnson  
Operations Manager

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

QC Batch # 150601GC8A1  
Matrix: Air  
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	6/1/2015 11:49		6/1/2015 11:38		6/1/2015 11:44			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	99	70-130	99	70-130	0.5	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date: 6-1-15

The cover letter is an integral part of this analytical report.



Air TECHNOLOGY Laboratories, Inc.

June 3, 2015

Republic Services  
ATTN: Jim Getting  
13570 St. Charles Rock Rd.  
Bridgeton, MO 63044



DoD ELAP  
ADE-1461  
EPA Methods TO-3,  
TO14A, TO15 SIM & Scan,  
ASTM D1946



LA Cert 04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
RSK-175  
TX Cert T104704450-09-TX  
EPA Methods TO14A, TO15  
UT Cert CA0133332014-1  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill  
Lab Number: G051803-01/39

Enclosed are revised results for sample(s) received 5/18/15 by Air Technology Laboratories. The revision replaces the reported dated 6/2/15 in its entirety. The sample identification for G051803-37 was corrected, per client's request. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,



Mark Johnson  
Operations Manager  
[MJohnson@AirTechLabs.com](mailto:MJohnson@AirTechLabs.com)

Enclosures

Note: The cover letter is an integral part of this analytical report.



18501 E. Gale Ave., Suite 130  
City of Industry, CA 91748  
Ph: 626-964-4032  
Fx: 626-964-5832

### CHAIN OF CUSTODY RECORD

Project No.:	Project Name:	TURNAROUND TIME		DELIVERABLES		PAGE:	1 OF 4
		Standard	48 hours	EDD	EDF		
	Bridgeton Landfill	Same Day	<input type="checkbox"/>	72 hours	<input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>
		24 hours	<input type="checkbox"/>	96 hours	<input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>
		Other:				Chilled <input type="checkbox"/>	deg C
Report To:	Jim Getting	BILLING		ANALYSIS REQUEST			
Company:	Republic Services	P.O. No.:	PO4862452				
Street:	13570 St. Charles Rock Rd.	Bill to:	Republic Services				
City/State/Zip:	Bridgeton , MO 63044						
Phone & Fax:	314-683-3921						
e-mail:	JGetting@republicservices.com						
SAMPLE IDENTIFICATION		SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	TON
GEW-57R -01	GEW-57R	5/12/2015	1449 <sup>1449</sup>	C	LFG	NA	X
-02	GEW-65A	5/12/2015	1528	C	LFG	NA	X
-03	GEW-71	5/13/2015	924	C	LFG	NA	X
-04	GEW-76R <sup>16R 205/06/15</sup>	5/13/2015	952	C	LFG	NA	X
-05	GEW-80	5/13/2015	1018	C	LFG	NA	X
-06	GEW-81	5/13/2015	1039	C	LFG	NA	X
-07	GEW-82R	5/13/2015	1106	C	LFG	NA	X
-08	GEW-22R	5/13/2015	1338	C	LFG	NA	X
-09	GEW-23R	5/13/2015	1352	C	LFG	NA	X
10	GEW-25A	5/13/2015	1426	C	LFG	NA	X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

### COMMENTS

TIME AND DIRECTION OF ANALYST: DAVE PENOYER 5/14/15 1127 AD

SAMPLED BY: Ryan Ayers COMPANY: Republic Services DATE/TIME

RELINQUISHED BY: DATE/TIME RECEIVED BY: DATE/TIME

RELINQUISHED BY: DATE/TIME RECEIVED BY: DATE/TIME

RELINQUISHED BY: DATE/TIME RECEIVED BY: DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy  
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other



01 E. Gale Ave., Suite 130  
of Industry, CA 91748  
626-964-4032  
626-964-5832

## CHAIN OF CUSTODY RECORD

		TURNAROUND TIME		DELIVERABLES		PAGE:	
<b>Project No.:</b>	<b>Project Name:</b>	Standard	48 hours <input type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:	2 <input type="checkbox"/>	OF 4
	Bridgeton Landfill	Same Day	72 hours <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>		
		24 hours <input type="checkbox"/>	96 hours <input type="checkbox"/>	Level 3 <input type="checkbox"/>	Infact Yes <input type="checkbox"/> No <input type="checkbox"/>		
		Other: Jim Getting		Level 4 <input type="checkbox"/>	Chilled _____ deg C		
<b>Report To:</b>	<b>Company:</b>	<b>BILLING</b>		<b>ANALYSIS REQUEST</b>			
	Republic Services	P.O. No.:	PO4862452				
<b>Street:</b>	13570 St. Charles Rock Rd.	<b>Bill to:</b>	Republic Services				
<b>City/State/Zip:</b>	Bridgeton , MO 63044			Attn: Mike Lambrich			
<b>Phone &amp; Fax:</b>	314-683-3921						
<b>e-mail:</b>	<a href="mailto:JGetting@republicservices.com">JGetting@republicservices.com</a>						
<b>LAB USE ONLY</b>		<b>SAMPLE IDENTIFICATION</b>					
GO51803-11		GEW-28R	SAMPLE DATE	TIME	CONTAINER	QTY/TYPE	D1946 + CO, H2
-12		GEW-29	5/13/2015	1457	C LFG	NA	X
-13		GEW-90	5/13/2015	1515	C LFG	NA	X
-14		GEW-40	5/12/2015	913	C LFG	NA	X
-15		GEW-41R	5/12/2015	932	C LFG	NA	X
-16		GEW-42R	5/12/2015	946	C LFG	NA	X
-17		GEW-43R	5/12/2015	959	C LFG	NA	X
-18		GEW-44	5/12/2015	1028	C LFG	NA	X
-19		GEW-45R	5/12/2015	1042	C LFG	NA	X
-20		GEW-46R	5/12/2015	1056	C LFG	NA	X
AUTHORIZATION TO PERFORM WORK:		Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	COMMENTS		
SAMPLED BY:	Ryan Ayers	COMPANY: Republic Services	DATE/TIME				
RELINQUISHED BY	<i>Ryan Ayers</i>	DATE/TIME	RECEIVED BY	DATE/TIME			
RELINQUISHED BY	<i>FedEx</i>	DATE/TIME	RECEIVED BY	DATE/TIME			
RELINQUISHED BY		DATE/TIME	RECEIVED BY	DATE/TIME			
METHOD OF TRANSPORT (circle one):		Walk-In	FedEx	UPS	Courier	ATL	Other _____
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy							
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09							



01 E. Gale Ave., Suite 130  
of Industry, CA 91748  
626-964-4032  
626-964-5832

CHAIN OF CUSTODY RECORD									
		TURNAROUND TIME	DELIVERABLES		PAGE:	3	OF	4	
<b>Project No.:</b>		Standard <input checked="" type="checkbox"/>	48 hours <input type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:				
<b>Project Name:</b>		Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/>	No <input type="checkbox"/>			
<b>Report To:</b>		24 hours <input type="checkbox"/>	96 hours <input type="checkbox"/>	Level 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/>	No <input type="checkbox"/>			
<b>Company:</b>	Republic Services	Other: <input type="checkbox"/>	Level 4 <input type="checkbox"/>	Chilled <input type="checkbox"/>	deg C _____				
<b>Street:</b>	13570 St. Charles Rock Rd.	ANALYSIS REQUEST							
<b>City/State/Zip:</b>	Bridgeton , MO 63044								
<b>Phone &amp; Fax:</b>	314-683-3921								
<b>e-mail:</b>	<a href="mailto:JGetting@republicservices.com">JGetting@republicservices.com</a>								
BILLING									
P.O. No.:	PO4862452								
Bill to:	Republic Services								
Attn:	Mike Lambrich								
13570 St. Charles Rock Rd.									
Bridgeton, MO 63044									
SAMPLE IDENTIFICATION									
G051808-21	GEW-2	SAMPLE DATE	SAMPLE TIME	CONTAINER#	QTY/TYPE	MATRIX	PRESERVE-ACTION	D1946 + CO, H2	
-22	GEW-3	5/12/2015	1107	C	LFG	NA	X		
-23	GEW-4	5/12/2015	1325	C	LFG	NA	X		
-24	GEW-47R	5/12/2015	1403	C	LFG	NA	X		
-25	GEW-5	5/12/2015	1417	C	LFG	NA	X		
-26	GEW-48	5/12/2015	1428	C	LFG	NA	X		
-27	GEW-6	5/12/2015	1438	C	LFG	NA	X		
-28	GEW-50	5/12/2015	1449	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>		
-29	GEW-52	5/12/2015	1502	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>		
✓ -30	GEW-49	5/12/2015	1516	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>		
		5/12/2015	1531	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>		
AUTHORIZATION TO PERFORM WORK: <b>Dave Penoyer</b> COMPANY: Republic Services DATE/TIME: _____									
SAMPLED BY: <b>Ryan Ayers</b>	COMPANY: Republic Services	COMMENTS							
RELINQUISHED BY <b>Ryan Ayers</b> DATE/TIME <b>5-14-15 /000</b>	RECEIVED BY	DATE/TIME							
RELINQUISHED BY <b>Bob Fox</b> DATE/TIME	RECEIVED BY	DATE/TIME <b>5/18/15 1039</b>							
RELINQUISHED BY DATE/TIME	RECEIVED BY	DATE/TIME							
METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other _____									
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy									
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09									



CHAIN OF CUSTODY RECORD			
	TURNAROUND TIME	DELIVERABLES	PAGE:
<b>Project No.:</b> 626-964-4032 626-964-5632	Standard Same Day 24 hours Other:	48 hours 72 hours 96 hours Level 3 Level 4	EDD EDF Intact Yes Chilled _____ deg C
<b>Project Name:</b> Bridgeton Landfill	Condition upon receipt: Sealed Yes <input type="checkbox"/> No <input type="checkbox"/> Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Report To:</b> Jim Getting	ANALYSIS REQUEST		
<b>Company:</b> Republic Services			
<b>Street:</b> 13570 St. Charles Rock Rd.			
<b>City/State/Zip:</b> Bridgeton , MO 63044			
<b>Phone &amp; Fax:</b> 314-683-3921			
<b>e-mail:</b> <a href="mailto:JGetting@publicservices.com">JGetting@publicservices.com</a>			
BILLING			
P.O. No.:	PO4862452		
Bill to:	Republic Services		
Attn: Mike Lambrich			
13570 St. Charles Rock Rd.			
Bridgeton, MO 63044			
SAMPLE IDENTIFICATION			
<b>LAB USE ONLY</b>	SAMPLE DATE	CONTAINER QTY/TYPE	MATRIX
G051803-31	GEW-51	5/12/2015	C LFG NA X
32	GEW-53	5/13/2015	C LFG NA X
33	GEW-54	5/13/2015	C LFG NA X
34	GEW-55	5/13/2015	C LFG NA X
35	GEW-7	5/13/2015	C LFG NA X
36	GEW-8	5/13/2015	C LFG NA X
37	GEW-9	5/13/2015	C LFG NA X
38	GEW-107	5/13/2015	C LFG NA X
39	GEW-11	5/13/2015	C LFG NA X
COMMENTS			
AUTHORIZATION TO PERFORM WORK:	Dave Penoyer	COMPANY: Republic Services	DATE/TIME:
SAMPLED BY:	Ryan Ayers	COMPANY: Republic Services	DATE/TIME:
RELINQUISHED BY	<i>Ryan Ayers</i>	DATE/TIME: 5-14-15 1000	RECEIVED BY: <i>✓</i>
RELINQUISHED BY	<i>Fay</i>	DATE/TIME: <i>5/15/15</i>	RECEIVED BY: <i>✓</i>
RELINQUISHED BY		DATE/TIME:	RECEIVED BY: <i>✓</i>
METHOD OF TRANSPORT (circle one): Walk-in FedEx UPS Courier ATLI Other			
Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other Rev. 03 - 5/7/09			
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy			

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 2 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-01	G051803-02		G051803-03		G051803-04		
Client Sample I.D.:	GEW-57R	GEW-65A		GEW-71		GEW-16R		
Date/Time Sampled:	5/12/15 14:49	5/12/15 15:28		5/13/15 9:24		5/13/15 9:52		
Date/Time Analyzed:	5/29/15 19:55	5/29/15 20:09		5/29/15 20:24		5/29/15 20:38		
QC Batch No.:	150529GC8A2	150529GC8A2		150529GC8A2		150529GC8A2		
Analyst Initials:	MJ	MJ		MJ		MJ		
Dilution Factor:	3.0	3.1		2.9		3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	39	3.0	37	3.1	43	2.9	41	3.0
Carbon Dioxide	55	0.030	59	0.031	53	0.029	55	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.4	ND	1.5
Nitrogen	3.4	3.0	ND	3.1	ND	2.9	ND	3.0
Methane	0.49	0.0030	0.42	0.0031	0.49	0.0029	0.64	0.0030
Carbon Monoxide	0.26	0.0030	0.34	0.0031	0.25	0.0029	0.25	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 6-3-15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 3 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-05	G051803-06		G051803-07		G051803-08		
Client Sample I.D.:	GEW-80		GEW-81		GEW-82R		GEW-22R	
Date/Time Sampled:	5/13/15 10:18		5/13/15 10:39		5/13/15 11:06		5/13/15 13:38	
Date/Time Analyzed:	5/29/15 20:53		5/29/15 21:08		5/29/15 21:22		5/29/15 21:37	
QC Batch No.:	150529GC8A2		150529GC8A2		150529GC8A2		150529GC8A2	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	2.9		3.0		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v						
Hydrogen	35	2.9	35	3.0	38	3.2	32	3.2
Carbon Dioxide	59	0.029	61	0.030	52	0.032	62	0.032
Oxygen/Argon	ND	1.4	ND	1.5	1.7	1.6	ND	1.6
Nitrogen	3.3	2.9	ND	3.0	5.8	3.2	ND	3.2
Methane	0.29	0.0029	0.31	0.0030	0.91	0.0032	1.9	0.0032
Carbon Monoxide	0.40	0.0029	0.39	0.0030	0.25	0.0032	0.40	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date

6-3-15

The cover letter is an integral part of this analytical report



Air TECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
Attn: Jim Getting  
Project Name: Bridgeton Landfill  
Project No.: NA  
Date Received: 05/18/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051803-09	G051803-10		G051803-11		G051803-12		
Client Sample I.D.:	GEW-23R		GEW-25A		GEW-28R		GEW-29	
Date/Time Sampled:	5/13/15 13:52		5/13/15 14:26		5/13/15 14:57		5/13/15 15:15	
Date/Time Analyzed:	5/29/15 21:51		5/29/15 22:06		5/29/15 22:20		5/30/15 12:37	
QC Batch No.:	150529GC8A2		150529GC8A2		150529GC8A2		150529GC8A2	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.3		3.0		3.4		3.1	
ANALYTE	Result % v/v	RL % v/v						
Hydrogen	31	3.3	30	3.0	30	3.4	40	3.1
Carbon Dioxide	65	0.033	64	0.030	50	0.034	55	0.031
Oxygen/Argon	ND	1.6	ND	1.5	3.6	1.7	ND	1.5
Nitrogen	ND	3.3	ND	3.0	13	3.4	ND	3.1
Methane	0.14	0.0033	0.15	0.0030	1.9	0.0034	0.19	0.0031
Carbon Monoxide	0.48	0.0033	0.60	0.0030	0.34	0.0034	0.41	0.0031

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By:

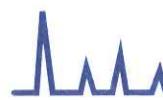


Mark Johnson  
Operations Manager

Date

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 5 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-13	G051803-14		G051803-15		G051803-16		
Client Sample I.D.:	GEW-90	GEW-40		GEW-41R		GEW-42R		
Date/Time Sampled:	5/13/15 15:48	5/12/15 9:13		5/12/15 9:32		5/12/15 9:46		
Date/Time Analyzed:	5/30/15 11:18	5/30/15 11:33		5/30/15 11:47		5/30/15 12:52		
QC Batch No.:	150529GC8A2	150529GC8A2		150529GC8A2		150529GC8A2		
Analyst Initials:	MJ	MJ		MJ		MJ		
Dilution Factor:	3.2	3.9		3.2		3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	39	3.2	ND	d	0.039	ND	d	0.032
Carbon Dioxide	50	0.032	40	0.039	39	0.032	34	0.030
Oxygen/Argon	ND	1.6	ND	1.9	ND	1.6	3.0	1.5
Nitrogen	ND	3.2	ND	3.9	ND	3.2	11	3.0
Methane	6.3	0.0032	57	0.0039	58	0.0032	52	0.0030
Carbon Monoxide	0.24	0.0032	ND	0.0039	ND	0.0032	ND	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis QC Batch: 150601GC8A1

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date 6-3-15

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 6 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-17	G051803-18		G051803-19		G051803-20		
Client Sample I.D.:	GEW-43R	GEW-44		GEW-45R		GEW-46R		
Date/Time Sampled:	5/12/15 9:59	5/12/15 10:28		5/12/15 10:42		5/12/15 10:56		
Date/Time Analyzed:	5/30/15 13:07	5/30/15 13:52		5/30/15 14:07		5/30/15 14:21		
QC Batch No.:	150529GC8A2	150529GC8A2		150529GC8A2		150529GC8A2		
Analyst Initials:	MJ	MJ		MJ		MJ		
Dilution Factor:	3.0	3.1		3.1		2.9		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.045 d	0.030	ND d	0.031	ND d	0.031	0.091 d	0.029
Carbon Dioxide	41	0.030	34	0.031	37	0.031	38	0.029
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.4
Nitrogen	ND	3.0	12	3.1	ND	3.1	5.2	2.9
Methane	57	0.0030	53	0.0031	60	0.0031	56	0.0029
Carbon Monoxide	ND	0.0030	ND	0.0031	ND	0.0031	ND	0.0029

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

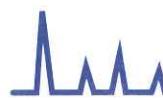
d = Reported from a secondary analysis QC Batch: 150601GC8A1

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

**ASTM D1946**

Lab No.:	G051803-21	G051803-22	G051803-23	G051803-24				
Client Sample I.D.:	GEW-2	GEW-3	GEW-4	GEW-47R				
Date/Time Sampled:	5/12/15 11:07	5/12/15 13:25	5/12/15 14:03	5/12/15 14:17				
Date/Time Analyzed:	5/30/15 16:33	5/30/15 16:47	5/30/15 18:30	5/30/15 17:02				
QC Batch No.:	150530GC8A1	150530GC8A1	150530GC8A1	150530GC8A1				
Analyst Initials:	MJ	MJ	MJ	MJ				
Dilution Factor:	3.0	3.1	3.0	3.0				
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>						
Hydrogen	ND d	0.030	0.059 d	0.031	0.048 d	0.030	ND d	0.030
Carbon Dioxide	40	0.030	38	0.031	39	0.030	40	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	ND	3.0	8.4	3.1	ND	3.0	3.7	3.0
Methane	57	0.0030	53	0.0031	57	0.0030	56	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0031	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

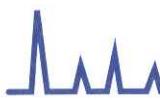
d = Reported from a secondary analysis QC Batch: 150601GC8A1

Reviewed/Approved By: Mark Johnson

Mark Johnson  
Operations Manager

Date 6-3-15

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Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

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G051803a

**ASTM D1946**

Lab No.:	G051803-25	G051803-26		G051803-27		G051803-28		
Client Sample I.D.:	GEW-5	GEW-48		GEW-6		GEW-50		
Date/Time Sampled:	5/12/15 14:28		5/12/15 14:38		5/12/15 14:49		5/12/15 15:02	
Date/Time Analyzed:	5/30/15 17:17		5/30/15 17:31		5/30/15 17:46		5/30/15 18:01	
QC Batch No.:	150530GC8A1		150530GC8A1		150530GC8A1		150530GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		2.9		3.0	
ANALYTE	Result % v/v	RL % v/v						
Hydrogen	0.046 d	0.030	ND d	0.030	ND d	0.029	0.059 d	0.030
Carbon Dioxide	36	0.030	38	0.030	37	0.029	39	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.4	ND	1.5
Nitrogen	6.6	3.0	4.3	3.0	4.9	2.9	ND	3.0
Methane	56	0.0030	57	0.0030	57	0.0029	58	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0029	ND	0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis QC Batch: 150601GC8A1

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date 6-3-15

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 9 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-29	G051803-30		G051803-31		G051803-32					
Client Sample I.D.:	GEW-52	GEW-49		GEW-51		GEW-53					
Date/Time Sampled:	5/12/15 15:16	5/12/15 15:31		5/12/15 15:55		5/13/15 8:44					
Date/Time Analyzed:	5/30/15 18:15	5/31/15 11:25		5/31/15 11:39		5/31/15 11:54					
QC Batch No.:	150530GC8A1	150530GC8A1		150530GC8A1		150530GC8A1					
Analyst Initials:	MJ		MJ		MJ		MJ				
Dilution Factor:	3.0		3.0		3.0		3.2				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v			
Hydrogen	ND	d	0.030	0.051	d	0.030	1.3	d	0.030	5.2	3.2
Carbon Dioxide	38		0.030	37		0.030	39		0.030	40	0.032
Oxygen/Argon	ND		1.5	ND		1.5	ND		1.5	ND	1.6
Nitrogen	7.7		3.0	7.8		3.0	ND		3.0	ND	3.2
Methane	54		0.0030	54		0.0030	57		0.0030	51	0.0032
Carbon Monoxide	ND		0.0030	ND		0.0030	ND		0.0030	0.0063	0.0032

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

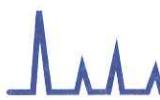
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Operations Manager

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AirTECHNOLOGY Laboratories, Inc.

page 1 of 1

Client: Republic Services  
 Attn: Jim Getting  
 Project Name: Bridgeton Landfill  
 Project No.: NA  
 Date Received: 05/18/15  
 Matrix: Air  
 Reporting Units: % v/v

Page 10 of 17  
G051803a

**ASTM D1946**

Lab No.:	G051803-33	G051803-34		G051803-35		G051803-36		
Client Sample I.D.:	GEW-54	GEW-55		GEW-7		GEW-8		
Date/Time Sampled:	5/13/15 8:54	5/13/15 9:05		5/13/15 9:17		5/13/15 9:30		
Date/Time Analyzed:	5/31/15 12:08	5/31/15 12:23		5/31/15 12:38		5/31/15 12:52		
QC Batch No.:	150530GC8A1	150530GC8A1		150530GC8A1		150530GC8A1		
Analyst Initials:	MJ	MJ		MJ		MJ		
Dilution Factor:	3.0	3.1		3.0		3.0		
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	4.4	3.0	1.5	d	0.031	ND	d	0.030
Carbon Dioxide	41	0.030	41		0.031	39		0.030
Oxygen/Argon	ND	1.5	ND		1.5	ND		1.5
Nitrogen	ND	3.0	ND		3.1	ND		3.0
Methane	53	0.0030	55		0.0031	58		0.0030
Carbon Monoxide	0.0030	0.0030	ND		0.0031	ND		0.0030

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

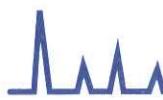
d = Reported from a secondary analysis QC Batch: 150601GC8A2

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date 6-3-15

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page 1 of 1

Client: Republic Services  
Attn: Jim Getting  
Project Name: Bridgeton Landfill  
Project No.: NA  
Date Received: 05/18/15  
Matrix: Air  
Reporting Units: % v/v

ASTM D1946

Lab No.:	G051803-37	G051803-38	G051803-39					
Client Sample I.D.:	GEW-9	GEW-107	GEW-11					
Date/Time Sampled:	5/13/15 9:41	5/13/15 14:03	5/13/15 15:47					
Date/Time Analyzed:	5/31/15 13:07	5/31/15 13:21	5/31/15 13:36					
QC Batch No.:	150530GC8A1	150530GC8A1	150530GC8A1					
Analyst Initials:	MJ	MJ	MJ					
Dilution Factor:	3.0	3.1	3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Hydrogen	0.72	d	0.030	30	3.1	23	3.2	
Carbon Dioxide	40		0.030	50	0.031	50	0.032	
Oxygen/Argon	ND		1.5	3.5	1.5	ND	1.6	
Nitrogen	5.4		3.0	13	3.1	21	3.2	
Methane	53		0.0030	0.31	0.0031	3.4	0.0032	
Carbon Monoxide	ND		0.0030	0.32	0.0031	0.22	0.0032	

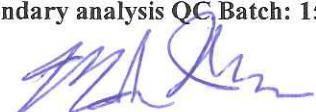
Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis QC Batch: 150601GC8A2

Reviewed/Approved By:



Mark Johnson  
Operations Manager

Date 6-3-15

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page 1 of 1

QC Batch No.: 150529GC8A2

Matrix: Air  
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/29/15 19:25	5/30/15 12:08		5/30/15 12:23				
Analyst Initials:	AS	AS		AS				
Datafile:	29may033	29may051		29may052				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Hydrogen	ND	1.0	111	70-130%	108	70-130%	2.2	<30
Carbon Dioxide	ND	0.010	95	70-130%	93	70-130%	2.4	<30
Oxygen/Argon	ND	0.50	99	70-130%	97	70-130%	1.4	<30
Nitrogen	ND	1.0	100	70-130%	99	70-130%	1.3	<30
Methane	ND	0.0010	127	70-130%	122	70-130%	4.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date:

6-3-15

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Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150529GC8A2

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank	LCS		LCSD				
Date/Time Analyzed:	5/29/15 19:25	5/29/15 18:56		5/29/15 19:11				
Analyst Initials:	AS	AS		AS				
Datafile:	29may033	29may031		29may032				
Dilution Factor:	1.0	1.0		1.0				
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Carbon Monoxide	ND	0.0010	81	70-130%	81	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:

Mark J. Johnson  
Operations Manager

Date: 6-3-15

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Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150530GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/30/15 16:18		5/30/15 15:20		5/30/15 15:34			
Analyst Initials:	AS		AS		AS			
Datafile:	30may010		30may006		30may007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Hydrogen	ND	1.0	107	70-130%	107	70-130%	0.4	<30
Carbon Dioxide	ND	0.010	91	70-130%	92	70-130%	0.9	<30
Oxygen/Argon	ND	0.50	96	70-130%	97	70-130%	1.1	<30
Nitrogen	ND	1.0	98	70-130%	99	70-130%	1.1	<30
Methane	ND	0.0010	124	70-130%	122	70-130%	1.7	<30

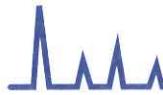
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Mark J. Johnson  
Operations Manager

Date: 6-3-15

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Air TECHNOLOGY Laboratories, Inc.

QC Batch No.: 150530GC8A1

Matrix: Air

Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	5/30/15 16:18		5/30/15 15:49		5/30/15 16:04			
Analyst Initials:	AS		AS		AS			
Datafile:	30may010		30may008		30may009			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	% RPD	Criteria
Carbon Monoxide	ND	0.0010	87	70-130%	87	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By:



Date: 6-3-15

Mark J. Johnson  
Operations Manager

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Air TECHNOLOGY Laboratories, Inc.

QC Batch # 150601GC8A1  
Matrix: Air  
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	6/1/2015 11:49		6/1/2015 11:38		6/1/2015 11:44			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	99	70-130	99	70-130	0.5	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark Johnson  
Operations Manager

Date: 6-3-15

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AirTECHNOLOGY Laboratories, Inc.

QC Batch # 150601GC8A2  
Matrix: Air  
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	6/1/2015 13:45		6/1/2015 13:35		6/1/2015 13:40			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	97	70-130	97	70-130	0.8	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:



Date: 6-3-15

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Operations Manager

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AirTECHNOLOGY Laboratories, Inc.

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**ATTACHMENT E**

**GAS WELLFIELD DATA**

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**ATTACHMENT E-1**

**GEM DATA TABLE**

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May 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-002	5/4/2015 11:19	54.8	41.3	0.0	3.9	120.1		16	15	-0.30	-0.29	-28.16
GEW-002	5/4/2015 11:21	54.7	41.5	0.0	3.8	119.9		21	20	-0.21	-0.20	-27.31
GEW-002	5/12/2015 11:04	56.1	40.8	0.0	3.1	115.7		10	11	0.02	0.02	-23.27
GEW-002	5/12/2015 11:10	57.8	38.8	0.0	3.4	117.8		0	0	-0.09	-0.09	-24.92
GEW-002	5/19/2015 13:38	58.4	41.5	0.0	0.1	124.0	124.0	88	93	-2.00	-2.20	-25.76
GEW-002	5/19/2015 13:41	59.2	40.7	0.0	0.1	124.0	124.0	56	52	-0.80	-0.80	-27.88
GEW-002	5/27/2015 8:59	56.6	43.3	0.0	0.1	120.0	120.0	10	10	-0.20	-0.20	-29.41
GEW-003	5/4/2015 11:32	49.8	39.2	0.0	11.0	116.8		22	16	-0.74	-0.75	-27.06
GEW-003	5/4/2015 11:35	49.9	39.6	0.0	10.5	115.9		13	15	-0.58	-0.60	-28.53
GEW-003	5/12/2015 13:22	53.4	40.2	0.0	6.4	123.5		13	14	-0.29	-0.27	-28.04
GEW-003	5/12/2015 13:28	54.2	38.3	0.0	7.5	123.7		17	14	-0.24	-0.23	-27.92
GEW-003	5/19/2015 13:44	54.2	41.5	0.0	4.3	126.0	126.0	10	7	0.00	0.00	-27.34
GEW-003	5/19/2015 13:46	54.2	41.4	0.0	4.4	126.0	126.0	8		-0.10	-0.20	-27.32
GEW-003	5/27/2015 9:03	53.4	40.8	0.0	5.8	120.0	120.0	13	9	-0.50	-0.50	-28.37
GEW-004	5/4/2015 11:40	54.1	40.7	0.0	5.2	100.6		0	0	-0.23	-0.24	-27.37
GEW-004	5/12/2015 14:00	56.9	39.2	0.0	3.9	98.3		0	0	0.13	0.11	-27.86
GEW-004	5/12/2015 14:06	57.4	39.1	0.0	3.5	113.4		29	29	-0.02	-0.03	-28.77
GEW-004	5/19/2015 13:49	56.8	42.7	0.0	0.5	120.0	120.0			0.00	0.00	-27.91
GEW-004	5/19/2015 13:50	56.9	41.7	0.0	1.4	120.0	120.0	36	35	-0.10	-0.10	-27.54
GEW-004	5/27/2015 9:05	51.9	41.4	0.0	6.7	122.0	122.0	20	21	-0.70	-0.60	-27.62
GEW-004	5/27/2015 9:07	52.1	41.4	0.0	6.5	122.0	122.0			-0.50	-0.50	-27.51
GEW-005	5/4/2015 11:50	51.6	38.8	0.0	9.6	92.7		4	7	-0.11	-0.09	-27.24
GEW-005	5/4/2015 11:53	51.9	37.6	0.0	10.5	92.7		0	8	-0.09	-0.11	-27.49
GEW-005	5/12/2015 14:26	55.5	39.9	0.0	4.6	89.1		0	6	0.11	0.07	-27.00
GEW-005	5/12/2015 14:31	56.6	36.5	0.0	6.9	94.6		13	13	-0.02	-0.02	-27.67
GEW-005	5/19/2015 14:00	57.4	39.9	0.0	2.7	95.0	95.0			0.00	0.10	-27.41
GEW-005	5/19/2015 14:02	56.9	39.0	0.0	4.1	95.0	95.0	19	23	-0.10	-0.10	-27.40
GEW-005	5/27/2015 9:17	41.4	36.1	0.0	22.5	95.0	95.0	23	21	-0.70	-0.70	-28.24
GEW-005	5/27/2015 9:19	41.4	35.1	0.0	23.5	95.0	95.0	17	13	-0.50	-0.50	-28.32
GEW-006	5/4/2015 13:04	53.8	37.6	0.0	8.6	91.3		18	18	-0.21	-0.21	-28.16
GEW-006	5/4/2015 13:07	53.5	38.6	0.0	7.9	91.1		14	14	-0.12	-0.12	-27.12
GEW-006	5/12/2015 14:47	56.1	38.0	0.0	5.9	89.7		13	9	-0.09	-0.10	-28.71
GEW-006	5/12/2015 14:52	56.9	36.3	0.0	6.8	90.1		13	11	-0.05	-0.06	-29.20
GEW-006	5/20/2015 7:19	57.5	41.5	0.0	1.0	87.0	87.0	12	11	-0.20	-0.20	-27.03
GEW-006	5/27/2015 9:23	53.5	38.6	0.0	7.9	90.0	90.0	15	9	-0.30	-0.30	-28.10
GEW-006	5/27/2015 9:25	53.6	38.4	0.0	8.0	90.0	90.0	13	11	-0.20	-0.20	-28.25
GEW-007	5/4/2015 14:32	55.9	40.6	0.0	3.5	99.4		7	7	-1.26	-1.26	-26.15
GEW-007	5/4/2015 14:35	55.9	40.8	0.0	3.3	99.0		6	8	-0.83	-0.83	-25.90

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-007	5/13/2015 9:14	57.1	40.3	0.0	2.6	95.0		9	8	-1.38	-1.38	-26.51
GEW-007	5/13/2015 9:20	57.6	40.3	0.0	2.1	95.0		7	9	-1.40	-1.40	-28.34
GEW-007	5/20/2015 7:32	57.2	42.7	0.0	0.1	90.0	90.0	9	9	-0.40	-0.40	-27.31
GEW-007	5/27/2015 9:39	57.1	42.8	0.0	0.1	97.0	97.0	9	9	-1.00	-1.00	-27.17
GEW-008	5/4/2015 14:13	50.2	43.0	0.0	6.8	117.0		19	19	-0.47	-0.47	-26.45
GEW-008	5/4/2015 14:15	50.3	43.6	0.0	6.1	117.0		15	17	-0.30	-0.31	-25.96
GEW-008	5/13/2015 9:28	54.4	38.2	0.0	7.4	115.7		17	13	-0.58	-0.56	-28.41
GEW-008	5/13/2015 9:32	52.5	40.5	0.0	7.0	115.7		14	15	-0.53	-0.51	-27.61
GEW-008	5/20/2015 7:35	53.7	46.2	0.0	0.1	115.0	115.0	14	13	-0.10	-0.10	-27.58
GEW-008	5/27/2015 10:11	53.2	44.5	0.0	2.3	120.0	120.0	17	15	-0.30	-0.30	-27.34
GEW-009	5/4/2015 14:18	50.5	42.5	0.0	7.0	121.5		12	12	-0.28	-0.27	-25.84
GEW-009	5/4/2015 14:20	50.8	41.6	0.0	7.6	121.0		10	14	-0.20	-0.19	-26.70
GEW-009	5/13/2015 9:38	51.8	41.3	0.0	6.9	122.4		9	9	-0.23	-0.23	-22.17
GEW-009	5/13/2015 9:43	52.6	38.6	0.0	8.8	122.9		11	11	-0.25	-0.26	-22.36
GEW-009	5/20/2015 7:38	54.6	45.3	0.0	0.1	125.0	125.0	25	26	-0.10	-0.10	-21.71
GEW-009	5/27/2015 10:08	51.9	42.5	0.0	5.6	123.0	123.0	12	12	-0.30	-0.30	-27.50
GEW-010	5/7/2015 14:12	41.5	40.6	0.7	17.2	108.8				-20.49	-20.49	-22.54
GEW-010	5/7/2015 14:21	40.3	37.9	1.8	20.0	107.0				-17.50	-17.50	-23.03
GEW-010	5/15/2015 12:37	44.8	37.1	2.2	15.9	101.0	101.0	218	217	-11.10	-11.10	-18.96
GEW-010	5/15/2015 12:38	41.2	36.2	3.1	19.5	101.0	101.0	188	187	-8.40	-8.30	-20.60
GEW-010	5/20/2015 7:45	57.2	42.7	0.0	0.1	55.0	55.0			0.60	0.60	-20.94
GEW-010	5/20/2015 7:46	56.5	43.3	0.0	0.2	55.0	55.0	72	75	-1.10	-1.20	-23.07
GEW-010	5/28/2015 8:37	41.2	40.7	1.8	16.3	94.0	94.0	214	214	-10.80	-10.70	-25.10
GEW-011	5/13/2015 15:25	3.4	49.0	0.4	47.2	189.1				-9.33	-9.27	-19.73
GEW-011	5/13/2015 15:29	2.6	46.0	0.4	51.0	189.4				-9.33	-9.33	-21.01
GEW-014A	5/13/2015 15:29	0.5	52.6	3.2	43.7	118.7				-17.64	-18.19	-20.12
GEW-016R	5/13/2015 9:49	0.7	59.7	0.0	39.6	196.6				-12.21	-12.21	-19.08
GEW-016R	5/13/2015 9:57	0.4	56.3	0.0	43.3	196.6				-12.21	-12.21	-18.96
GEW-018R	5/13/2015 11:18	2.6	35.2	10.6	51.6	190.8				-14.16	-14.59	-17.25
GEW-018R	5/13/2015 11:19	2.9	48.9	5.4	42.8	193.1				-4.70	-4.35	-17.43
GEW-020A	5/13/2015 11:26	7.2	31.7	11.8	49.3	84.5				-5.80	-7.33	-5.57
GEW-020A	5/13/2015 11:27	7.8	34.6	10.5	47.1	84.8				-6.84	-6.78	-7.09
GEW-021A	5/13/2015 11:35	5.7	55.0	3.4	35.9	112.8				-5.86	-6.78	-6.06
GEW-022R	5/13/2015 13:35	2.2	67.4	0.0	30.4	191.9				-6.41	-6.29	-5.99
GEW-022R	5/13/2015 13:43	1.9	62.9	0.0	35.2	191.9				-5.25	-5.62	-5.02
GEW-023A	5/13/2015 13:49	0.1	69.4	0.0	30.5	186.4				-4.95	-4.92	-5.08
GEW-023A	5/13/2015 13:56	0.0	63.8	0.0	36.2	186.9				-3.39	-4.61	-3.12
GEW-025A	5/13/2015 14:20	0.1	69.4	0.0	30.5	193.1				-0.20	-0.16	-6.06

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-025A	5/13/2015 14:31	0.1	65.8	0.0	34.1	193.7				-1.84	-4.30	-5.69
GEW-026R	5/13/2015 14:38	0.6	55.5	5.5	38.4	113.3				-7.88	-8.36	-8.01
GEW-026R	5/13/2015 14:39	0.7	56.9	4.4	38.0	115.5				-8.18	-8.30	-8.50
GEW-027A	5/13/2015 14:46	0.2	43.6	5.6	50.6	176.2				-3.96	-4.08	-8.50
GEW-027A	5/13/2015 14:48	0.4	45.1	7.2	47.3	176.2				-5.01	-5.01	-8.56
GEW-028R	5/13/2015 14:54	3.2	63.4	0.0	33.4	184.6				-12.27	-12.33	-11.87
GEW-028R	5/13/2015 15:05	3.2	60.8	0.0	36.0	180.8				-11.29	-11.36	-11.87
GEW-029	5/13/2015 15:11	0.8	64.0	0.0	35.2	193.7				-5.01	-4.95	-11.13
GEW-029	5/13/2015 15:20	0.5	56.7	0.0	42.8	193.7				-9.89	-9.77	-11.80
GEW-034	5/13/2015 14:28	7.3	44.1	5.1	43.5	101.3				-21.89	-21.89	-23.21
GEW-034	5/13/2015 14:29	7.6	46.1	4.4	41.9	102.6				-22.01	-21.04	-22.48
GEW-035	5/13/2015 14:16	4.1	49.8	4.5	41.6	124.0				-6.16	-5.79	-5.93
GEW-035	5/13/2015 14:17	4.0	49.6	4.7	41.7	123.4				-5.79	-5.37	-5.68
GEW-038	5/7/2015 10:51	0.2	28.7	11.1	60.0	153.7				-23.23	-22.44	-24.37
GEW-038	5/7/2015 11:07	0.2	29.5	10.4	59.9	154.1				-23.90	-24.45	-24.56
GEW-038	5/15/2015 12:45	0.2	35.7	9.7	54.4	152.0	152.0	248	236	-18.30	-18.30	-17.68
GEW-038	5/20/2015 7:59	0.9	41.7	7.8	49.6	108.0	108.0	243	245	-17.80	-17.80	-17.87
GEW-038	5/20/2015 8:00	0.6	41.9	7.8	49.7	108.0	108.0	253	244	-18.20	-18.00	-18.07
GEW-038	5/28/2015 8:29	0.1	39.1	7.8	53.0	138.0	138.0	201	195	-11.80	-11.70	-11.55
GEW-038	5/28/2015 8:30	0.1	37.0	8.6	54.3	138.0	138.0	198	199	-12.00	-11.70	-11.90
GEW-039	5/7/2015 13:35	37.4	51.4	0.0	11.2	135.6				-0.09	-0.10	-24.13
GEW-039	5/7/2015 13:42	37.1	51.8	0.0	11.1	136.0				-0.10	-0.07	-24.98
GEW-039	5/15/2015 12:50	37.4	60.3	0.0	2.3	139.0	139.0	32	32	-0.20	-0.20	-23.72
GEW-039	5/20/2015 8:04	38.0	59.6	0.0	2.4	133.0	133.0	47	47	-0.80	-0.70	-24.11
GEW-039	5/28/2015 8:34	37.1	57.0	0.0	5.9	135.0	135.0	50	49	-0.40	-0.40	-24.68
GEW-040	5/4/2015 10:42	55.8	40.9	0.0	3.3	93.2		32	32	-0.30	-0.30	-28.65
GEW-040	5/12/2015 9:11	57.4	39.8	0.0	2.8	92.1		0	0	-0.29	-0.28	-28.65
GEW-040	5/12/2015 9:19	56.9	40.0	0.0	3.1	91.8		0	0	-0.27	-0.28	-27.12
GEW-040	5/19/2015 12:44	57.0	42.6	0.2	0.2	92.0	92.0		57	-0.20	-0.50	-28.07
GEW-040	5/27/2015 8:31	57.6	42.3	0.0	0.1	93.0	93.0	9	8	-0.30	-0.30	-28.40
GEW-041R	5/4/2015 10:47	56.4	39.7	0.0	3.9	108.1		13	15	-0.38	-0.37	-26.57
GEW-041R	5/4/2015 10:49	56.5	40.3	0.0	3.2	107.5		11	11	-0.26	-0.26	-28.04
GEW-041R	5/12/2015 9:30	57.9	38.6	0.0	3.5	103.6		37	37	-0.25	-0.26	-27.24
GEW-041R	5/12/2015 9:35	59.1	37.8	0.0	3.1	103.6		14	15	-0.23	-0.23	-28.89
GEW-041R	5/19/2015 12:47	57.6	42.3	0.0	0.1	107.0	107.0	17	16	0.10	0.10	-26.42
GEW-041R	5/19/2015 12:50	56.5	43.4	0.0	0.1	107.0	107.0	23	23	-0.10	0.00	-25.90
GEW-041R	5/27/2015 8:38	58.0	41.8	0.0	0.2	108.0	108.0	16	18	-0.40	-0.40	-28.68
GEW-042R	5/4/2015 10:52	56.1	39.9	0.0	4.0	92.7		5	5	-0.32	-0.32	-25.29

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-042R	5/4/2015 10:54	56.1	40.1	0.0	3.8	92.6		8	6	-0.28	-0.28	-24.92
GEW-042R	5/12/2015 9:43	57.8	38.6	0.0	3.6	89.2		8	8	-0.31	-0.31	-25.11
GEW-042R	5/12/2015 9:48	59.2	38.1	0.0	2.7	89.0		36	36	-0.30	-0.29	-25.96
GEW-042R	5/19/2015 12:53	57.2	42.7	0.0	0.1	89.0	89.0			0.00	0.10	-25.35
GEW-042R	5/19/2015 12:55	57.3	42.6	0.0	0.1	89.0	89.0	29	23	-0.10	-0.10	-25.03
GEW-042R	5/27/2015 8:41	58.3	41.6	0.0	0.1	93.0	93.0	36	37	-0.60	-0.60	-25.45
GEW-043R	5/1/2015 8:45	56.4	42.4	0.0	1.2	129.9		47	47	-1.71	-1.72	-26.27
GEW-043R	5/1/2015 8:46	56.1	42.3	0.0	1.6	129.6		52	59	-1.71	-1.85	-26.08
GEW-043R	5/4/2015 10:57	55.7	40.4	0.0	3.9	136.3		19	21	-0.02	-0.02	-26.27
GEW-043R	5/4/2015 10:58	55.1	41.9	0.0	3.0	136.0		16	20	-0.02	-0.04	-26.08
GEW-043R	5/12/2015 9:55	56.4	40.0	0.0	3.6	136.2		44	42	-0.50	-0.49	-27.31
GEW-043R	5/12/2015 10:01	57.0	40.2	0.0	2.8	134.0		21	16	-0.04	-0.03	-27.43
GEW-043R	5/19/2015 13:10	56.6	43.3	0.0	0.1	136.0	136.0	16	14	0.80	0.80	-27.43
GEW-043R	5/19/2015 13:11	56.4	43.5	0.0	0.1	136.0	136.0	25	23	0.40	0.40	-28.27
GEW-043R	5/27/2015 8:44	57.5	42.4	0.0	0.1	128.0	128.0	26	24	-1.20	-1.10	-29.14
GEW-044	5/4/2015 11:02	49.3	36.5	0.0	14.2	91.6		4	5	-0.31	-0.30	-26.15
GEW-044	5/4/2015 11:03	49.7	35.5	0.0	14.8	91.3		7	5	-0.34	-0.33	-26.39
GEW-044	5/12/2015 10:21	53.6	34.1	0.0	12.3	86.0		6	6	-0.36	-0.39	-27.06
GEW-044	5/12/2015 10:30	53.2	31.8	0.0	15.0	86.4		9	9	-0.39	-0.38	-25.96
GEW-044	5/19/2015 13:14	56.6	40.3	0.0	3.1	91.0	91.0	3	1	0.10	0.10	-25.63
GEW-044	5/19/2015 13:16	57.4	39.1	0.0	3.5	91.0	91.0	7	6	-0.10	-0.10	-25.79
GEW-044	5/27/2015 8:47	39.0	34.3	0.0	26.7	99.0	99.0	6	5	-0.90	-0.90	-27.47
GEW-045R	5/4/2015 11:09	58.8	38.7	0.0	2.5	87.6		7	7	-0.13	-0.13	-27.73
GEW-045R	5/12/2015 10:39	60.3	36.2	0.0	3.5	72.9		9	8	-0.21	-0.22	-25.11
GEW-045R	5/12/2015 10:44	60.1	34.9	0.0	5.0	72.7		9	9	-0.19	-0.19	-25.11
GEW-045R	5/19/2015 13:20	60.4	39.5	0.0	0.1	78.0	78.0	9	10	0.20	0.30	-27.72
GEW-045R	5/19/2015 13:21	61.0	38.9	0.0	0.1	78.0	78.0	8	9	-0.60	-0.50	-27.85
GEW-045R	5/27/2015 8:50	59.0	40.9	0.0	0.1	80.0	80.0		9	-0.40	-0.50	-28.49
GEW-046R	5/4/2015 11:14	52.1	39.3	0.0	8.6	90.9		9	9	-0.16	-0.15	-27.37
GEW-046R	5/12/2015 10:54	55.0	37.8	0.0	7.2	86.8		8	7	-0.08	-0.09	-26.94
GEW-046R	5/12/2015 10:59	55.4	36.1	0.0	8.5	87.0		8	8	-0.09	-0.08	-25.41
GEW-046R	5/19/2015 13:25	57.0	42.2	0.0	0.8	89.0	89.0	12	12	0.20	0.20	-27.67
GEW-046R	5/19/2015 13:27	57.7	41.4	0.0	0.9	89.0	89.0	13	13	0.20	0.20	-27.41
GEW-046R	5/27/2015 8:53	55.9	41.7	0.0	2.4	90.0	90.0	25	6	-0.10	0.00	-28.37
GEW-047R	5/4/2015 11:47	52.3	40.2	0.1	7.4	101.7		5	5	-0.13	-0.12	-27.67
GEW-047R	5/12/2015 14:15	55.0	41.7	0.0	3.3	94.5		5	4	0.19	0.20	-28.77
GEW-047R	5/12/2015 14:20	56.0	38.6	0.0	5.4	113.0		38	33	-0.02	-0.02	-27.92
GEW-047R	5/19/2015 13:55	54.3	40.7	0.0	5.0	117.0	117.0	30	30	0.00	0.00	-27.34

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-047R	5/19/2015 13:57	54.2	39.7	0.0	6.1	117.0	117.0			-0.10	-0.10	-28.05
GEW-047R	5/27/2015 9:12	38.3	37.0	0.0	24.7	115.0	115.0	20	17	-0.80	-0.80	-28.46
GEW-047R	5/27/2015 9:15	40.5	37.6	0.2	21.7	115.0	115.0			-0.50	-0.50	-28.54
GEW-048	5/4/2015 13:01	54.7	39.1	0.0	6.2	106.1		19	19	-0.21	-0.19	-26.94
GEW-048	5/12/2015 14:36	56.0	38.3	0.0	5.7	104.9		0	0	-0.25	-0.27	-25.53
GEW-048	5/12/2015 14:41	56.7	38.6	0.0	4.7	105.0		0	0	-0.25	-0.27	-27.67
GEW-048	5/19/2015 14:05	58.3	40.8	0.0	0.9	106.0	106.0	13	9	0.00	0.00	-24.86
GEW-048	5/19/2015 14:06	57.9	40.6	0.0	1.5	106.0	106.0			-0.10	-0.10	-25.13
GEW-048	5/27/2015 9:21	55.8	40.5	0.0	3.7	106.0	106.0	17	17	-0.60	-0.60	-28.00
GEW-049	5/4/2015 13:11	49.1	36.7	0.0	14.2	109.2		10	10	-0.10	-0.11	-25.47
GEW-049	5/4/2015 13:13	49.1	37.1	0.0	13.8	108.6		0	0	-0.09	-0.07	-28.04
GEW-049	5/12/2015 15:30	53.7	37.8	0.0	8.5	108.2		0	0	-0.01	-0.01	-28.10
GEW-049	5/12/2015 15:34	54.5	37.1	0.0	8.4	108.1		0	0	-0.02	-0.03	-27.73
GEW-049	5/19/2015 14:09	58.5	40.7	0.0	0.8	110.0	110.0	3	1	0.00	0.00	-24.21
GEW-049	5/19/2015 14:11	58.7	40.7	0.0	0.6	110.0	110.0	16	14	-0.10	-0.10	-26.40
GEW-049	5/27/2015 9:45	39.0	34.9	0.4	25.7	106.0	106.0	17	18	-1.00	-1.00	-28.55
GEW-049	5/27/2015 9:46	40.9	34.3	0.4	24.4	106.0	106.0			-0.70	-0.80	-28.30
GEW-050	5/4/2015 13:58	54.6	40.8	0.0	4.6	109.3		15	14	-0.36	-0.38	-20.95
GEW-050	5/4/2015 14:00	54.6	40.4	0.0	5.0	109.1		14	14	-0.21	-0.20	-20.65
GEW-050	5/12/2015 15:00	57.3	39.4	0.0	3.3	108.0		12	11	-0.23	-0.15	-22.66
GEW-050	5/12/2015 15:05	57.7	36.9	0.0	5.4	108.3		18	18	-0.19	-0.19	-27.00
GEW-050	5/20/2015 7:24	58.1	41.8	0.0	0.1	107.0	107.0	17	15	-0.20	-0.20	-22.55
GEW-050	5/27/2015 9:27	57.6	39.9	0.0	2.5	108.0	108.0	16	16	-0.50	-0.50	-24.01
GEW-051	5/4/2015 13:18	54.4	41.2	0.0	4.4	124.0		7	15	-0.25	-0.26	-26.27
GEW-051	5/4/2015 13:21	54.7	41.2	0.0	4.1	123.7		13	14	-0.25	-0.26	-26.45
GEW-051	5/12/2015 15:49	55.3	39.4	0.0	5.3	122.8		15	3	-0.08	-0.06	-29.44
GEW-051	5/12/2015 15:58	55.4	41.1	0.0	3.5	122.8		13	13	-0.06	-0.05	-27.55
GEW-051	5/19/2015 14:14	57.2	41.6	0.0	1.2	125.0	125.0			0.10	0.10	-27.48
GEW-051	5/19/2015 14:16	56.8	41.9	0.0	1.3	125.0	125.0			-0.10	-0.10	-27.24
GEW-051	5/27/2015 9:50	56.7	42.6	0.0	0.7	125.0	125.0	15	18	-1.40	-1.40	-26.78
GEW-051	5/27/2015 9:51	56.4	42.6	0.0	1.0	125.0	125.0	15	13	-1.10	-1.10	-28.04
GEW-052	5/4/2015 14:03	49.7	38.7	0.0	11.6	113.5		32	33	-0.18	-0.18	-26.51
GEW-052	5/4/2015 14:05	49.8	38.4	0.0	11.8	113.3		12	12	-0.13	-0.13	-26.76
GEW-052	5/12/2015 15:14	53.3	38.0	0.0	8.7	113.8		13	11	-0.04	-0.01	-27.67
GEW-052	5/12/2015 15:18	53.9	34.9	0.0	11.2	113.8		0	0	-0.05	-0.05	-27.12
GEW-052	5/20/2015 7:29	55.3	40.9	0.0	3.8	114.0	114.0	31	31	-0.10	-0.10	-27.35
GEW-052	5/27/2015 9:30	53.9	38.6	0.0	7.5	114.0	114.0	9	8	-0.30	-0.30	-27.61
GEW-052	5/27/2015 9:32	53.7	39.5	0.0	6.8	113.0	113.0	8	8	-0.30	-0.30	-27.70

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-053	5/4/2015 13:28	49.0	42.2	0.0	8.8	137.3		10	9	0.04	0.04	-26.15
GEW-053	5/4/2015 13:31	49.1	42.8	0.0	8.1	139.7		14	12	-0.04	-0.04	-26.76
GEW-053	5/13/2015 8:41	52.0	40.8	0.0	7.2	137.3		15	6	-0.59	-0.57	-28.22
GEW-053	5/13/2015 8:47	51.0	41.2	0.0	7.8	137.0		30	30	-0.61	-0.60	-27.73
GEW-053	5/20/2015 7:06	51.3	45.9	0.0	2.8	138.0	138.0	14	14	-0.10	-0.10	-27.08
GEW-053	5/20/2015 7:07	51.7	45.6	0.0	2.7	138.0	138.0	15	15	-0.10	-0.10	-27.21
GEW-053	5/27/2015 9:57	51.2	43.7	0.0	5.1	135.0	135.0	16	12	-0.70	-0.70	-27.57
GEW-053	5/27/2015 9:58	51.4	43.2	0.0	5.4	135.0	135.0	13	13	-0.70	-0.60	-27.12
GEW-054	5/4/2015 13:35	51.8	42.4	0.0	5.8	142.9		7	20	-0.02	-0.06	-23.58
GEW-054	5/4/2015 13:36	51.7	42.3	0.0	6.0	143.3		17	20	-0.03	-0.04	-28.28
GEW-054	5/13/2015 8:51	52.1	41.4	0.0	6.5	148.1		14	14	-0.16	-0.13	-29.02
GEW-054	5/13/2015 8:57	52.1	41.1	0.0	6.8	147.4		13	12	-0.06	-0.08	-26.82
GEW-054	5/20/2015 7:11	53.7	45.4	0.0	0.9	150.0	150.0	15	15	0.20	0.30	-26.10
GEW-054	5/20/2015 7:13	53.4	45.2	0.0	1.4	150.0	150.0	24	22	-0.40	-0.50	-25.79
GEW-054	5/27/2015 10:01	51.9	44.3	0.0	3.8	148.0	148.0	27	25	-1.00	-1.10	-28.67
GEW-054	5/27/2015 10:02	52.2	44.1	0.0	3.7	148.0	148.0	26	25	-1.10	-1.00	-28.68
GEW-055	5/4/2015 13:50	52.5	42.1	0.0	5.4	125.7		26	28	-0.63	-0.61	-27.18
GEW-055	5/4/2015 13:52	52.6	42.3	0.0	5.1	125.5		12	11	-0.56	-0.59	-27.18
GEW-055	5/13/2015 9:02	53.7	41.6	0.0	4.7	124.5		32	34	-0.87	-0.87	-28.65
GEW-055	5/13/2015 9:07	54.1	41.1	0.0	4.8	124.3		12	10	-0.89	-0.88	-28.47
GEW-055	5/20/2015 7:15	54.8	45.1	0.0	0.1	126.0	126.0	35	33	-0.50	-0.50	-27.45
GEW-055	5/27/2015 10:05	53.7	44.4	0.0	1.9	127.0	127.0	8	11	-0.80	-0.80	-28.93
GEW-056R	5/7/2015 14:01	13.1	52.3	0.0	34.6	170.2				-0.63	-0.64	-18.63
GEW-056R	5/7/2015 14:07	11.7	49.7	0.0	38.6	170.7				-0.61	-0.60	-19.06
GEW-056R	5/15/2015 12:43	7.4	64.3	0.0	28.3	175.0	175.0	27	25	-0.10	-0.10	-13.89
GEW-056R	5/20/2015 7:57	17.7	57.1	0.0	25.2	168.0	168.0	51	50	-0.90	-0.80	-14.96
GEW-056R	5/28/2015 8:41	17.2	51.2	0.0	31.6	168.0	168.0	65	65	-1.00	-1.00	-21.01
GEW-057B	5/12/2015 15:11	0.4	61.7	0.0	37.9	178.9				-17.77	-18.19	-17.80
GEW-057B	5/12/2015 15:13	0.5	62.5	0.0	37.0	179.3				-18.68	-17.89	-18.29
GEW-057R	5/12/2015 14:56	0.6	59.8	0.2	39.4	186.3				-17.95	-17.70	-18.17
GEW-057R	5/12/2015 15:05	0.5	59.5	0.2	39.8	186.3				-17.40	-17.64	-18.29
GEW-058	5/8/2015 9:22	1.4	56.9	0.2	41.5	191.9				-18.48	-18.48	-21.01
GEW-058	5/8/2015 9:33	1.5	55.5	0.3	42.7	191.9				-17.07	-18.48	-20.59
GEW-058A	5/8/2015 9:51	0.7	47.8	2.7	48.8	187.9				-17.50	-18.05	-20.53
GEW-058A	5/8/2015 9:59	0.6	48.6	4.2	46.6	187.7				-18.35	-18.60	-21.08
GEW-059R	5/8/2015 9:07	2.2	54.9	0.1	42.8	183.5				-22.74	-22.74	-23.21
GEW-059R	5/8/2015 9:15	1.9	52.8	0.0	45.3	184.1				-19.45	-19.45	-23.03
GEW-061B	5/21/2015 16:25	0.0	1.8	21.2	77.0	77.3				-19.60	-19.29	-19.69

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-061B	5/21/2015 16:27	0.0	0.7	21.3	78.0	78.9				-18.80	-18.86	-18.96
GEW-065A	5/12/2015 15:26	0.5	63.3	0.0	36.2	196.0				-10.07	-11.60	-15.78
GEW-065A	5/12/2015 15:38	0.9	62.0	0.1	37.0	196.0				-10.38	-12.88	-16.02
GEW-066	5/21/2015 9:46	1.3	57.4	0.0	41.3	192.0	192.0	227	226	-18.90	-18.30	-18.45
GEW-066	5/21/2015 9:46	1.2	58.0	0.0	40.8	192.0	192.0	222	224	-18.10	-18.80	-18.77
GEW-066	5/21/2015 16:35	1.2	40.3	0.2	58.3	189.6				-17.28	-17.09	-19.08
GEW-066	5/21/2015 16:35	1.3	51.7	0.0	47.0	190.6				-17.95	-17.64	-19.51
GEW-067A	5/21/2015 8:56	1.0	66.3	0.0	32.7	194.0	194.0	204	201	-15.60	-15.40	-15.87
GEW-067A	5/21/2015 8:56	1.0	66.7	0.0	32.3	194.0	194.0	198	224	-14.60	-15.80	-16.28
GEW-067A	5/21/2015 16:39	1.1	61.4	0.0	37.5	194.2				-17.95	-18.38	-18.53
GEW-067A	5/21/2015 16:39	1.1	61.2	0.0	37.7	194.2				-18.19	-18.25	-18.17
GEW-069R	5/21/2015 16:00	9.0	33.9	4.3	52.8	102.1				-15.38	-14.96	-15.41
GEW-070R	5/13/2015 9:35	8.0	36.4	4.3	51.3	83.8				-21.18	-19.54	-20.43
GEW-070R	5/13/2015 9:36	8.4	37.9	3.7	50.0	85.1				-22.89	-19.41	-21.90
GEW-071	5/13/2015 9:22	0.5	55.9	0.0	43.6	196.5				4.78	4.56	0.86
GEW-071	5/13/2015 9:30	0.4	58.3	0.0	41.3	196.4				4.01	4.50	0.31
GEW-075	5/13/2015 9:41	2.8	55.1	0.3	41.8	72.9				-0.12	-0.12	-18.96
GEW-075	5/13/2015 9:43	3.0	55.9	0.3	40.8	72.9				-0.13	-0.13	-16.82
GEW-077	5/13/2015 10:06	0.0	0.5	22.3	77.2	72.8				-0.05	-0.01	-14.56
GEW-077	5/13/2015 10:08	0.0	0.4	22.2	77.4	73.6				-13.13	-13.13	-13.58
GEW-080	5/13/2015 10:14	0.5	63.9	0.0	35.6	197.8				-0.37	-0.20	-1.10
GEW-080	5/13/2015 10:23	0.6	57.6	0.0	41.8	197.8				-0.85	-0.28	-0.67
GEW-081	5/13/2015 10:33	0.8	64.4	0.0	34.8	198.0				4.27	3.62	5.20
GEW-081	5/13/2015 10:44	1.6	63.1	0.0	35.3	198.4				4.42	4.04	5.08
GEW-082R	5/13/2015 11:03	2.2	57.3	0.0	40.5	192.5				-12.70	-12.64	-15.72
GEW-082R	5/13/2015 11:10	3.4	54.8	0.0	41.8	192.5				-12.70	-12.64	-15.72
GEW-083	5/12/2015 15:18	2.2	64.4	0.0	33.4	87.8				2.08	2.07	-8.26
GEW-083	5/12/2015 15:21	2.5	62.7	0.0	34.8	92.7				1.69	1.69	-9.05
GEW-084	5/13/2015 9:12	2.6	63.1	0.0	34.3	83.2				2.64	2.59	0.18
GEW-084	5/13/2015 9:15	2.9	66.4	0.0	30.7	85.5				0.94	0.99	1.35
GEW-085	5/13/2015 15:37	0.3	0.3	21.1	78.3	96.9				-18.44	-18.44	-18.29
GEW-085	5/13/2015 15:38	0.3	0.2	21.1	78.4	97.1				-18.74	-18.93	-18.78
GEW-086	5/13/2015 9:06	0.3	51.1	3.9	44.7	72.2				-19.96	-20.02	-0.12
GEW-086	5/13/2015 9:09	0.5	54.9	2.0	42.6	73.3				-19.54	-19.54	-19.69
GEW-089	5/21/2015 9:49	0.1	20.4	15.6	63.9	60.0	60.0	281	278	-19.70	-19.00	-19.23
GEW-089	5/21/2015 9:49	0.0	17.4	17.7	64.9	60.0	60.0	282	279	-21.40	-19.70	-19.14
GEW-089	5/21/2015 16:30	0.0	0.3	21.4	78.3	74.6				-17.83	-17.83	-19.45
GEW-089	5/21/2015 16:31	0.0	0.1	21.5	78.4	77.6				-7.63	-7.57	-19.02

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-090	5/13/2015 15:43	10.5	54.1	0.0	35.4	192.3				-12.88	-12.33	-12.84
GEW-090	5/13/2015 15:52	11.2	55.8	0.0	33.0	192.5				-8.91	-9.40	-9.17
GEW-101	5/13/2015 15:04	2.5	51.7	4.2	41.6	92.1				-18.90	-19.02	-18.69
GEW-101	5/13/2015 15:07	1.6	60.8	1.0	36.6	88.1				-17.20	-17.44	-19.55
GEW-103	5/13/2015 14:34	1.8	52.6	0.0	45.6	84.5				4.97	5.43	5.38
GEW-103	5/13/2015 14:34	2.3	52.3	0.0	45.4	84.5				4.44	4.59	5.25
GEW-104	5/8/2015 10:26	0.8	50.5	3.9	44.8	105.6				-19.51	-19.63	-19.36
GEW-105	5/13/2015 14:20	9.0	44.7	7.2	39.1	82.3				-5.30	-5.37	-22.11
GEW-105	5/13/2015 14:22	10.7	48.9	4.6	35.8	83.2				-9.45	-9.63	-20.89
GEW-107	5/13/2015 14:00	0.3	50.8	2.7	46.2	144.7				-22.38	-22.44	-22.60
GEW-107	5/13/2015 14:06	0.3	50.9	2.2	46.6	147.0				-22.93	-22.93	-23.03
GEW-109	5/7/2015 11:11	3.5	56.6	0.0	39.9	178.5				-22.99	-23.11	-23.27
GEW-109	5/7/2015 11:19	2.9	56.3	0.0	40.8	177.2				-23.48	-23.23	-25.66
GEW-109	5/15/2015 12:48	4.0	65.7	0.5	29.8	146.0	146.0	261	272	-24.70	-24.90	-24.69
GEW-109	5/20/2015 8:02	3.4	65.7	0.0	30.9	154.0	154.0	259	258	-24.30	-24.00	-23.88
GEW-109	5/28/2015 8:32	2.7	63.1	0.2	34.0	178.0	178.0	260	262	-24.50	-24.70	-24.79
GEW-110	5/7/2015 14:26	11.7	34.9	4.3	49.1	169.7				-16.59	-16.71	-21.99
GEW-110	5/7/2015 14:33	12.1	32.0	4.5	51.4	169.3				-17.13	-16.71	-22.17
GEW-110	5/15/2015 12:41	12.7	36.3	4.0	47.0	166.0	166.0	207	206	-14.10	-14.00	-19.17
GEW-110	5/20/2015 7:52	19.4	36.5	4.0	40.1	165.0	165.0	229	226	-15.60	-15.40	-20.32
GEW-110	5/28/2015 8:39	12.4	35.1	3.6	48.9	170.0	170.0	255	254	-19.70	-19.50	-19.46
GEW-116	5/13/2015 13:28	2.0	16.7	14.7	66.6	87.0				-13.80	-14.71	-13.33
GEW-116	5/13/2015 13:29	2.5	18.5	13.4	65.6	87.4				-14.59	-14.77	-14.37
GEW-117	5/21/2015 15:54	24.4	45.6	4.1	25.9	109.2				-3.92	-5.68	-5.32
GEW-120	5/15/2015 8:02	1.4	61.5	0.0	37.1	194.8				13.74	13.80	14.01
GEW-120	5/15/2015 8:04	1.4	64.6	0.0	34.0	194.8				13.31	13.31	13.94
GEW-121	5/15/2015 8:08	2.3	62.4	0.0	35.3	194.8				-3.86	-3.91	-4.10
GEW-121	5/15/2015 8:09	2.7	64.3	0.0	33.0	194.8				-4.25	-4.24	-4.10
GEW-122	5/15/2015 8:14	5.2	60.8	0.0	34.0	194.8				-3.63	-3.83	-3.61
GEW-122	5/15/2015 8:15	5.5	61.0	0.0	33.5	194.8				-3.52	-3.25	-3.49
GEW-123	5/15/2015 8:20	8.5	62.2	0.0	29.3	190.2				-1.91	-1.68	-2.02
GEW-123	5/15/2015 8:21	9.0	63.5	0.0	27.5	190.2				-2.21	-2.25	-2.14
GEW-125	5/15/2015 8:27	2.9	65.7	0.0	31.4	188.5				1.42	1.42	0.92
GEW-125	5/15/2015 8:29	2.9	66.9	0.0	30.2	188.5				1.96	1.87	1.28
GEW-125	5/29/2015 11:05	2.9	62.9	0.0	34.2	190.9				-2.30	-2.17	-2.57
GEW-125	5/29/2015 11:06	2.9	62.5	0.0	34.6	190.9				-2.42	-2.33	-2.93
GEW-126	5/15/2015 8:33	0.2	58.4	1.6	39.8	193.7				-13.61	-13.13	-14.37
GEW-126	5/15/2015 8:38	0.2	60.3	0.5	39.0	194.2				-8.06	-7.81	-13.39

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-127	5/15/2015 8:43	1.1	62.9	0.0	36.0	186.3				-6.47	-7.14	-7.03
GEW-127	5/15/2015 8:45	1.2	65.8	0.0	33.0	186.3				-6.84	-6.65	-7.09
GEW-128	5/15/2015 8:50	1.8	66.7	0.0	31.5	182.4				-8.30	-8.61	-8.50
GEW-128	5/15/2015 8:51	1.9	66.0	0.0	32.1	182.3				-3.71	-5.86	-3.18
GEW-129	5/15/2015 8:54	3.2	60.8	0.0	36.0	164.1				-4.28	-5.37	-5.08
GEW-129	5/15/2015 8:55	3.2	61.5	0.0	35.3	164.1				-6.35	-6.72	-6.24
GEW-131	5/15/2015 9:07	14.5	57.4	0.0	28.1	174.6				-7.81	-7.81	-12.48
GEW-131	5/15/2015 9:08	15.6	56.4	0.0	28.0	175.2				-10.20	-10.20	-9.97
GEW-132	5/15/2015 9:16	13.1	58.7	0.0	28.2	188.5				-4.76	-5.13	-5.08
GEW-132	5/15/2015 9:17	14.0	59.0	0.0	27.0	188.5				-5.62	-5.01	-5.87
GEW-133	5/15/2015 9:20	1.1	62.6	0.0	36.3	195.3				-4.96	-6.65	-5.63
GEW-133	5/15/2015 9:21	1.4	63.4	0.0	35.2	194.8				-3.19	-4.19	-2.57
GEW-134	5/15/2015 8:58	0.7	60.6	0.0	38.7	86.7				24.88	24.88	-11.24
GEW-134	5/15/2015 8:59	0.7	61.5	0.0	37.8	113.4				-11.16	-12.13	-12.03
GEW-134	5/15/2015 9:24	15.1	59.4	0.0	25.5	182.4				-13.49	-13.19	-13.88
GEW-134	5/15/2015 9:25	15.0	60.1	0.0	24.9	182.8				-15.08	-14.59	-14.92
GEW-135	5/15/2015 9:28	7.0	60.3	0.0	32.7	191.6				-13.74	-13.61	-16.39
GEW-135	5/15/2015 9:29	7.0	61.5	0.0	31.5	191.4				-15.75	-17.03	-15.90
GEW-136	5/1/2015 9:06	1.4	59.9	0.0	38.7	68.2				0.26	0.26	-14.36
GEW-136	5/1/2015 9:18	3.0	58.4	0.0	38.6	185.2				-2.22	-2.28	-15.46
GEW-136	5/15/2015 9:33	0.7	63.4	0.0	35.9	196.6				-6.72	-6.84	-16.82
GEW-136	5/15/2015 9:34	2.0	61.7	0.0	36.3	197.2				-12.21	-12.39	-14.86
GEW-137	5/15/2015 9:38	12.6	32.8	4.6	50.0	136.0				-10.68	-10.44	-10.46
GEW-137	5/15/2015 9:39	12.8	32.2	4.5	50.5	138.0				-12.15	-11.48	-12.17
GEW-138	5/15/2015 9:43	12.7	42.3	1.6	43.4	177.2				-3.64	-3.49	-10.95
GEW-138	5/15/2015 9:44	12.3	43.1	1.5	43.1	178.2				-0.78	-0.85	-10.28
GEW-139	5/15/2015 9:48	1.3	61.6	0.1	37.0	193.1				-5.74	-5.80	-11.31
GEW-139	5/15/2015 9:50	1.5	62.9	0.1	35.5	193.1				-5.56	-5.56	-10.15
GEW-140	5/15/2015 10:21	15.4	56.7	0.1	27.8	187.4				-4.88	-4.82	21.35
GEW-140	5/15/2015 10:23	16.6	58.2	0.0	25.2	187.4				-4.63	-4.70	18.90
GEW-141	5/15/2015 10:29	9.8	56.4	3.0	30.8	110.2				-45.54	-31.75	-3.61
GEW-141	5/15/2015 10:32	12.2	65.5	0.2	22.1	111.3				-35.59	-35.59	-12.72
GEW-141	5/29/2015 11:18	6.6	62.9	0.2	30.3	127.8				-15.49	-15.73	-15.21
GEW-142	5/15/2015 10:35	1.9	60.3	0.0	37.8	191.6				-19.96	-19.96	-5.08
GEW-142	5/15/2015 10:36	1.9	60.3	0.0	37.8	191.5				-23.38	-22.89	-4.83
GEW-142	5/29/2015 11:27	0.1	57.5	0.2	42.2	186.4				-11.65	-11.28	-11.36
GEW-142	5/29/2015 11:28	0.2	58.6	0.1	41.1	186.4				-11.65	-11.59	-11.06
GEW-143	5/15/2015 10:39	1.9	58.7	0.0	39.4	193.1				-30.46	-30.46	-16.64

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-143	5/15/2015 10:40	2.2	58.2	0.0	39.6	192.6				-31.68	-31.20	-18.53
GEW-143	5/29/2015 11:36	0.2	56.7	0.0	43.1	195.0				-13.35	-12.87	-13.26
GEW-143	5/29/2015 11:38	0.2	55.7	0.0	44.1	194.3				-12.26	-11.83	-11.85
GEW-144	5/15/2015 10:57	2.3	50.4	4.2	43.1	106.1				-36.08	-35.90	-11.93
GEW-144	5/15/2015 10:58	2.8	54.7	2.8	39.7	107.4				-39.68	-39.50	-15.35
GEW-144	5/29/2015 11:45	5.1	56.5	2.4	36.0	142.5				-15.85	-14.09	-15.09
GEW-144	5/29/2015 11:52	5.7	56.2	2.2	35.9	143.9				-10.67	-10.24	-15.70
GEW-145	5/1/2015 9:41	0.4	50.1	4.1	45.4	100.8				-12.62	-12.07	-14.60
GEW-145	5/1/2015 9:47	0.5	48.2	5.4	45.9	100.2				-10.55	-14.63	-12.65
GEW-145	5/15/2015 11:06	1.7	56.9	2.1	39.3	110.4				-0.32	-0.17	-0.06
GEW-146	5/1/2015 9:26	5.7	24.3	12.5	57.5	93.8				-13.17	-12.93	-14.05
GEW-146	5/1/2015 9:36	5.8	20.3	12.8	61.1	92.5				-0.22	-0.19	-16.25
GEW-146	5/15/2015 11:12	1.5	58.0	0.0	40.5	93.2				-0.27	0.20	-11.99
GEW-146	5/15/2015 11:13	1.6	59.8	0.0	38.6	93.2				-0.75	-0.81	-15.47
GEW-146	5/29/2015 14:15	0.0	0.0	22.3	77.7	103.8				-0.05	-0.04	-14.91
GEW-146	5/29/2015 14:21	6.5	22.5	9.8	61.2	136.1				-12.87	-12.87	-13.62
GEW-147	5/15/2015 11:17	3.6	60.7	0.0	35.7	194.2				-8.36	-8.73	-8.50
GEW-147	5/15/2015 11:17	3.7	60.3	0.0	36.0	194.8				-15.20	-13.13	-15.84
GEW-148	5/15/2015 11:22	1.4	61.5	0.0	37.1	191.9				0.99	0.55	0.86
GEW-148	5/15/2015 11:24	1.7	60.6	0.0	37.7	191.9				0.44	0.62	1.10
GEW-148	5/29/2015 11:57	1.5	57.5	0.0	41.0	194.4				-6.34	-4.55	-5.99
GEW-148	5/29/2015 11:58	1.4	58.4	0.0	40.2	194.5				-3.54	-7.99	-2.99
GEW-149	5/15/2015 11:30	9.7	33.7	7.7	48.9	146.9				-6.29	-6.41	-11.13
GEW-149	5/15/2015 11:31	9.9	32.8	7.7	49.6	149.3				-6.29	-6.29	-11.13
GEW-150	5/1/2015 10:03	3.8	59.8	0.0	36.4	191.8				11.71	11.77	11.91
GEW-150	5/1/2015 10:06	3.7	62.3	0.0	34.0	191.8				13.66	13.66	14.11
GEW-150	5/15/2015 13:27	10.6	59.0	2.8	27.6	171.2				-3.43	-3.51	-3.36
GEW-150	5/15/2015 13:29	10.5	61.0	2.7	25.8	170.7				-3.37	-3.39	-3.49
GEW-151	5/15/2015 13:34	9.4	52.5	3.2	34.9	166.9				-16.06	-16.54	-16.88
GEW-151	5/15/2015 13:36	9.3	52.9	3.1	34.7	166.9				-17.52	-16.12	-19.45
GEW-152	5/15/2015 13:40	4.5	51.7	2.4	41.4	186.8				-11.36	-11.66	-21.83
GEW-152	5/15/2015 13:43	3.2	55.3	0.7	40.8	188.5				-1.19	-1.14	-22.94
GEW-153	5/1/2015 9:53	0.8	15.1	16.2	67.9	75.7				-24.76	-24.70	-24.80
GEW-153	5/1/2015 9:59	1.4	14.7	15.2	68.7	77.8				-23.90	-23.48	-23.89
GEW-153	5/15/2015 13:49	0.0	2.0	21.3	76.7	93.4				-21.49	-22.41	-21.59
GEW-153	5/15/2015 13:50	0.0	0.7	21.4	77.9	94.2				-21.92	-21.73	-21.96
GEW-153	5/29/2015 14:38	32.0	49.0	0.0	19.0	94.1				-27.01	-27.50	-27.00
GEW-153	5/29/2015 14:41	31.6	49.0	0.0	19.4	95.3				-27.44	-27.07	-27.43

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GEW-154	5/15/2015 13:54	1.3	67.5	0.0	31.2	200.2				-0.46	-0.51	12.23
GEW-154	5/15/2015 13:58	1.4	67.0	0.0	31.6	199.0				1.42	1.37	13.58
GEW-155	5/21/2015 13:40	6.6	33.3	5.7	54.4	147.4				-10.07	-10.50	-10.76
GEW-155	5/21/2015 13:42	6.6	33.7	5.8	53.9	150.7				-4.88	-5.19	-13.88
GEW-156	5/15/2015 14:16	12.7	44.4	4.7	38.2	168.8				-0.48	-0.50	-18.04
GEW-156	5/15/2015 14:17	12.5	44.3	4.7	38.5	160.5				-0.16	-0.18	-15.29
GIW-01	5/6/2015 14:37	5.4	64.6	0.0	30.0	191.9		31	38	-4.08	-4.86	-13.26
GIW-01	5/6/2015 14:46	4.5	62.4	0.0	33.1	191.9		20	40	-4.95	-4.75	-11.24
GIW-01	5/14/2015 13:13	5.8	75.2	0.0	19.0	193.0	193.0	8	22	-4.30	-4.60	-18.62
GIW-01	5/18/2015 10:25	5.8	74.1	0.0	20.1	195.0	195.0	37	42	-1.10	-1.30	-18.31
GIW-01	5/18/2015 10:26	5.8	72.6	0.0	21.6	195.0	195.0	32	37	-1.30	-2.50	-17.81
GIW-01	5/29/2015 10:30	6.2	57.9	0.0	35.9	192.9		41	24	-6.77	-6.71	-22.60
GIW-01	5/29/2015 10:32	6.7	61.6	0.0	31.7	192.4		55	42	-4.19	-4.33	-22.30
GIW-02	5/6/2015 11:36	16.8	42.8	2.9	37.5	92.5		29	60	-3.49	-3.01	-23.15
GIW-02	5/6/2015 11:47	17.5	42.5	2.9	37.1	92.3		49	29	-3.02	-2.22	-22.97
GIW-02	5/14/2015 13:05	10.6	45.9	3.7	39.8	75.0	75.0		7	-2.80	-2.10	-20.67
GIW-02	5/14/2015 13:07	10.8	45.4	3.6	40.2	75.0	75.0			-1.50	2.10	-21.05
GIW-02	5/18/2015 9:36	12.1	45.4	3.9	38.6	91.0	91.0	17	16	-1.00	-0.90	-18.29
GIW-02	5/18/2015 9:37	12.0	44.6	3.8	39.6	91.0	91.0	17	17	-0.30	-0.30	-17.95
GIW-02	5/29/2015 9:23	8.7	48.1	3.4	39.8	84.5		11	10	-0.55	-0.55	-21.56
GIW-03	5/6/2015 10:59	1.4	54.4	3.2	41.0	90.5		10	10	-0.42	-0.42	-23.09
GIW-03	5/6/2015 11:07	1.4	50.6	2.7	45.3	90.3		21	10	-0.49	-0.38	-23.21
GIW-03	5/14/2015 12:46	0.6	68.9	0.0	30.5	73.0	73.0	11	5	0.00	0.00	-19.81
GIW-03	5/14/2015 12:48	0.6	67.7	1.1	30.6	73.0	73.0	18	14	-0.70	-0.90	-20.43
GIW-03	5/18/2015 9:47	0.5	50.3	5.9	43.3	86.0	86.0			-1.20	-1.40	-18.65
GIW-03	5/18/2015 9:48	0.5	60.6	2.9	36.0	86.0	86.0	10	20	-0.20	0.00	-18.39
GIW-03	5/29/2015 9:41	0.6	48.1	5.4	45.9	87.5		9	4	-0.49	-0.73	-19.61
GIW-03	5/29/2015 9:43	0.4	48.6	4.9	46.1	88.1		9	14	-0.74	-0.69	-21.14
GIW-04	5/6/2015 10:43	1.1	57.3	0.0	41.6	87.8		9	10	-2.41	-2.41	-22.60
GIW-04	5/6/2015 10:54	1.3	56.7	0.0	42.0	88.2		7	7	-4.88	-4.82	-22.66
GIW-04	5/14/2015 10:28	0.4	62.6	1.2	35.8	62.0	62.0			-10.40	-0.10	-22.54
GIW-04	5/14/2015 10:32	0.4	60.8	1.7	37.1	62.0	62.0			-7.20	-7.30	-19.35
GIW-04	5/18/2015 9:51	0.6	63.0	0.0	36.4	86.0	86.0	9	8	1.90	2.00	-18.79
GIW-04	5/18/2015 9:53	0.6	64.5	0.0	34.9	86.0	86.0	7	7	-0.10	-0.60	-18.81
GIW-04	5/29/2015 9:50	0.5	50.9	3.0	45.6	84.8		9	9	-15.43	-15.49	-17.23
GIW-04	5/29/2015 9:51	0.6	49.2	2.8	47.4	85.3		10	10	-12.38	-12.38	-21.56
GIW-05	5/6/2015 13:57	2.5	59.2	0.0	38.3	93.4		0	5	-5.30	-5.24	-22.97
GIW-05	5/6/2015 14:09	3.2	61.3	0.0	35.5	92.7		6	8	-5.79	-5.79	-22.48

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Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GIW-05	5/14/2015 8:24	2.5	65.8	0.1	31.6	59.0	59.0	8	3	-8.20	-8.00	-19.63
GIW-05	5/14/2015 8:29	2.6	66.1	0.3	31.0	59.0	59.0	6	11	-6.30	-6.00	-19.34
GIW-05	5/18/2015 10:16	3.5	66.5	0.0	30.0	87.0	87.0	18	16	3.20	3.40	-19.33
GIW-05	5/18/2015 10:18	3.5	67.1	0.0	29.4	86.0	86.0	17	22	-1.90	-0.70	-18.12
GIW-05	5/29/2015 10:20	3.5	54.2	1.2	41.1	88.4		16	27	-14.09	-14.09	-21.08
GIW-05	5/29/2015 10:22	3.3	54.3	0.9	41.5	89.3		0	11	-13.72	-13.90	-21.56
GIW-06	5/6/2015 8:54	1.1	62.8	0.0	36.1	85.3		9	8	31.16	31.04	-23.64
GIW-06	5/6/2015 9:05	1.0	57.9	0.0	41.1	86.8		2	1	-0.14	-0.15	-23.70
GIW-06	5/14/2015 9:45	0.9	71.9	0.0	27.2	61.0	61.0			26.90	28.70	-19.52
GIW-06	5/14/2015 9:49	0.8	72.8	0.0	26.4	61.0	61.0	8		-18.90	-18.60	-19.48
GIW-06	5/18/2015 10:01	1.1	70.9	0.0	28.0	86.0	86.0	12	10	-15.40	-15.30	-17.08
GIW-06	5/18/2015 10:03	1.0	71.0	0.0	28.0	86.0	86.0	13	12	-5.30	-4.80	-19.29
GIW-06	5/28/2015 21:09	0.9	62.6	0.0	36.5	83.3		15	15	25.12	25.18	-21.38
GIW-06	5/28/2015 21:15	0.8	62.4	0.0	36.8	86.4		0	10	-19.21	-19.39	-21.50
GIW-07	5/6/2015 9:10	29.2	56.0	0.0	14.8	85.5		8	9	-0.18	-0.18	-0.12
GIW-07	5/6/2015 9:18	28.8	55.2	0.0	16.0	88.0		8	10	-0.18	-0.19	-0.12
GIW-07	5/14/2015 9:56	32.5	64.3	0.0	3.2	61.0	61.0			-0.20	-0.20	-0.24
GIW-07	5/18/2015 10:06	31.6	64.0	0.0	4.4	86.0	86.0	15	14	0.00	0.00	-0.01
GIW-07	5/28/2015 21:22	26.4	57.0	0.0	16.6	84.7		8	8	-0.10	-0.10	0.31
GIW-08	5/6/2015 9:23	23.3	60.6	0.0	16.1	106.7		9	5	-4.27	-4.28	-12.83
GIW-08	5/6/2015 9:31	23.1	59.2	0.0	17.7	106.7		7	10	-4.20	-4.21	-12.89
GIW-08	5/14/2015 10:02	24.5	72.2	0.0	3.3	86.0	86.0		7	-5.50	-5.40	-14.80
GIW-08	5/18/2015 10:10	25.9	70.5	0.0	3.6	113.0	113.0	14	14	-7.70	-7.60	-17.53
GIW-08	5/28/2015 11:22	22.0	60.2	0.1	17.7	115.1		15	16	-3.81	-3.83	-13.68
GIW-09	5/1/2015 10:20	1.0	66.9	0.0	32.1	193.7		0	17	-7.26	-6.77	-13.32
GIW-09	5/6/2015 9:35	1.0	64.8	0.0	34.2	190.2		14	20	-11.77	-10.79	-13.01
GIW-09	5/6/2015 9:42	0.9	59.7	0.0	39.4	189.1		0	0	-12.56	-12.56	-13.38
GIW-09	5/6/2015 9:46	0.8	64.0	0.0	35.2	189.1		0	0	-10.55	-11.04	-13.19
GIW-09	5/14/2015 10:08	0.6	79.0	0.0	20.4	189.0	189.0		3	-13.40	-13.40	-14.67
GIW-09	5/14/2015 10:11	0.6	78.6	0.0	20.8	187.0	187.0	21		-12.80	-12.50	-13.80
GIW-09	5/18/2015 10:12	1.4	76.8	0.0	21.8	193.0	193.0		13	-14.90	-15.00	-16.72
GIW-09	5/18/2015 10:13	1.3	76.7	0.0	22.0	193.0	193.0	10	17	-12.60	-13.60	-17.57
GIW-09	5/28/2015 11:27	0.9	64.5	0.1	34.5	191.7		24	37	-10.00	-10.00	-15.15
GIW-09	5/28/2015 11:29	0.9	66.4	0.1	32.6	191.6		24	0	-4.52	-4.18	-14.11
GIW-10	5/6/2015 10:31	4.9	53.1	0.0	42.0	90.5		9	9	-4.36	-4.37	-22.17
GIW-10	5/6/2015 10:37	5.3	51.6	0.0	43.1	90.9		11	9	-4.46	-4.46	-22.60
GIW-10	5/14/2015 10:20	4.3	64.6	0.0	31.1	65.0	65.0			-5.30	-5.10	-22.63
GIW-10	5/18/2015 9:56	4.6	61.1	0.0	34.3	86.0	86.0	9	9	-3.90	-3.90	-18.05

May 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
GIW-10	5/29/2015 10:05	4.8	55.8	0.0	39.4	88.4		9	10	-5.73	-5.73	-21.56
GIW-10	5/29/2015 10:07	4.9	53.5	0.0	41.6	89.1		4	10	-4.96	-4.96	-22.05
GIW-11	5/6/2015 14:16	3.0	56.0	1.8	39.2	168.5		10	12	-2.70	-2.70	-23.95
GIW-11	5/6/2015 14:25	2.2	55.7	1.4	40.7	170.2		17	17	-2.82	-2.80	-24.31
GIW-11	5/14/2015 13:20	2.5	59.9	2.8	34.8	166.0	165.0	17	18	-2.90	-2.80	-20.36
GIW-11	5/14/2015 13:23	2.5	63.6	2.3	31.6	164.0	164.0	18	19	-2.30	-2.40	-20.31
GIW-11	5/18/2015 10:21	2.9	68.6	0.9	27.6	163.0	163.0	14	23	-16.50	-14.50	-17.89
GIW-11	5/18/2015 10:22	2.8	70.4	0.0	26.8	163.0	163.0	27	21	-2.10	-2.10	-18.69
GIW-11	5/29/2015 9:59	2.6	53.4	2.7	41.3	165.2		19	21	-4.57	-4.58	-21.56
GIW-11	5/29/2015 10:00	3.1	52.2	4.2	40.5	166.2		19	25	-4.95	-4.97	-21.20
GIW-12	5/6/2015 11:13	5.9	57.0	1.5	35.6	179.8		26	26	-0.41	-0.46	-21.20
GIW-12	5/6/2015 11:21	7.6	59.0	0.3	33.1	180.3		26	15	-0.23	-0.15	-21.38
GIW-12	5/14/2015 12:54	3.7	71.4	0.4	24.5	181.0	181.0	25	22	-0.20	-0.20	-18.24
GIW-12	5/18/2015 9:44	5.1	64.7	1.5	28.7	178.0	178.0	21	17	-0.30	-0.30	-17.47
GIW-12	5/29/2015 9:13	6.2	35.1	7.7	51.0	158.5		32	32	-1.04	-1.01	-21.62
GIW-12	5/29/2015 9:18	5.9	41.0	6.0	47.1	153.8		0	0	-0.51	-0.54	-22.11
GIW-13	5/6/2015 11:25	8.2	59.7	0.0	32.1	172.1		10	10	-4.67	-4.70	-14.78
GIW-13	5/6/2015 11:32	8.3	56.0	0.0	35.7	172.5		29	29	-4.71	-4.70	-15.03
GIW-13	5/14/2015 12:58	7.5	66.9	0.0	25.6	158.0	158.0	26	13	-6.10	-6.30	-10.12
GIW-13	5/14/2015 13:00	7.7	66.9	0.0	25.4	156.0	156.0	13	17	-5.30	-5.50	-11.48
GIW-13	5/18/2015 9:41	7.6	68.8	0.0	23.6	165.0	165.0	58	16	-4.10	-3.80	-10.39
GIW-13	5/29/2015 9:29	8.7	58.1	0.0	33.2	162.2		10	0	-6.59	-6.46	-14.23
GIW-13	5/29/2015 9:31	9.0	56.9	0.0	34.1	160.7		6	10	-4.66	-4.65	-14.78
LCS-5A	5/4/2015 13:25	57.6	39.9	0.0	2.5	94.2				-13.78	-12.32	-26.45
LCS-5A	5/12/2015 16:01	57.4	40.1	0.0	2.5	92.3				-18.23	-18.35	-27.18
LCS-5A	5/19/2015 14:18	57.4	42.5	0.0	0.1	93.0	93.0	330	339	-25.90	-26.20	-26.57
LCS-5A	5/27/2015 9:54	58.3	41.6	0.0	0.1	93.0	93.0	342	341	-27.20	-27.10	-26.89
LCS-6B	5/4/2015 11:42	53.4	40.5	0.4	5.7	90.3		7	5	-0.37	-0.37	-27.73
LCS-6B	5/4/2015 11:44	53.4	40.6	0.4	5.6	90.5		4	4	-0.07	-0.09	-27.18
LCS-6B	5/12/2015 14:10	57.0	40.3	0.0	2.7	75.7		9	9	0.25	0.27	-29.02
LCS-6B	5/12/2015 14:12	56.3	41.6	0.0	2.1	77.3		7	7	-0.67	-0.66	-28.41
LCS-6B	5/19/2015 13:53	56.9	43.0	0.0	0.1	79.0	79.0	3	3	-0.40	-0.40	-27.60
LCS-6B	5/27/2015 9:10	52.3	42.0	0.0	5.7	81.0	81.0	8	8	-1.00	-1.00	-28.85
PGW-60	5/4/2015 11:25	53.7	39.7	0.1	6.5	83.8		4	7	-16.71	-16.40	-23.09
PGW-60	5/4/2015 11:28	53.5	39.8	0.1	6.6	83.7		10	5	-12.93	-12.93	-22.97
PGW-60	5/19/2015 13:34	58.3	41.6	0.0	0.1	74.0	74.0	14	11	-16.60	-16.60	-25.57
PGW-60	5/27/2015 8:56	55.6	40.9	0.3	3.2	76.0	76.0	7		-14.80	-14.70	-26.17
SEW-002	5/26/2015 14:54	0.8	60.7	1.6	36.9	144.6				-8.23	-7.99	-7.15

May 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO <sub>2</sub>	O <sub>2</sub>	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H <sub>2</sub> O		
SEW-002	5/26/2015 14:55	1.0	62.7	1.4	34.9	143.2				-9.15	-9.15	-9.10
SEW-012A	5/21/2015 8:54	1.2	61.5	3.8	33.5	55.0	55.0	17	17	-0.10	-0.10	-16.89
SEW-012A	5/22/2015 12:19	1.5	53.8	4.8	39.9	85.7				-0.17	-0.19	-22.69
SEW-017R	5/22/2015 12:05	6.7	55.3	0.0	38.0	136.0				-0.68	-0.68	-0.67
SEW-017R	5/22/2015 12:06	7.1	58.4	0.0	34.5	135.9				-0.68	-0.68	-0.61
SEW-061R	5/22/2015 10:52	2.3	46.9	4.7	46.1	85.1				-17.52	-17.28	-17.68
SEW-062R	5/22/2015 10:29	1.4	22.6	14.3	61.7	79.3				-12.70	-12.70	-12.78
SEW-062R	5/22/2015 10:30	0.8	22.3	14.8	62.1	82.1				-12.70	-13.00	-12.78
SEW-063	5/21/2015 8:39	0.7	55.6	4.7	39.0	185.0	185.0	38	19	-0.40	-0.30	-3.55
SEW-063	5/21/2015 8:41	0.6	39.7	9.2	50.5	185.0	185.0	39	28	-0.30	-0.30	-2.33
SEW-064	5/22/2015 12:13	4.8	31.1	10.8	53.3	152.1				-12.15	-11.78	-12.97
SEW-064	5/22/2015 12:14	5.0	32.0	10.7	52.3	150.1				-10.68	-10.74	-11.44
SEW-067	5/21/2015 9:51	2.5	12.1	17.2	68.2	75.0	75.0	57	57	-0.80	-0.80	-20.01
SEW-067	5/21/2015 9:52	3.2	13.6	16.3	66.9	75.0	75.0	58	57	-0.90	-0.80	-19.88
SEW-067	5/22/2015 10:34	1.5	8.7	19.3	70.5	89.3				-0.64	-0.63	-12.78
SEW-067	5/22/2015 10:35	1.5	8.7	19.2	70.6	89.6				-0.62	-0.62	-12.66
SEW-072R	5/21/2015 9:42	3.0	15.6	12.2	69.2	66.0	66.0	255	234	-15.00	-13.60	-14.52
SEW-072R	5/21/2015 9:42	3.0	15.8	12.1	69.1	66.0	66.0	245	244	-14.60	-14.10	-14.55
SEW-074	5/22/2015 11:57	11.8	40.6	3.6	44.0	90.6				-2.40	-2.68	-5.57
SEW-079R	5/22/2015 12:01	2.3	8.4	17.7	71.6	88.2				-14.22	-13.31	-14.01
SEW-079R	5/22/2015 12:01	2.6	7.9	17.2	72.3	90.5				-16.54	-15.51	-16.33
T-56	5/12/2015 14:55	32.6	30.0	1.3	36.1	69.5		23	18	-0.14	-0.13	-28.96
T-56	5/20/2015 7:21	38.4	32.9	1.1	27.6	65.0	65.0	22	17	-0.10	-0.10	-26.90

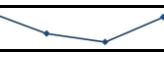
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**ATTACHMENT E-2**

**MAXIMUM WELLHEAD TEMPERATURE TABLE**

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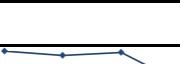
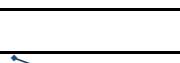
## Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend >30°F	Comments
	Feb 2015	Mar 2015	Apr 2015	May 2015		
GEW-002	120.5	124.0	123.0	124.0		
GEW-003	72.9	126.0	124.5	126.0		
GEW-004	103.9	118.6	117.0	122.0		
GEW-005	93.1	96.9	95.4	95.0		
GEW-006	88.6	91.2	91.1	91.3		
GEW-007	89.7	93.4	99.0	99.4		
GEW-008	115	117	118.0	120.0		
GEW-009	124	125.4	126.0	125.0		
GEW-010	91.3	97.9	104.7	108.8		
GEW-011	187.4	185.8	190.2	189.4		
GEW-014A	126.6	95.2	83.2	118.7		Flow Restored
GEW-016R	196	196.6	196.0	196.6		
GEW-018R	--	180.8	179.3	193.1		
GEW-020A	63	55.5	63.8	84.8		
GEW-021A	103	88.7	88.4	112.8		
GEW-022R	188.3	191.3	191.9	191.9		
GEW-023A	108.6	147.7	165.0	186.9		
GEW-025A	186.3	187.9	189.6	193.7		
GEW-026R	185.8	177.3	150.5	115.5		Flow Restricted
GEW-027A	72	71	178.2	176.2		
GEW-028R	162.7	87.8	184.1	184.6		
GEW-029	192	192	193.1	193.7		
GEW-034	88	92.5	79.5	102.6		
GEW-035	129	123.2	133.1	124.0		
GEW-037	54	--	89.8	--		
GEW-038	139.3	158.8	165.5	154.1		
GEW-039	137.5	138.4	136.5	139.0		
GEW-040	87	92.3	92.7	93.2		
GEW-041R	104.3	107.2	107.6	108.1		
GEW-042R	51.9	87.8	90.9	93.0		
GEW-043R	122.3	130.6	134.7	136.3		
GEW-044	88.6	91.7	99.2	99.0		
GEW-045R	41.7	53.8	87.0	87.6		
GEW-046R	79.3	81.5	88.8	90.9		
GEW-047R	111.3	116.6	115.0	117.0		
GEW-048	103.4	104.7	107.0	106.1		
GEW-049	107.2	107.4	110.0	110.0		
GEW-050	106.7	106.5	109.2	109.3		

## Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend >30°F	Comments
	Feb 2015	Mar 2015	Apr 2015	May 2015		
GEW-051	120.4	120.4	123.7	125.0		
GEW-052	112.8	112.1	117.0	114.0		
GEW-053	136	138.8	138.0	139.7		
GEW-054	148.4	145.5	147.0	150.0		
GEW-055	122.6	126.6	124.9	127.0		
GEW-056R	167.3	161.4	166.0	175.0		
GEW-057B	181.9	185.7	187.9	179.3		
GEW-057R	186.8	187.4	190.2	186.3		
GEW-058	192.5	192.5	194.1	191.9		
GEW-058A	--	191.3	191.6	187.9		
GEW-059R	187.5	184.6	183.5	184.1		
GEW-061B	47.2	43.1	87.6	78.9		
GEW-065A	194.2	195.4	196.0	196.0		
GEW-066	196	199	196.7	192.0		
GEW-067A	192.3	193.7	191.9	194.2		
GEW-069R	49.6	95.7	113.2	102.1		
GEW-070R	83.7	70.7	104.5	85.1		
GEW-071	200.2	196	170.2	196.5		
GEW-075	66.2	48.2	91.7	72.9		
GEW-080	196.6	197.2	197.2	197.8		
GEW-081	--	--	--	198.4		
GEW-082R	191.9	190.8	191.3	192.5		
GEW-083	46.9	61.1	89.4	92.7		
GEW-084	75.5	90.1	79.5	85.5		
GEW-085	--	--	--	97.1		
GEW-086	70.7	76.1	102.0	73.3		
GEW-089	48.4	53.7	85.1	77.6		
GEW-090	193.1	193.7	192.5	192.5		
GEW-101	105	82.1	--	92.1		
GEW-103	58	81.5	--	84.5		
GEW-104	74.9	83.4	122.1	105.6		
GEW-105	58	76.6	95.9	83.2		
GEW-107	67	81.3	132.1	147.0		
GEW-109	181.4	186.3	186.3	178.5		
GEW-110	175.7	169	168.3	170.0		
GEW-116	63.3	59.9	63.3	87.4		
GEW-120	196.6	61.7	108.8	194.8		Flow Restored
GEW-121	193.1	193.7	194.8	194.8		

## Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend >30°F	Comments
	Feb 2015	Mar 2015	Apr 2015	May 2015		
GEW-122	192.5	194.8	190.2	194.8		
GEW-123	183.5	181.4	190.3	190.2		
GEW-124	52.5	140.8	87.8	--		
GEW-125	65.4	178.3	189.1	190.9		
GEW-126	--	194.2	195.4	194.2		
GEW-127	52.8	185.2	186.3	186.3		
GEW-128	183	183.1	183.0	182.4		
GEW-129	--	161.4	163.2	164.1		
GEW-131	152.5	148.9	178.7	175.2		
GEW-132	190.2	189.6	193.1	188.5		
GEW-133	40.7	64.6	188.5	195.3		
GEW-134	42.4	116.9	105.6	182.8		Flow Restored
GEW-135	40.2	57.9	190.8	191.6		
GEW-136	140	125.4	179.1	197.2		
GEW-137	38.4	161.9	146.7	138.0		
GEW-138	143.3	197.2	186.5	178.2		
GEW-139	193.8	193.1	193.7	193.1		
GEW-140	186.9	187.4	186.8	187.4		
GEW-141	70.5	126	140.0	127.8		
GEW-142	178.7	189.6	192.5	191.6		
GEW-143	191.9	192.5	193.7	195.0		
GEW-144	76	100.2	107.2	143.9		Flow Restored
GEW-145	63.7	80.2	106.6	110.4		
GEW-146	97.1	127.2	99.3	136.1		Flow Restored
GEW-147	194.2	191.3	190.6	194.8		
GEW-148	--	183	189.1	194.5		
GEW-149	183.1	178.3	181.4	149.3		Flow Restricted
GEW-150	177.2	177.7	191.9	191.8		
GEW-151	39.2	46.2	199.6	166.9		Flow Restricted
GEW-152	194.8	188.5	187.9	188.5		
GEW-153	146.3	46.6	82.1	95.3		
GEW-154	176.8	162.7	161.4	200.2		Flow Restored
GEW-155	173.2	198.5	168.3	150.7		
GEW-156	176.3	171.7	164.1	168.8		
GIW-01	195.4	192.5	193.0	195.0		
GIW-02	43.8	70.4	86.1	92.5		
GIW-03	77.4	69.2	86.8	90.5		
GIW-04	56.3	68.3	84.2	88.2		

## Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend >30°F	Comments
	Feb 2015	Mar 2015	Apr 2015	May 2015		
GIW-05	42.1	75.2	95.0	93.4		
GIW-06	44.5	79.5	87.2	86.8		
GIW-07	42.8	70.2	87.2	88.0		
GIW-08	57.9	92.7	100.8	115.1		
GIW-09	188	192.8	194.2	193.7		
GIW-10	52.5	71.2	87.6	90.9		
GIW-11	168.8	171.2	175.0	170.2		
GIW-12	168.3	155.8	180.2	181.0		
GIW-13	135	177.7	178.8	172.5		
LCS-2D	--	126.3	123.0	--		
LCS-5A	98.3	100.7	98.3	94.2		
LCS-6B	47.9	62.2	84.9	90.5		
PGW-60	42.5	91.1	92.3	83.8		
SEW-012A	48.6	65.7	76.4	85.7		
SEW-017R	80.6	140.7	132.3	136.0		
SEW-031R	193	191.8	193.1	--		
SEW-032R	70	101.4	64.6	--		
SEW-060R	67.8	67.4	90.3	--		
SEW-061R	95	127	120.0	--		
SEW-062R	146.2	175.7	104.1	82.1		
SEW-063	188.5	111.3	155.4	185.0		
SEW-064	107	115.7	124.9	152.1		
SEW-067	110.6	94.7	--	89.6		
SEW-072R	89.3	93.1	103.0	66.0		Flow Restricted
SEW-074	91.7	87.8	104.5	90.6		
SEW-079R	74.5	54.3	101.0	90.5		
T-56	46.3	48.9	59.1	69.5		

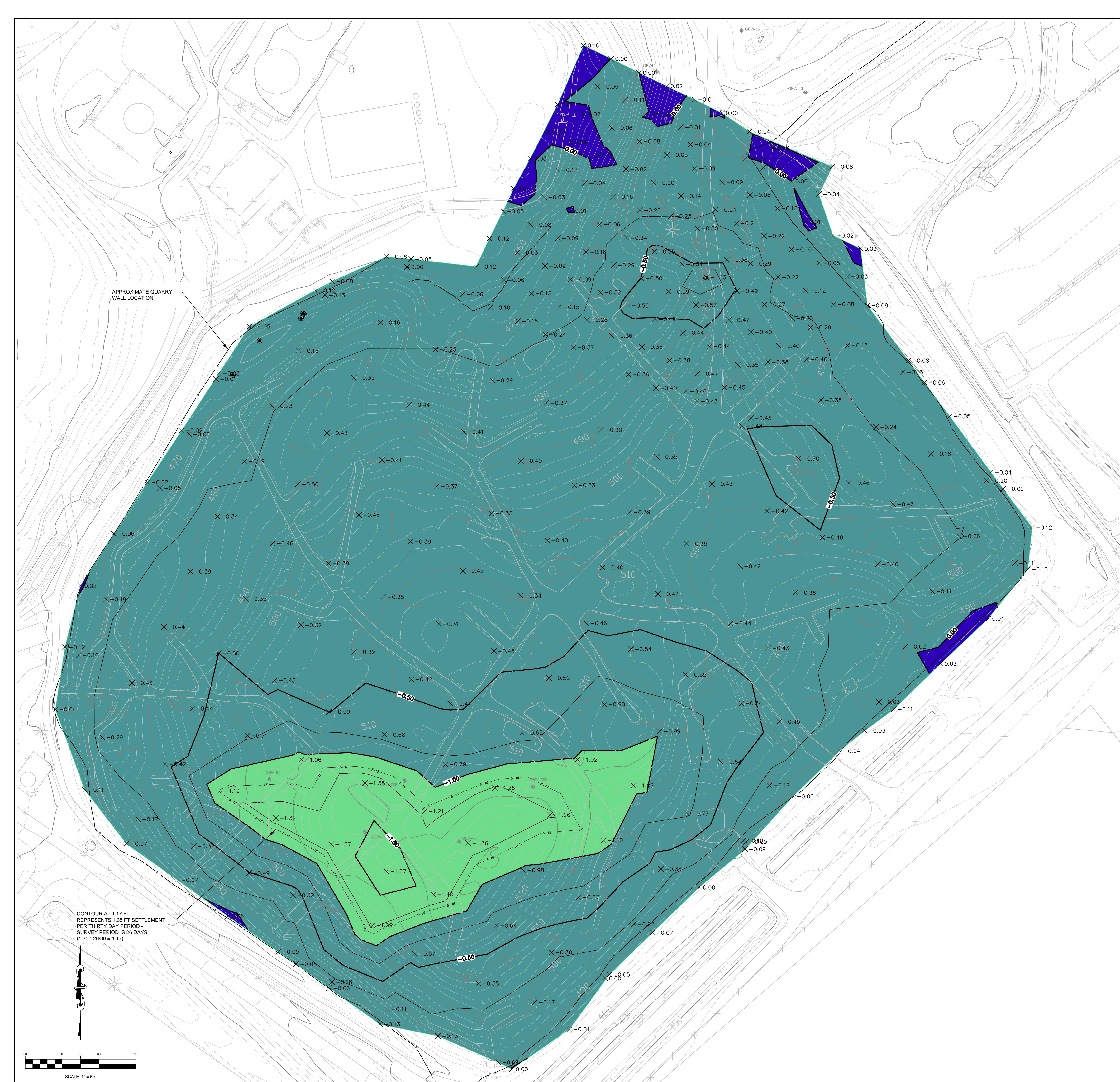
-- = Indicates no data available.

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**ATTACHMENT F**

**SETTLEMENT FRONT MAP**

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**ATTACHMENT G**

**SUMMARY OF ODOR COMPLAINTS**

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**May 1, 2015 – May 31, 2015 / MDNR ODOR COMPLAINTS**

**Name:** NA

**Message:** Odor logged May 1, 2015, at 7:43 am, strength of 6

**Follow-up:** The following concern cites the default location within the Bridgeton Landfill property boundaries, both for address and latitude/longitude. The absence of relevant location data results in this being an invalid concern.

**Name:** Mike Dolan

**Message:** Odor logged May 1, 2015, at 7:28 am, strength 9

**Follow-up:** Bridgeton Landfill staff performed an odor self-inspection approximately one hour after this concern submittal. No odor related to the Bridgeton Landfill was observed in the vicinity of this concern. Very weak (<2 Nasal Ranger D/T) odor could be observed immediately at the Bridgeton Landfill fence, but was non-detect from the opposite side of Boenker Lane.

**Name:** Greg and Ellen Wortham

**Message:** Odor logged May 2, 2015, at 7:25 pm, strength of 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. As this concern was submitted approximately 12 hours after stated observation limited investigation can be performed. Bridgeton Landfill staff performed odor self-inspections approximately six hours before and two hours after the stated observation time. Neither inspection observed odor related to the Bridgeton Landfill.

**Name:** Barb Ray

**Message:** Odor logged May 2, 2015, at 12:15 pm, strength of 9

**Follow-up:** The following concern coincides with a Bridgeton Landfill self-inspection. No odor related to the Bridgeton Landfill was observed during the self-inspection process.

**Name:** Tonya Mason

**Message:** Odor logged May 5, 2015, at 8:38 am, strength of 9

**Follow-up:** The following concern was investigated following receipt. This concern was located to the southwest of the Bridgeton landfill. Winds were of a southwest origin prior to and during the time of this concern placing this location directly upwind of the Bridgeton Landfill. A distinct asphalt/tar odor could be observed in the vicinity of this concern location. This was not a Bridgeton Landfill odor.

**Name:** David Blackwell

**Message:** Odor logged May 5, 2015, at 6:30 am, strength of 6

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistently southwest origin placing this concern location upwind of the Bridgeton Landfill. During odor self-inspections on this date a distinct asphalt/tar odor was observed. A known odor source with this odor profile is located directly upwind from this location. This was not a Bridgeton Landfill odor.

**Name:** David Blackwell

**Message:** Odor logged May 5, 2015, at 6:30 am, strength of 6

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistently southwest origin placing this concern location upwind of the Bridgeton Landfill. During odor self-inspections on this date a distinct asphalt/tar odor was observed. A known odor source with this odor profile is located directly upwind from this location. This was not a Bridgeton Landfill odor.

**Name:** David Blackwell

**Message:** Odor logged May 5, 2015, at 6:30 am, strength of 6

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistently southwest origin placing this concern location upwind of the Bridgeton Landfill. During odor self-inspections on this date a distinct asphalt/tar odor was observed. A known odor source with this odor profile is located directly upwind from this location. This was not a Bridgeton Landfill odor.

**Name:** Tara Routt

**Message:** Odor logged May 5, 2015, at 4:00 pm, strength of 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistently southwest origin placing this concern location upwind of the Bridgeton Landfill. During odor self-inspections on this date a distinct asphalt/tar odor was observed. A known odor source with this odor profile is located directly upwind from this location. This was not a Bridgeton Landfill odor.

**Name:** Kathy Bell

**Message:** Odor logged May 7, 2015, at 6:57 am, strength of 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff within the hour it was submitted. A brief, weak odor consistent with pretreatment plant processes was observed. This had a Nasal Ranger D/T value <2.

**Name:** Debi Disser

**Message:** Odor logged May 9, 2015, at 10:35 pm, strength 4

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Debi Disser

**Message:** Odor logged May 9, 2015, at 10:30 pm, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Sharon Bishop

**Message:** Odor logged May 18, 2015, at 4:40 pm, strength 10

**Follow-up:** The following concern was investigated immediately upon receipt by Bridgeton Landfill staff. No odor associated with the Bridgeton Landfill was observed at two points in close proximity to this concern location.

**Name:** Christen Commuso

**Message:** Odor logged May 18, 2015, at 10:32 pm, strength 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. Bridgeton Landfill staff performed an odor self-inspection less than an hour before the time of this observation and did not observe any Bridgeton Landfill related odor off-site. The location is directly southwest of two other known odor sources. Winds were of a northwest vector, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Greg and Ellen Wortham

**Message:** Odor logged May 18, 2015, at 5:30 pm, strength 6

**Follow-up:** Odor observations were performed at this location and multiple other locations in the immediate proximity less than half an hour before this concern. No odor related to the Bridgeton Landfill was observed. All work had ceased on the site at that time and no infrastructure complications were experienced.

**Name:** Greg and Ellen Wortham

**Message:** Odor logged May 19, 2015, at 8:55 am, strength 6

**Follow-up:** The following concern was submitted shortly before the performance of a Bridgeton Landfill self-inspection. No odor related to the Bridgeton Landfill was observed at this location or any other location in close proximity to this location. This location has also been consistently upwind of the Bridgeton Landfill at this time. This was not a Bridgeton Landfill odor.

**Name:** Greg and Ellen Wortham

**Message:** Odor logged May 19, 2015, at 8:15 am, strength of 4

**Follow-up:** Bridgeton Landfill staff performed an odor self-inspection shortly after receipt of this concern. No odor related to the Bridgeton Landfill was observed in the vicinity of this location.

**Name:** Robbin Dailey

**Message:** Odor logged May 19, 2015, at 12:22 pm, strength of 10

**Follow-up:** The following concern was investigated immediately following receipt. No odor related to the Bridgeton Landfill could be observed.

**Name:** Michael Dailey

**Message:** Odor logged May 19, 2015, at 12:22, strength of 10

**Follow-up:** The following concern was investigated immediately following receipt. No odor related to the Bridgeton Landfill could be observed.

**Name:** karen nickel

**Message:** Odor logged May 19, 2015, at 10:15 am, strength of 7

**Follow-up:** The following concern cites a time shortly after a Bridgeton Landfill self-inspection and a location far closer to two other known odor sources. No odor related to the Bridgeton Landfill were observed at points upwind of this location around the Bridgeton Landfill perimeter. This was not a Bridgeton Landfill odor.

**Name:** Michael Dailey

**Message:** Odor logged May 19, 2015, at 1:22 pm, strength 10

**Follow-up:** The following concern was investigated immediately following receipt. No odor related to the Bridgeton Landfill could be observed.

**Name:** Robbin Dailey

**Message:** Odor logged May 19, 2015, at 1:22 pm, strength 10

**Follow-up:** The following concern was investigated immediately following receipt. No odor related to the Bridgeton Landfill could be observed.

**Name:** N/A

**Message:** Odor logged May 20, 2015, at 7:57 pm, strength 4

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This concern is from a location significantly to the southwest of the Bridgeton Landfill, far closer to other known odor sources. Winds were of a north to northwest origin, placing this location

outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

**Name:** Karen nickel

**Message:** Odor logged May 20, 2015, at 8:15 pm, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This concern is from a location significantly to the southwest of the Bridgeton Landfill, far closer to other known odor sources. Winds were of a north to northwest origin, placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

**Name:** NA

**Message:** Odor logged May 20, 2015, at 6:40 am, strength of 10

**Follow-up:** This concern cites a location within the Bridgeton Landfill property and as such is invalid.

**Name:** N/A

**Message:** Odor logged May 21, 2015, at 64:40 am, strength 10

**Follow-up:** This concern cites a location within the Bridgeton Landfill property and as such is invalid.

**Name:** Martina Sandheinrich

**Message:** Odor logged May 21, 2015, at 10:20 am, strength of 3

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. The location cited in this concern is immediately southeast of two known odor sources during a period of western winds. That wind vector places this location directly upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

**Name:** Tracy Dedert

**Message:** Odor logged May 21, 2015, at 8:25 pm, strength of 4

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** NA

**Message:** Odor logged May 21, 2015, at 8:45 pm, strength of 10

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Karen Nickel

**Message:** Odor logged May 21, 2015, at 8:45 pm, strength of 7

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Jan Huber

**Message:** Odor logged May 21, 2015, at 8:18 pm, strength of 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill. Multiple concerns were received citing the a similar date and time as this concern, all others located upwind of the Bridgeton Landfill and likely stemming from another known odor source located to the west. As this location is also downwind of that same odor source this was likely the source of the odor. Bridgeton Landfill staff on-site during the evening hours observed no technical disruptions with the potential to have caused this odor.

**Name:** Debi Disser

**Message:** Odor logged May 21, 2015, at 8:50 pm, strength of 2

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind

and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Debi Disser

**Message:** Odor logged May 21, 2015, at 9:00 pm, strength of 8

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Mel Leib

**Message:** Odor logged May 21, 2015, at 8:00 pm, strength of 8

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Rhonda Steelman

**Message:** Odor logged May 21, 2015, at 8:45 pm, strength of 8

**Follow-up:** The following concern was submitted during a period of persistent west to southwest winds, placing this location upwind of the Bridgeton Landfill while being downwind and in close proximity from another known odor source with observable off-site odor under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Barb Ray

**Message:** Odor logged May 21, 2015, at 8:45 pm, strength 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Dawn Chapman

**Message:** Odor logged May 22, 2015, at 12:17 am, strength of 7

**Follow-up:** The following concern was submitted at a time of southwestern winds, placing this location directly upwind of the Bridgeton Landfill and directly downwind of two other known odor sources. This was not a Bridgeton Landfill odor.

**Name:** Jan Huber

**Message:** Odor logged May 22, 2015, at 8:30 pm, strength of 9

**Follow-up:** The following concern was submitted approximately 20 hours after the stated time of observation. At the time of observation winds were of a southwest to due west origin. Bridgeton landfill is located to the north northwest of this location. Other known odor sources are located directly upwind from this concern location to the west/southwest. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Margery Doss

**Message:** Odor logged May 22, 2015, at 11:51, strength of 7

**Follow-up:** The following concern cites a location of significant distance from the Bridgeton Landfill where no odor relating to the Bridgeton Landfill has previously been observed. This concern does so at a time when this location was upwind of the Bridgeton landfill. This was not a Bridgeton Landfill odor.

**Name:** michelle

**Message:** Odor logged May 22, 2015, at 6:03 pm, strength 9

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Dawn Chapman

**Message:** Odor logged May 22, 2015, at 10:16 pm, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Danielle Fritz

**Message:** Odor logged May 22, 2015, at 5:00 pm, strength 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** stevecommuso

**Message:** Odor logged May 23, 2015, at 9:36 pm, strength of 5

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. The location cited is of significant distance from the Bridgeton Landfill and far closer to other known odor sources. Wind conditions indicate a pathway for odor migration from those sources to this location. This was not a Bridgeton Landfill related odor.

**Name:** Malia

**Message:** Odor logged May 23, 2015, at 12:00 am, strength of 9

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a south origin, placing this location upwind of the Bridgeton Landfill and downwind of other known odor sources with observed off-site odor emissions under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Steve Commuso

**Message:** Odor logged May 23, 2015, at 12:00 am, strength of 9

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. The location cited is of significant distance from the Bridgeton Landfill and far closer to other known odor sources. Wind conditions indicate a pathway for odor migration from those sources to this location. This was not a Bridgeton Landfill related odor.

**Name:** andrew rolf

**Message:** Odor logged May 23, 2015, at 6:00 pm, strength of 2

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. At the time of observation winds were of a southwest to due west origin. Bridgeton landfill is located to the north of this location. Other known odor sources are located directly upwind from this concern location to the west/southwest. This is not believed to have been a Bridgeton Landfill odor.

**Name:** NA

**Message:** Odor logged May 25, 2015, at 6:06 pm, strength of 6

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a south origin, placing this location upwind of the Bridgeton Landfill and downwind of other known odor sources with observed off-site odor emissions under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Kathy Bell

**Message:** Odor logged May 25, 2015, at 7:38 am, strength of 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a south origin, placing this location upwind of the Bridgeton Landfill and downwind of other known odor sources with observed off-site odor emissions under similar wind conditions this morning. This was not a Bridgeton Landfill odor.

**Name:** Larry Temares Jr

**Message:** Odor logged May 26, 2015, at 7:00 pm, strength 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** N/A

**Message:** Odor logged May 27, 2015, at 8:14 pm, strength 3

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Sharon Bishop

**Message:** Odor logged May 27, 2015, at 1:10 pm, strength 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Kathy Bell

**Message:** Odor logged May 27, 2015, at 6:26 am, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Rhonda Steelman

**Message:** Odor logged May 30, 2015, at 6:25 pm, strength of 6

**Follow-up:** The following concern was investigated, this was not a Bridgeton Landfill odor.

**Name:** Karen Nickel

**Message:** Odor logged May 30 2015, at 1:30 pm, strength of 9

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Meagan beckermann

**Message:** Odor logged May 30, 2015, at 11:55 am, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** N/A

**Message:** Odor logged May 30, 2015, at 10:47 pm, strength of 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** N/A

**Message:** Odor logged May 30, 2015, at 4:23 pm, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Michael Dailey

**Message:** Odor logged May 30, 2015, at 7:49 pm, strength 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Robbin Dailey

**Message:** Odor logged May 30, 2015, at 7:49 pm, strength 10

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Troy willerson

**Message:** Odor logged May 30 2015, at 3:52 pm, strength 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Sharon Bishop

**Message:** Odor logged May 30, 2015, at 12:17 pm, strength 6

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Dawn Chapman

**Message:** Odor logged May 30, 2015, at 12:16 pm, strength 7

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

**Name:** Missy Quigg

**Message:** Odor logged May 31, 2015, at 11:05 am, strength of 8

**Follow-up:** The following concern has been investigated by Bridgeton Landfill staff. This is not believed to have been a Bridgeton Landfill odor.

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**ATTACHMENT H**

**LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG**

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# **Bridgeton Landfill - Leachate PreTreatment Plant**

May 2015

## Liquid Characterization Data

Liquid characterization data is made available to MDNR on an ongoing basis. No additional leachate characterization data, beyond that produced for MSD, was collected during the prior month.

## **Hauled Disposal to MSD – Bissell Point**

Date	Waste	Source	Transporter	Quantity
5/1/2015	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	217,500
5/2/2015				0
5/3/2015				0
5/4/2015				157,500
5/5/2015				225,000
5/6/2015				217,500
5/7/2015				30,000
5/8/2015				0
5/9/2015				0
5/10/2015				0
5/11/2015				0
5/12/2015				0
5/13/2015				75,000
5/14/2015				75,000
5/15/2015				60,000
5/16/2015				0
5/17/2015				0
5/18/2015				135,000
5/19/2015				187,500
5/20/2015				255,000
5/21/2015				330,000
5/22/2015				232,500
5/23/2015				150,000
5/24/2015				330,000
5/25/2015				330,000
5/26/2015				180,000
5/27/2015				330,000
5/28/2015				165,000
5/29/2015				120,000
5/30/2015				0
5/31/2015				0

## **Direct Discharge to MSD**

Date	Waste	Source	Quantity (gal)
42,125			233,937
42,126			219,160
42,127			229,634
42,128			110,979
42,129			217,983
42,130			201,557
42,131			130,461
42,132			80,386
42,133			165,994
42,134			106,071
42,135			170,715
42,136			252,251
42,137			299,054
42,138			342,859
42,139	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	269,518
42,140			229,238
42,141			160,618
42,142			134,759
42,143			104,152
42,144			44,181
42,145			0
42,146			193,238
42,147			293,056
42,148			321,082
42,149			274,593
42,150			289,743
42,151			286,020
42,152			273,652
42,153			341,751
42,154			297,392
42,155			275,180