Bridgeton Landfill, LLC

Monthly Data Submittals

June 2015

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

Contents:

Provided Separately:

– Flare Raw Data Excel Spreadsheet
– Gas Wellfield Raw Data Excel Spreadsheet

July 20, 2015

Commentary on Data

July 20, 2015

The following observations and comments are offered for the June 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 June averaged 4560 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. 14 vertical wells decreased by 30°F or more in June; the majority due to minimal flow conditions. Additionally, 3 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 June. These consisted of 15 older GEW wells (<#-120) that are experiencing low flows; 9 new GEW wells (>#-120) that are experiencing restricted flows; 2 GIW wells that have low gas flow; and 4 SEW wells that are shallow extractors. By the end of the month, the majority (73%) 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 June 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 June, with the exception of GEW-054, that had a maximum temperature of 148.0° 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 35 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 **2.2 feet (see Attachment F)** for the month of June; 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 June 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.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in June 2015

Gas Collection and Control System

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

Alternative Heat Extraction System

- Expanded HES to additional GIWs

Leachate Management System

- Continued routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Ongoing operation of facility.

Other Projects:

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

Work Planned for July 2015

Gas Collection and Control System

- Continue operation and maintenance of GCCS system.
- Continue upgrades to GCCS system as required.
- Continue installation of 18” diameter header upgrades.

Alternative Heat Extraction System

- Continued operation and maintenance of the HES.

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.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
June 2015

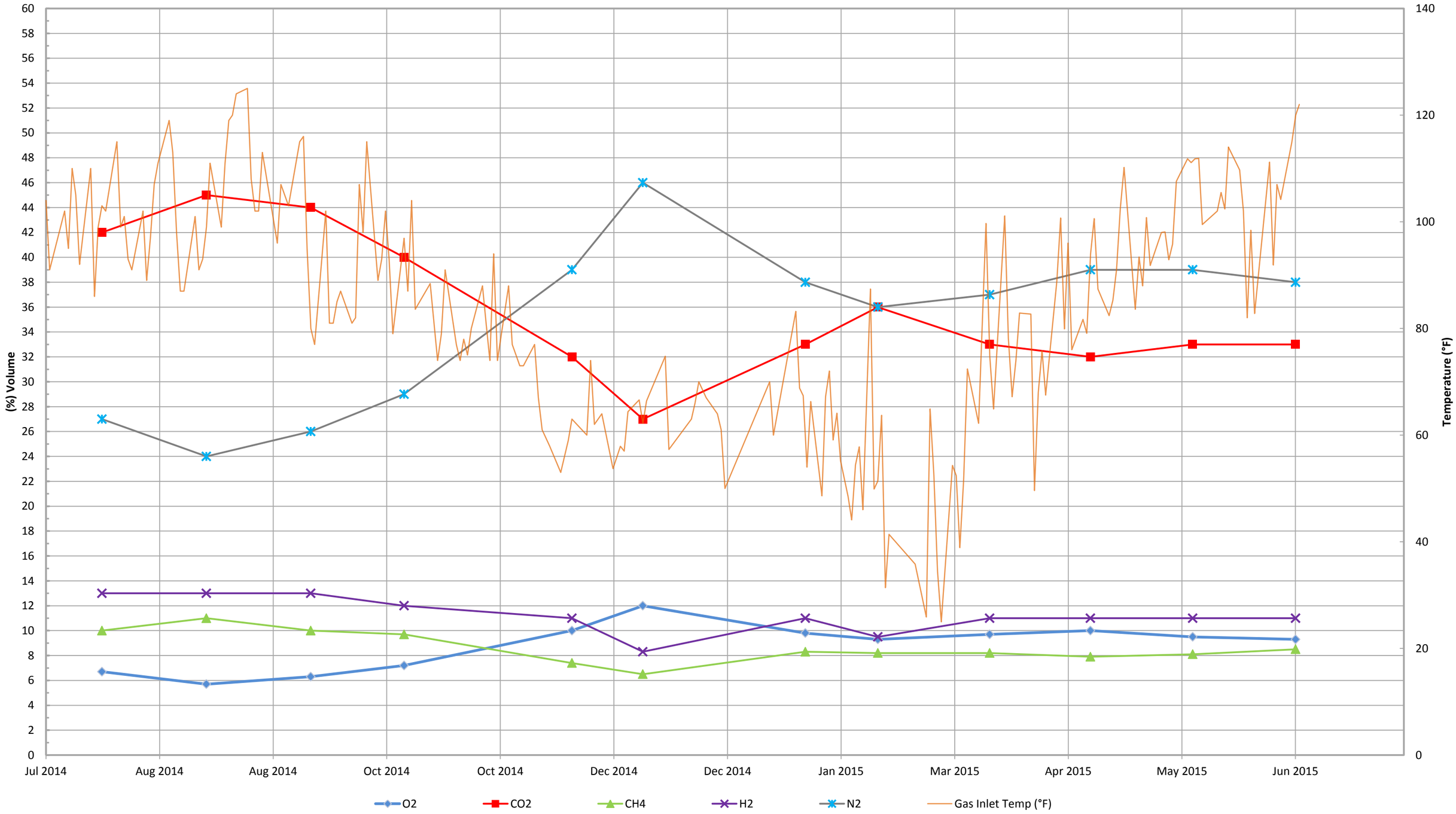
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	E. Aux. Utility Flare	
6/1/2015	1,197	1,477	1,925		4,599
6/2/2015	1,208	1,425	1,933	295	4,861
6/3/2015	1,253	1,423	1,909	548	5,132
6/4/2015	1,222	1,222	1,895		4,340
6/5/2015	1,275	1,411	1,902		4,588
6/6/2015	1,313	1,398	1,905		4,617
6/7/2015	1,293	1,417	1,899		4,609
6/8/2015	1,028	1,405	1,893	773	5,100
6/9/2015	1,342	1,499	1,684	548	5,073
6/10/2015	1,562	1,571	1,523		4,656
6/11/2015	1,545	1,609	1,507		4,660
6/12/2015	1,491	1,624	1,596		4,711
6/13/2015	1,477	1,600	1,610		4,687
6/14/2015	1,421	1,570	1,610		4,600
6/15/2015	1,495	1,589	1,549		4,632
6/16/2015	1,433	1,629	1,600		4,663
6/17/2015	1,405	1,584	1,587		4,576
6/18/2015	1,429	1,358	1,619		4,407
6/19/2015	1,325	1,425	1,582		4,332
6/20/2015	1,406	1,458	1,561		4,426
6/21/2015	1,407	1,501	1,578		4,486
6/22/2015	1,456	1,636	1,544		4,636
6/23/2015	1,428	1,645	1,550		4,623
6/24/2015	1,340	1,606	1,533		4,479
6/25/2015	1,261	1,543	1,301		4,105
6/26/2015	1,327	1,657	1,503		4,488
6/27/2015	1,294	1,521	1,550		4,365
6/28/2015	903	1,128	1,091		3,122
6/29/2015	1,466	1,705	1,380		4,551
6/30/2015	1,470	1,665	1,554		4,688
				Average	**4,560**

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

ATTACHMENT B-2

FLOW DATA GRAPHS

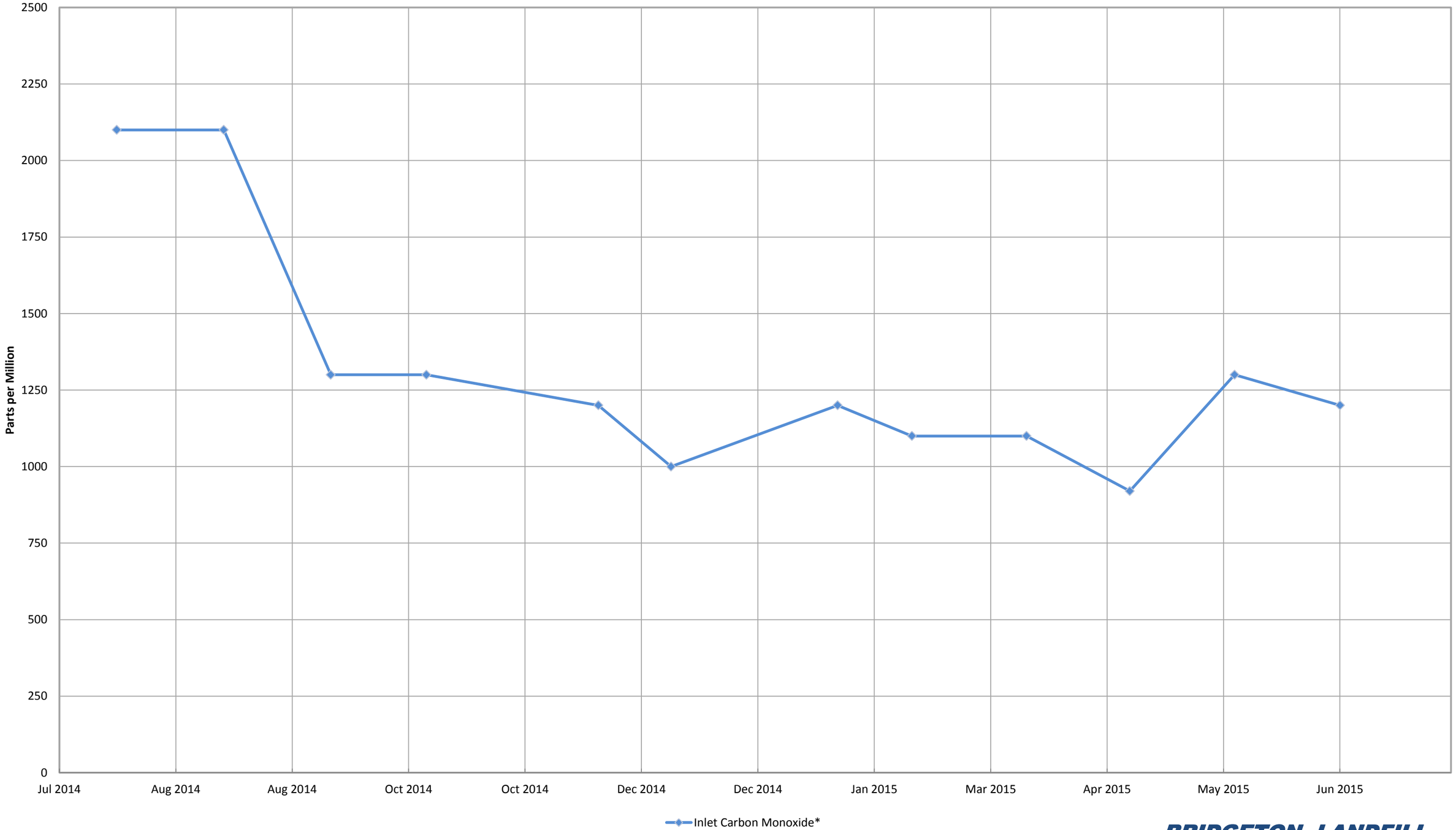
Inlet Gas and Temperature*



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

BRIDGETON LANDFILL

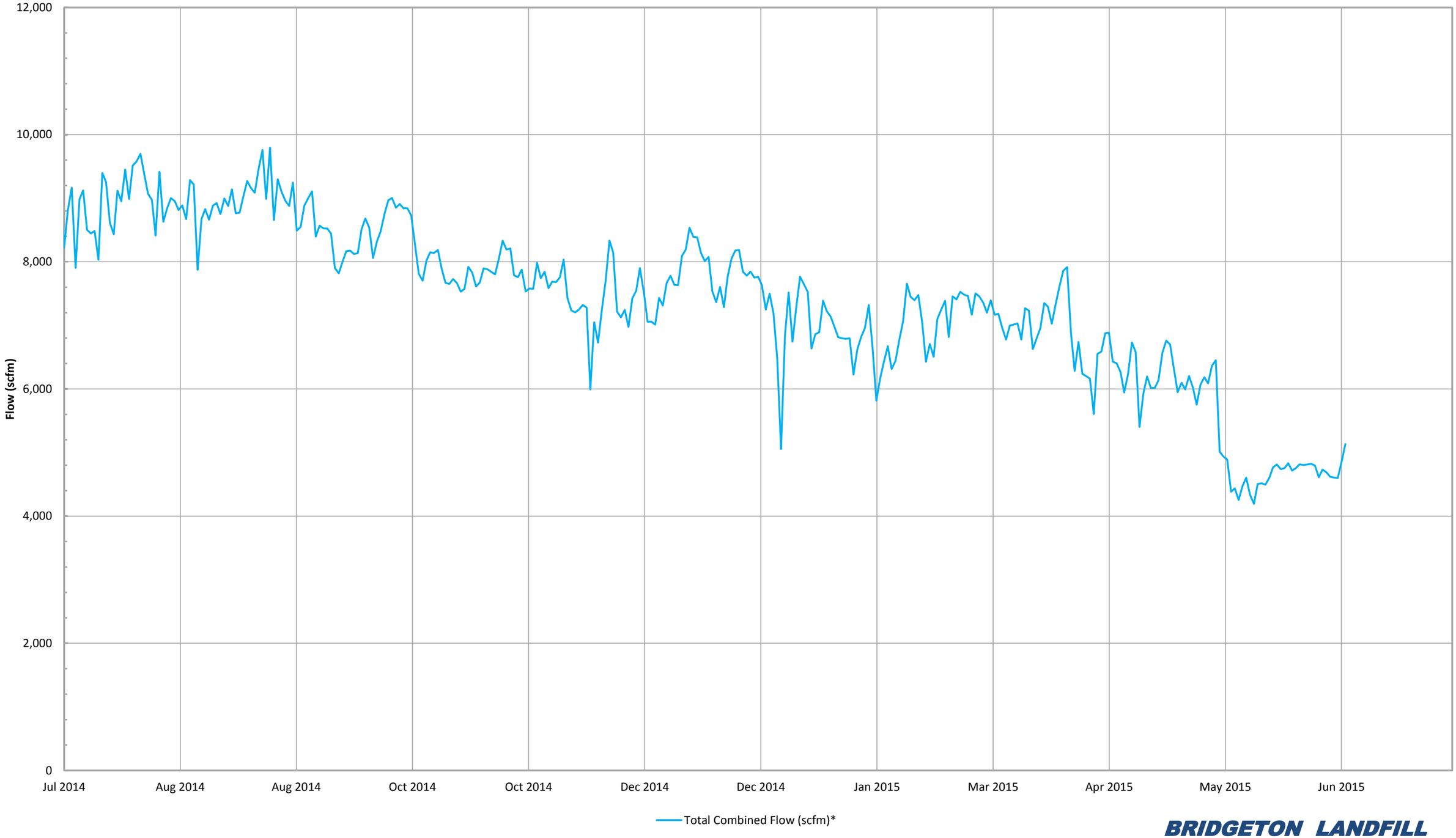
Inlet Carbon Monoxide*



BRIDGETON LANDFILL

*Data collected from Laboratory Reports.

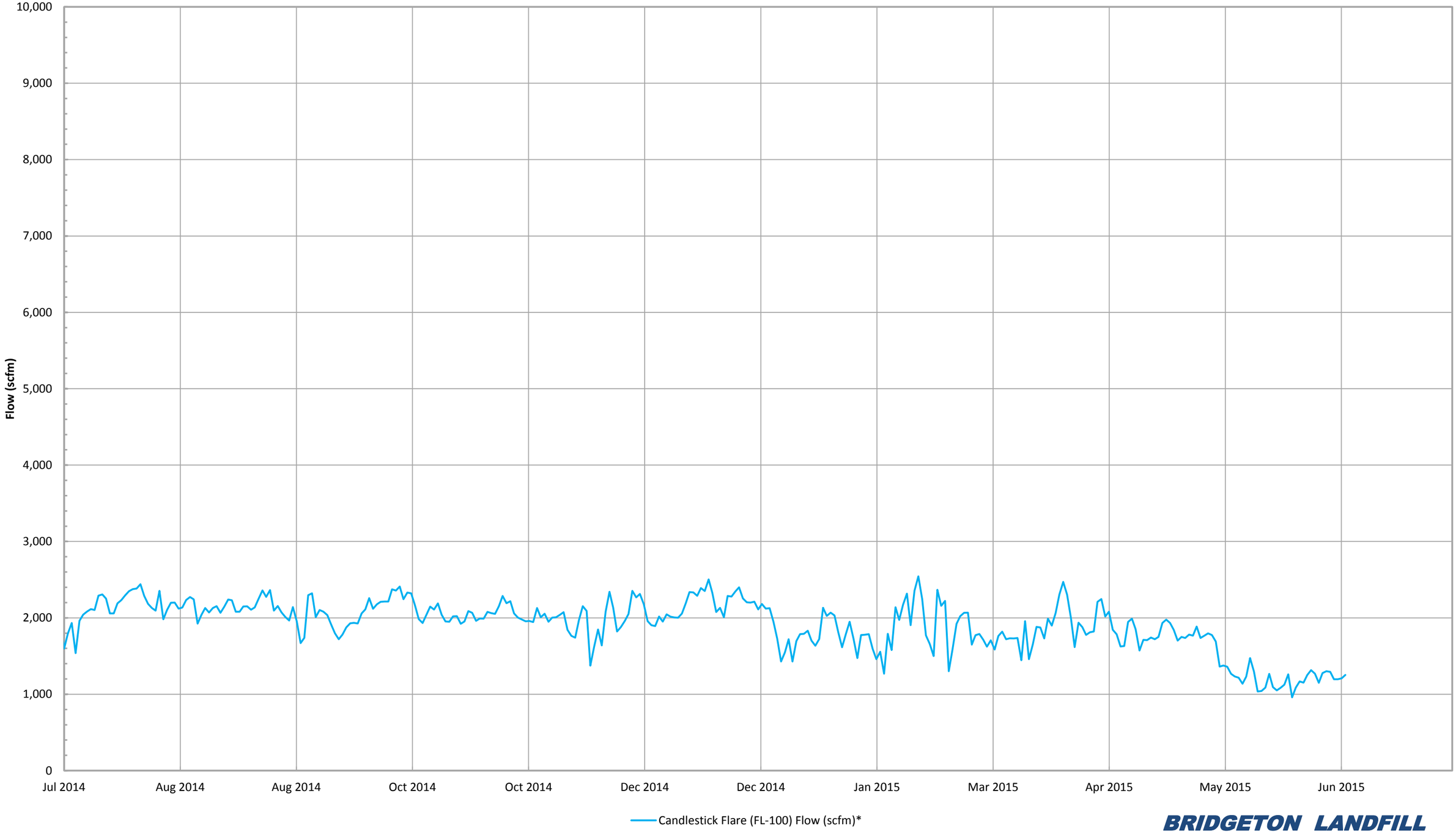
Total Combined Flow (scfm)*



BRIDGETON LANDFILL

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

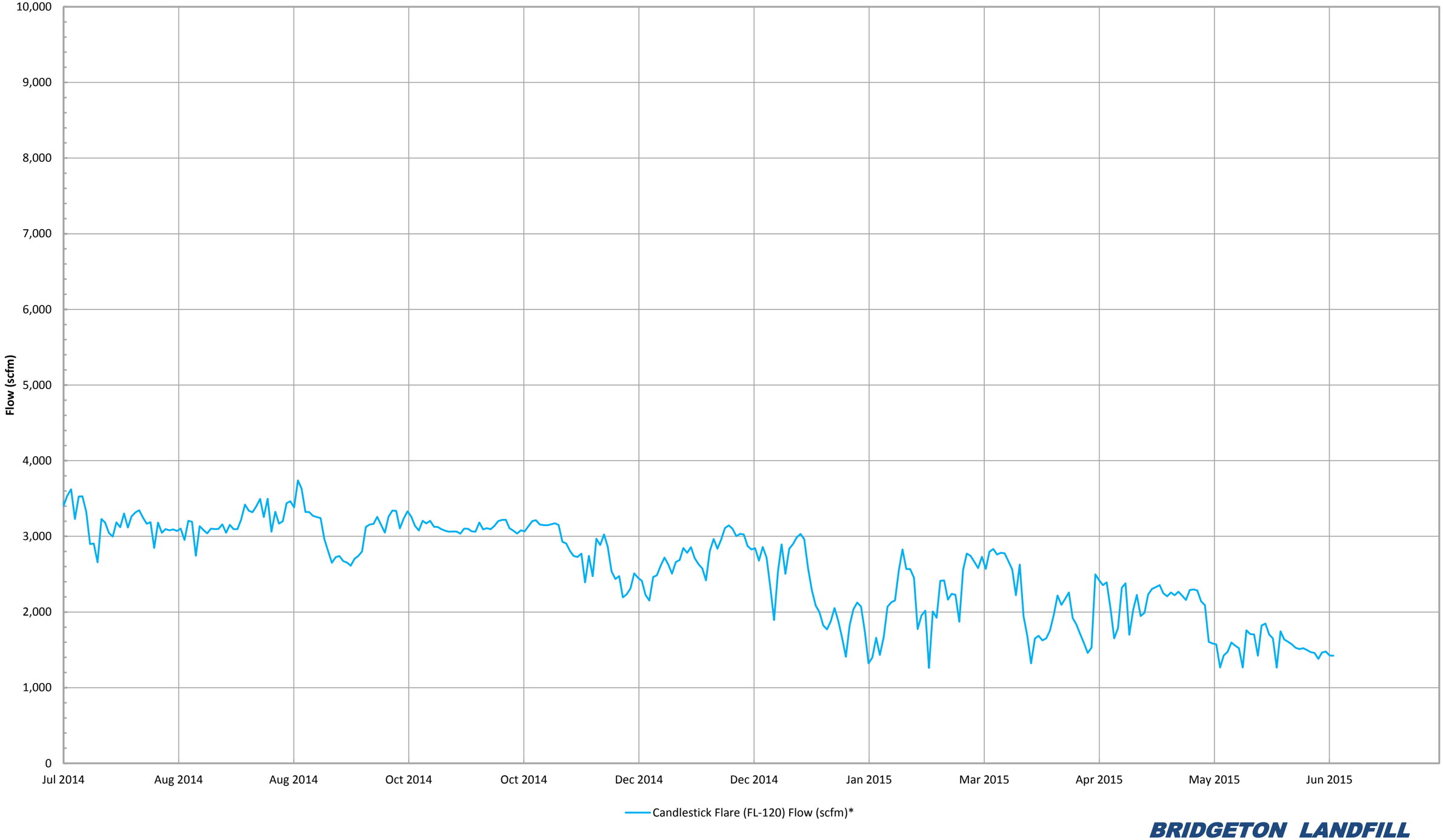
Candlestick Flare (FL-100) Flow (scfm)*



BRIDGETON LANDFILL

*Flow is based on tabulated flow data collected daily.

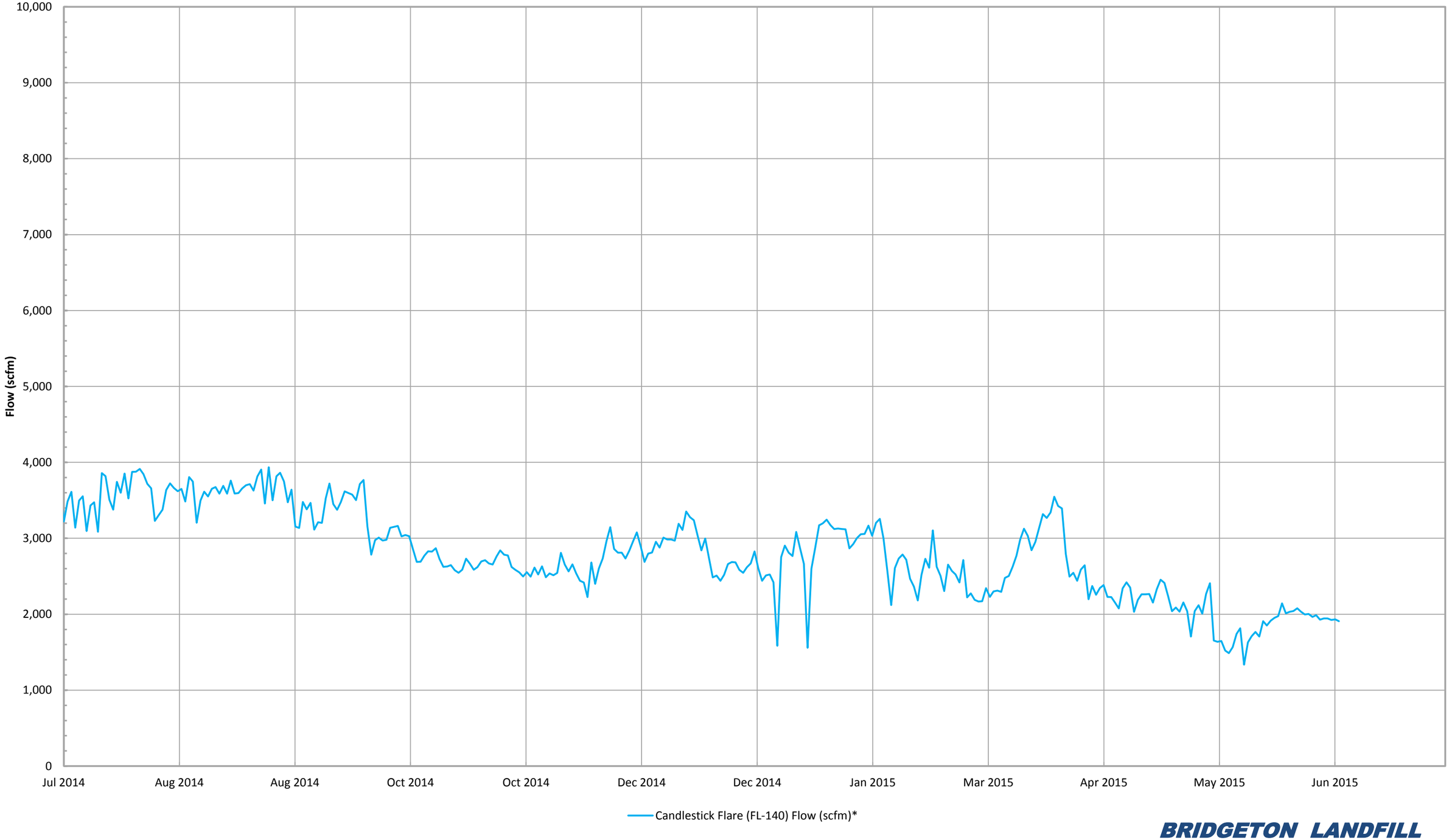
Candlestick Flare (FL-120) Flow (scfm)*



BRIDGETON LANDFILL

*Flow is based on tabulated flow data collected daily.

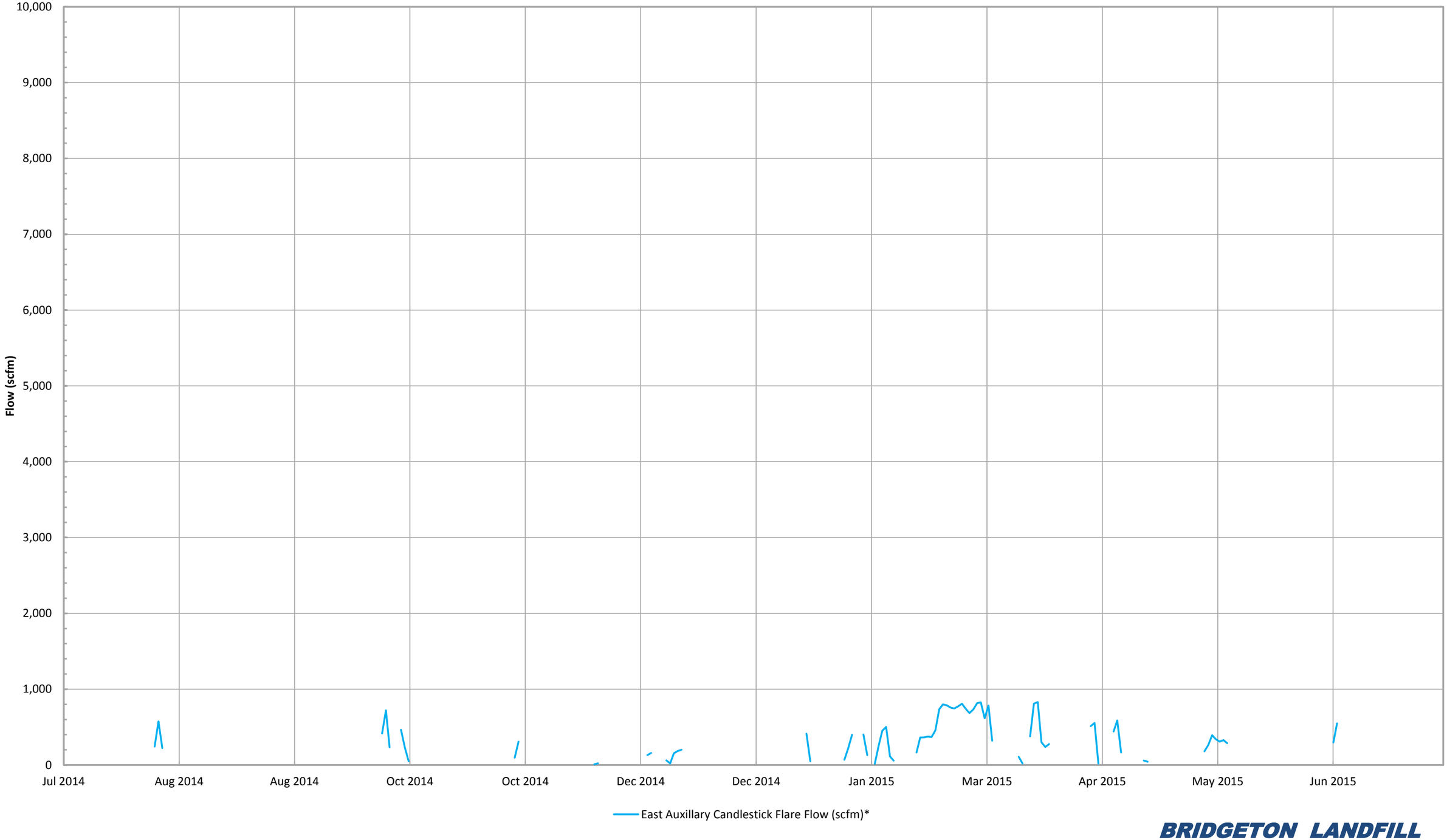
Candlestick Flare (FL-140) Flow (scfm)*



BRIDGETON LANDFILL

*Flow is based on tabulated flow data collected daily.

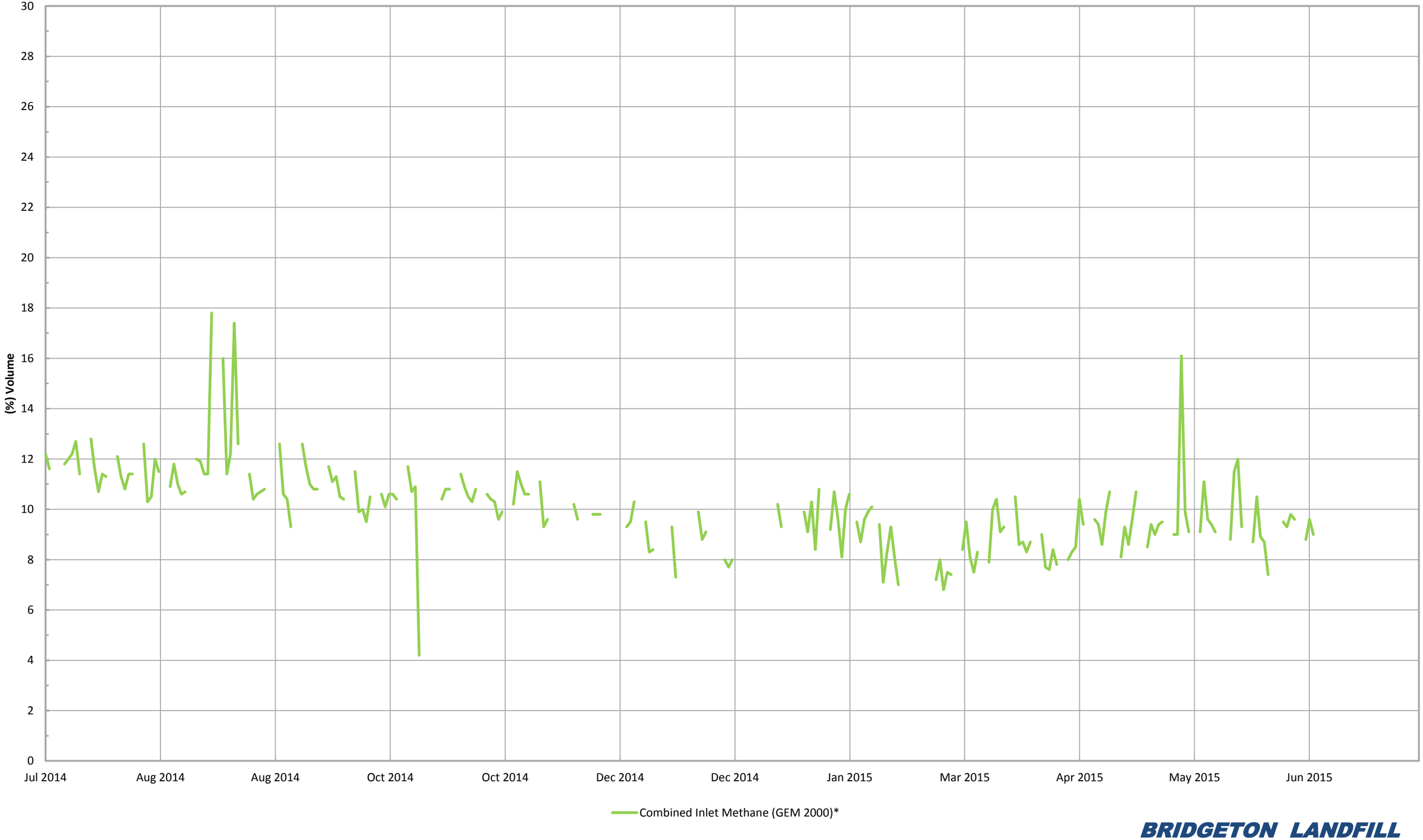
East Auxillary Candlestick Flare Flow (scfm)*



BRIDGETON LANDFILL

*Flow is based on tabulated flow data collected daily.

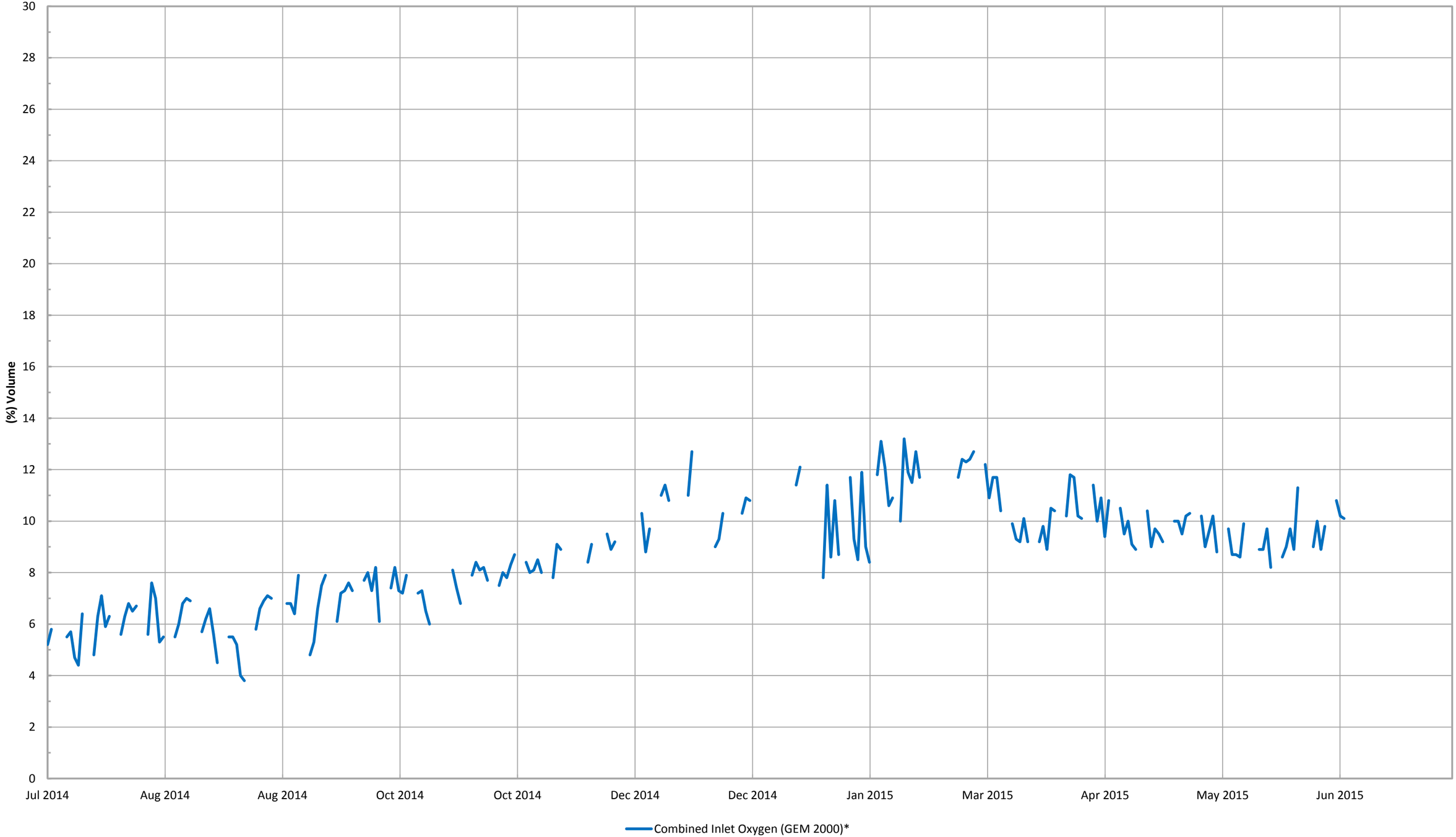
Combined Inlet Methane (GEM 2000)*



*Gas data collected from GEM 2000 field monitoring instrument.

BRIDGETON LANDFILL

Combined Inlet Oxygen (GEM 2000)*

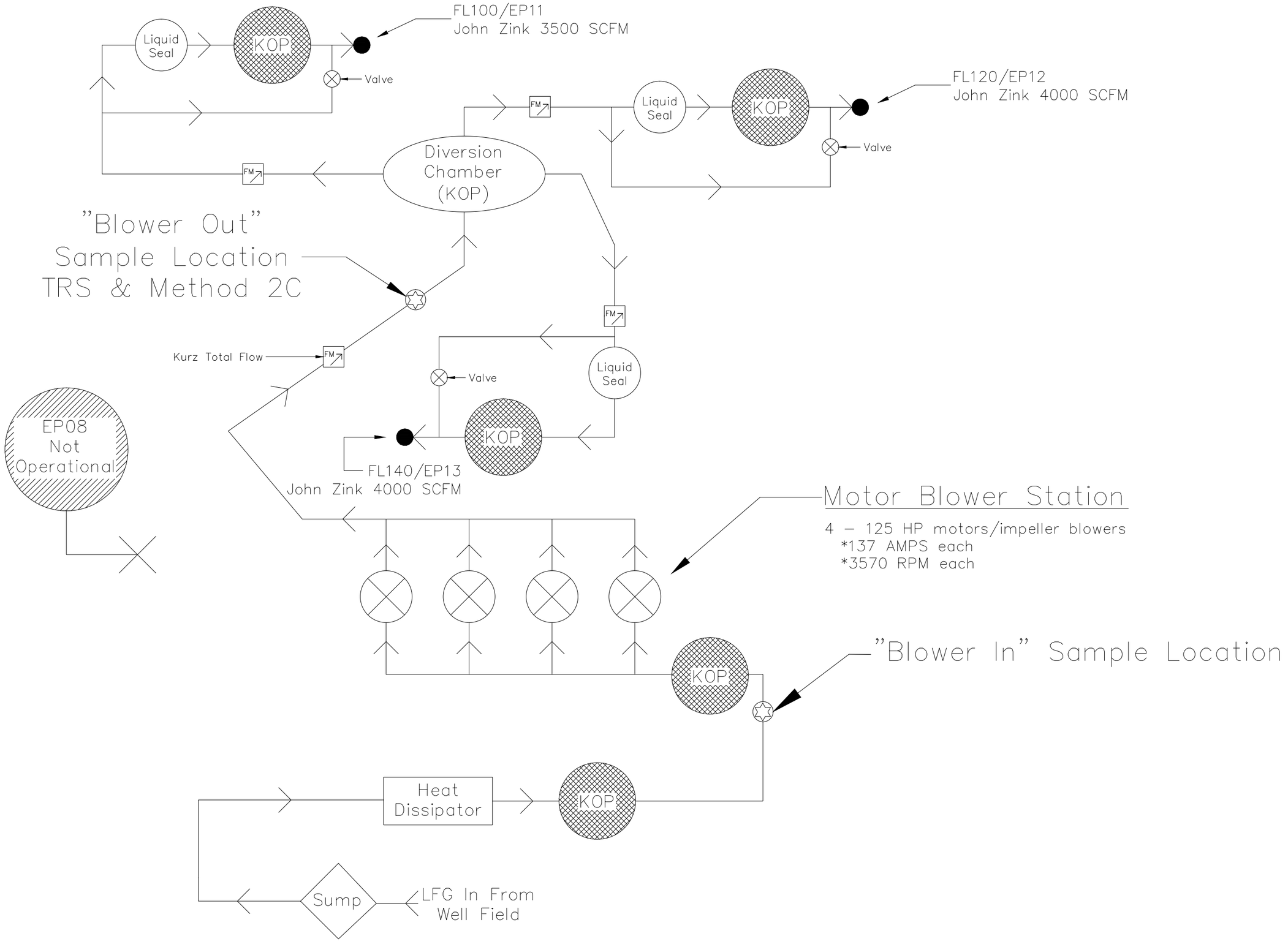


*Gas data collected from GEM 2000 field monitoring instrument.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



PREPARED FOR:
BRIDGETON LANDFILL, LLC

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

No.	DATE	REVISION DESCRIPTION

Weaver Consultants Group

WEAVER CONSULTANTS GROUP
6301 EAST HWY AB
COLUMBIA, MISSOURI 65201
(636)-431-3399
www.wcgrp.com

DRAWN BY:	DT
REVIEWED BY:	DAR
DATE:	5/20/2015
FILE:	0120-131-10
CAD:	Figure 1 - Flow Diagram - REV.dwg

SHEET 1 OF 1

TABLE 1 **Bridgeton Landfill, LLC.**

Summary of Key LFG Tested Parameters **June 02 to July 01, 2015**

Flare Compound: *Blower Outlet*

SAMPLE EVENT #	DATE	VELOCITY ft/sec	❶ FLOW dscfm	❷ TRS ppm_{vd}
13	6/2/2015	60.34	4388	1300 1300
14	6/10/2015	58.12	4237	1600 2200
15	6/16/2015	57.04	4158	1600 1400
16	6/23/2015	55.93	4077	1700 1700
17	7/1/2015	60.77	4430	1300 1400

❶ Flow based on EPA Method 2C (& Method 3C and 4) data collection from

❷ TRS analyzed per EPA Method 15/16, collected from "Blower Outlet" location

	PARAMETER	EP11/FL100	EP12/FL120	EP13/FL140	Blower Out
Date	Test Date	6/2/15	6/2/15	6/2/15	6/2/15
Start	Run Start Time	10:23:31	10:53:41	11:30:36	8:41
	Run Finish Time	10:43:26	11:18:21	11:51:16	10:06
	Net Traversing Points	6	8	8	16 (2 x 8)
Θ	Net Run Time, minutes	0:19:55	0:24:40	0:20:40	1:24:59
C_p	Pitot Tube Coeficient	0.99	0.99	0.99	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.72	29.72	29.72	29.72
% H_2O	Moisture Content of LFG, %	10.00	10.00	10.00	6.04
% RH	Relative Humidity, %	100.0	100.0	100.0	48.50
M_{fd}	Dry Mole Fraction	0.900	0.900	0.900	0.940
%CH_4	Methane, %	11.20	11.50	13.40	8.20
%CO_2	Carbon Dioxide, %	33.50	34.10	35.40	31.00
%O_2	Oxygen, %	9.90	10.00	9.50	9.70
%Balance	Assumed as Nitorgen, %	35.30	33.30	29.30	39.00
%H_2	Hydrogen, %	10.10	11.10	12.40	10.00
M_d	Dry Molecular Weight, lb/lb-Mole	29.80	29.60	29.23	29.19
M_s	Wet Molecular weight, lb/lb-Mole	28.62	28.44	28.10	28.51
P_g	Flue Gas Static Pressure, inches of H_2O	0.39	0.10	1.52	22.00
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.78	29.70	29.79	31.34
t_s	Average Stack Gas Temperature, °F	94	97	107	120
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.121	0.065	0.193	0.783
v_s	Average LFG Velocity, feet/second	23.74	17.54	30.58	60.34
A_s	Stack Crossectional Area, square feet	0.92	1.23	1.23	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,121	1,094	1,879	4,388
Q_s	Standard Volumetric Flow Rate, scfm	1,233	1,203	2,067	4,653
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,313	1,291	2,252	4,898
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	5,201	5,041	8,552	19,946
LFG_{CH4}	Methane, lb/hr	313.7	314.3	629.2	899.2
	Methane, grains/dscf	32.65	33.53	39.07	23.91
LFG_{CO2}	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_{O2}	Oxygen, lb/hr	553.0	545.1	889.8	2121.7
	Oxygen, grains/dscf	57.57	58.15	55.25	56.41
LFG_{N2}	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_{H4}	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_2S	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_4S	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_2H_6S	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
$(CH_3)_2S$	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_2	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
$C_2H_6S_2$	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

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd			1,300.00	1,300.00
	TRS-->SO2 Emission Rate, lb/hr			56.93	56.93
	TRS-->SO2 Emission Rate, grains/dscf			1.514	1.514

❶ TRS assumed moelcular mass = SO2, 64.06 gram/mole, I.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack

Tuesday, June 02, 2015

LOCATION	TIME	Q -SCFM		Δ	KURZ
		METHOD 2	FLEETZOOM		
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

Air TECHNOLOGY Laboratories, Inc.

June 12, 2015

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

nelac
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

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

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	■	48 hours	☐	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:	0120-131-10-47
Project Name:	Bridgeton Weekly GCCS TRS Sampling
Report To:	David A. Randall
Company:	Weaver Consultants Group
Street:	6301 East Highway AB
City/State/Zip:	Columbia, MO 65201
Phone& Fax:	888-660-0346
e-mail:	drandall@weaverboos.com

BILLING

P.O. No.:
Bill to: Ms. Michele Clark
<--Same

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS & ASTM1946 + H2
GGG0303-01	Blower Outlet #1, Can # 1615	6/2/2015	0840	C -1L	LFG		X
↓ -02	Blower Outlet #2, Can # 1616 MS	6/2/2015	0908	C-1L	LFG		X
	CAN#1538 DID NOT USE						

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
David A. Randall	Weaver Consultants Group	03/26/2015
SAMPLED BY	COMPANY	DATE/TIME
J.Holst/D.Randall	Weaver Consultants Group	06/02/15 0800-1100

RELINQUISHED BY	DATE/TIME 6-2-15	RECEIVED BY	DATE/TIME
RELINQUISHED BY UPS	DATE/TIME	RECEIVED BY	DATE/TIME 6/3/15 0947
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other

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

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: _____ Date 6/8/15
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

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: _____ Date: 6/8/15
Mark J. Johnson
Operations Manager

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: 06/03/15
Matrix: Air
Reporting Units: % v/v

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: _____ Date 6-11-15

Mark Johnson
Operations Manager

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

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.

Bridgeton Landfill, LLC.
Weeklty TRS Sampling Summary

Kurz FM =	**4,708**	scfm
Fleetzoom Total =	**4,615**	scfm

$\Delta =$ **-2%**

	PARAMETER	Blower Out
Date	Test Date	6/10/15
Time	Start - Finish	0800-0845
%CH_4	Methane, %	7.90
%CO_2	Carbon Dioxide, %	32.00
%O_2	Oxygen, %	9.65
%Balance	Assumed as Nitorgen, %	38.50
%H_2	Hydrogen, %	11.00
P_g	Flue Gas Static Pressure, inches of H_2O	21.04
t_s	Blower Outlet LFG Temperature, °F	126
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,237
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,708
LFG_{CH4}	Methane, lb/hr	836.5
	Methane, grains/dscf	23.03
LFG_{CO2}	Carbon Dioxide, lb/hr	9,294.8
	Carbon Dioxide, grains/dscf	255.94
LFG_{O2}	Oxygen, lb/hr	2,038.0
	Oxygen, grains/dscf	56.12
LFG_{N2}	Balance gas as Nitrogen, lb/hr	7,118.2
	Balance gas as Nitrogen, grains/dscf	196.00
LFG_{H4}	Hydrogen, lb/hr	146.4
	Hydrogen, grains/dscf	4.03

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	45.00	0.56
	Hydrogen Sulfide Rate, lb/hr	1.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.028	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	220.00	0.56
	Methyl Mercaptan Rate, lb/hr	6.99	0.02
	Methyl Mercaptan Rate, grains/dscf	0.192	0.000
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.60	0.56
	Ethyl Mercaptan Rate, lb/hr	0.11	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	960.00	1,000.00
	Dimethyl Sulfide Rate, lb/hr	39.37	41.01
	Dimethyl Sulfide Rate, grains/dscf	1.084	1.129
CS_2	Carbon Disulfide Concentration, ppmd	0.71	0.74
	Carbon Disulfide Rate, lb/hr	0.04	0.04
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	200.00	630.00
	Dimethyl Disulfide Rate, lb/hr	12.43	39.17
	Dimethyl Disulfide Rate, grains/dscf	0.342	1.079

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,600.00	2,200.00
	TRS-->SO2 Emission Rate, lb/hr	67.65	93.02
	TRS-->SO2 Emission Rate, grains/dscf	1.863	2.561

❶ TRS assumed moelcular mass = SO2, 64.06 gram/mole, I.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack

Air TECHNOLOGY Laboratories, Inc.

June 15, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G061103-01/02

Enclosed are results for sample(s) received 6/11/15 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).

Preliminary results were e-mailed to Jim Getting, Mike Lambrich and Ryan Ayers on 6/12/15.

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

- Standard ☐ 48 hours ☐
- Same Day ☐ 72 hours ☐
- 24 hours ■ 96 hours ☐
- Other:

DELIVERABLES

- EDD ☐
- EDF ☐
- Level 3 ☐
- Level 4 ☐

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2, TRS (@ 6/11/15)	15/16+TRS (@ 6/11/15)				
GOG1103-01	Outlet A	6/10/2015	813	C	LFG	NA	X	X				
↓ -02	Outlet B	6/10/2015	833	C	LFG	NA	X	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	6-10-15 0900		
FEDEX	6/11/15 0857	[signature]	6/11/15 0857

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

COMMENTS

Analyses confd via email from R. Ayers GD 6/11/15
DO not rpt CO per RAyers 6/12/15 GD

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/11/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G061103-01		G061103-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/10/15 8:13		6/10/15 8:33					
Date/Time Analyzed:	6/11/15 12:26		6/11/15 13:25					
QC Batch No.:	150611GC3A1		150611GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	45 d	5.6	ND	0.56				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	220 d	5.6	ND	0.56				
Ethyl Mercaptan	2.6	0.56	ND	0.56				
Dimethyl Sulfide	960 d	56	1,000 d	56				
Carbon Disulfide	0.71	0.56	0.74	0.56				
Dimethyl Disulfide	200 d	56	630 d	56				
Total Reduced Sulfur	1,600	0.56	2,200	0.56				

ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution

Reviewed/Approved By: _____ Date 6/12/15
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150611GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/11/15 10:24		6/11/15 10:00		6/11/15 12:13			
Analyst Initials:	AS		AS		AS			
Datafile:	11jun004		11jun002		11jun013			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	77	70-130%	76	70-130%	1.2	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	100	70-130%	5.0	<30
Methyl Mercaptan	ND	0.20	104	70-130%	100	70-130%	4.2	<30
Ethyl Mercaptan	ND	0.20	121	70-130%	118	70-130%	1.9	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	94	70-130%	5.0	<30
Carbon Disulfide	ND	0.20	96	70-130%	94	70-130%	2.1	<30
Dimethyl Disulfide	ND	0.20	103	70-130%	92	70-130%	11.9	<30

ND = Not Detected (Below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date: 6/12/15
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/11/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G061103-01		G061103-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/10/15 8:13		6/10/15 8:33					
Date/Time Analyzed:	6/11/15 9:42		6/11/15 9:57					
QC Batch No.:	150611GC8A1		150611GC8A1					
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	11	2.8				
Carbon Dioxide	32	0.028	32	0.028				
Oxygen/Argon	9.7	1.4	9.6	1.4				
Nitrogen	39	2.8	38	2.8				
Methane	7.9	0.0028	7.9	0.0028				

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 6/12/15

Mark Johnson
Operations Manager

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

QC Batch No.: 150611GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/11/15 9:20		6/11/15 8:07		6/11/15 8:21			
Analyst Initials:	AS		AS		AS			
Datafile:	11jun005		11jun.ru		11jun001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	106	70-130%	100	70-130%	6.1	<30
Carbon Dioxide	ND	0.010	94	70-130%	88	70-130%	7.0	<30
Oxygen/Argon	ND	0.50	102	70-130%	96	70-130%	6.5	<30
Nitrogen	ND	1.0	102	70-130%	96	70-130%	6.2	<30
Methane	ND	0.0010	125	70-130%	118	70-130%	6.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6/12/15

Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weeklty TRS Sampling Summary

Kurz FM =	**4,620**	scfm
Fleetzoom Total =	**4,816**	scfm

$\Delta =$ **4%**

	PARAMETER	Blower Out
Date	Test Date	6/16/15
Time	Start - Finish	1015-1100
$\%CH_4$	Methane, %	8.45
$\%CO_2$	Carbon Dioxide, %	31.50
$\%O_2$	Oxygen, %	9.80
%Balance	Assumed as Nitorgen, %	39.50
$\%H_2$	Hydrogen, %	9.50
P_g	Flue Gas Static Pressure, inches of H_2O	22.70
t_s	Blower Outlet LFG Temperature, °F	129
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,158
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,620
LFG_{CH4}	Methane, lb/hr	878.0
	Methane, grains/dscf	24.64
LFG_{CO2}	Carbon Dioxide, lb/hr	8,979.3
	Carbon Dioxide, grains/dscf	251.94
LFG_{O2}	Oxygen, lb/hr	2,031.2
	Oxygen, grains/dscf	56.99
LFG_{N2}	Balance gas as Nitrogen, lb/hr	7,167.1
	Balance gas as Nitrogen, grains/dscf	201.09
LFG_{H4}	Hydrogen, lb/hr	124.0
	Hydrogen, grains/dscf	3.48

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.56	0.56
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	92.00	39.00
	Methyl Mercaptan Rate, lb/hr	2.87	1.22
	Methyl Mercaptan Rate, grains/dscf	0.080	0.034
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.00	0.65
	Ethyl Mercaptan Rate, lb/hr	0.04	0.03
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	950.00	860.00
	Dimethyl Sulfide Rate, lb/hr	38.23	34.61
	Dimethyl Sulfide Rate, grains/dscf	1.073	0.971
CS_2	Carbon Disulfide Concentration, ppmd	0.69	0.74
	Carbon Disulfide Rate, lb/hr	0.03	0.04
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	300.00	250.00
	Dimethyl Disulfide Rate, lb/hr	18.30	15.25
	Dimethyl Disulfide Rate, grains/dscf	0.514	0.428

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,600.00	1,400.00
	TRS-->SO2 Emission Rate, lb/hr	66.39	58.09
	TRS-->SO2 Emission Rate, grains/dscf	1.863	1.630

❶ TRS assumed moelcular mass = SO2, 64.06 gram/mole, I.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack

Air TECHNOLOGY Laboratories, Inc.

June 22, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G061713-01/02

Enclosed are results for sample(s) received 6/17/15 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 Jim Getting, Mike Lambrich and Ryan Ayers on 6/19/15.

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

- Standard ☐ 48 hours ☒
- Same Day ☐ 72 hours ☐
- 24 hours ☐ 96 hours ☐
- Other: 7 Days

DELIVERABLES

- EDD ☒
- EDF ☐
- Level 3 ☐
- Level 4 ☐

PAGE: 1 OF 1

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS & ASTM1946 + H2	TO15				
G061713-01	Outlet A	6/16/2015	1035	C	LFG	NA	X	X				
↓ -02	Outlet B	6/16/2015	1049	C	LFG	NA	X	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	6-16-15 1115		
FED EX		[signature]	6/17/15 1019

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

COMMENTS

48HR TAT and TO15 added per telecon w/J. Getting 6/17/15 1148 DT

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G061713-01		G061713-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/16/15 10:35		6/16/15 10:49					
Date/Time Analyzed:	6/18/15 10:18		6/18/15 11:09					
QC Batch No.:	150618GC3A1		150618GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	ND	0.56	ND	0.56				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	92 d	5.6	39 d	5.6				
Ethyl Mercaptan	1.0	0.56	0.65	0.56				
Dimethyl Sulfide	950 d	56	860 d	56				
Carbon Disulfide	0.69	0.56	0.74	0.56				
Dimethyl Disulfide	300 d	56	250 d	56				
Total Reduced Sulfur	1,600	0.56	1,400	0.56				

ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution

Reviewed/Approved By: _____ Date 6/19/15
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150618GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/18/15 9:17		6/18/15 8:54		6/18/15 9:05			
Analyst Initials:	AS		AS		AS			
Datafile:	18jun003		18jun001		18jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	97	70-130%	95	70-130%	1.9	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	104	70-130%	1.1	<30
Methyl Mercaptan	ND	0.20	112	70-130%	106	70-130%	6.2	<30
Ethyl Mercaptan	ND	0.20	101	70-130%	110	70-130%	8.9	<30
Dimethyl Sulfide	ND	0.20	109	70-130%	107	70-130%	1.3	<30
Carbon Disulfide	ND	0.20	108	70-130%	108	70-130%	0.4	<30
Dimethyl Disulfide	ND	0.20	119	70-130%	113	70-130%	5.2	<30

ND = Not Detected (Below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date: 6/19/15
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G061713-01		G061713-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/16/15 10:35		6/16/15 10:49					
Date/Time Analyzed:	6/18/15 12:11		6/18/15 12:25					
QC Batch No.:	150618GC8A1		150618GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	9.6	2.8	9.4	2.8				
Carbon Dioxide	32	0.028	31	0.028				
Oxygen/Argon	9.7	1.4	9.9	1.4				
Nitrogen	39	2.8	40	2.8				
Methane	8.5	0.0028	8.4	0.0028				

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 6/19/15
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 150618GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/18/15 10:21		6/18/15 9:07		6/18/15 9:22			
Analyst Initials:	AS		AS		AS			
Datafile:	18jun008		18jun003		18jun004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	106	70-130%	107	70-130%	0.0	<30
Carbon Dioxide	ND	0.010	95	70-130%	97	70-130%	1.6	<30
Oxygen/Argon	ND	0.50	97	70-130%	98	70-130%	1.3	<30
Nitrogen	ND	1.0	98	70-130%	100	70-130%	1.4	<30
Methane	ND	0.0010	113	70-130%	112	70-130%	1.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6/19/15

Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	G061713-01		G061713-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/16/15 10:35		6/16/15 10:49					
Date/Time Analyzed:	6/18/15 14:24		6/18/15 15:48					
QC Batch No.:	150618MS2A1		150618MS2A1					
Analyst Initials:	DT		DT					
Dilution Factor:	560		5,600					
ANALYTE	Result ppbv	RL ppbv	Result ppbv	RL ppbv				
Dichlorodifluoromethane (12)	ND	560	ND	5,600				
Chloromethane	8,500	1,100	ND	11,000				
1,2-Cl-1,1,2,2-F ethane (114)	ND	560	ND	5,600				
Vinyl Chloride	ND	560	ND	5,600				
Bromomethane	930	560	ND	5,600				
Chloroethane	2,000	560	ND	5,600				
Trichlorofluoromethane (11)	ND	560	ND	5,600				
1,1-Dichloroethene	ND	560	ND	5,600				
Carbon Disulfide	ND	2,800	ND	28,000				
1,1,2-Cl 1,2,2-F ethane (113)	ND	560	ND	5,600				
Acetone	560,000 d	28,000	570,000	28,000				
Methylene Chloride	ND	560	ND	5,600				
t-1,2-Dichloroethene	ND	560	ND	5,600				
1,1-Dichloroethane	ND	560	ND	5,600				
Vinyl Acetate	ND	2,800	ND	28,000				
c-1,2-Dichloroethene	ND	560	ND	5,600				
2-Butanone	420,000 d	5,600	430,000	5,600				
t-Butyl Methyl Ether (MTBE)	ND	560	ND	5,600				
Chloroform	ND	560	ND	5,600				
1,1,1-Trichloroethane	ND	560	ND	5,600				
Carbon Tetrachloride	ND	560	ND	5,600				
Benzene	190,000 d	5,600	190,000	5,600				
1,2-Dichloroethane	ND	560	ND	5,600				
Trichloroethene	ND	560	11,000	5,600				
1,2-Dichloropropane	ND	560	ND	5,600				
Bromodichloromethane	ND	560	ND	5,600				
c-1,3-Dichloropropene	ND	560	ND	5,600				
4-Methyl-2-Pentanone	13,000	560	12,000	5,600				
Toluene	36,000	560	35,000	5,600				
t-1,3-Dichloropropene	ND	560	ND	5,600				

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

Client:	**Republic Services**
Attn:	**Jim Getting**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/17/15**
Matrix:	**Air**
Reporting Units:	**ppbv**

EPA Method TO15

Lab No.:	G061713-01		G061713-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/16/15 10:35		6/16/15 10:49					
Date/Time Analyzed:	6/18/15 14:24		6/18/15 15:48					
QC Batch No.:	150618MS2A1		150618MS2A1					
Analyst Initials:	DT		DT					
Dilution Factor:	560		5,600					
ANALYTE	**Result ppbv**	**RL ppbv**	**Result ppbv**	**RL ppbv**				
1,1,2-Trichloroethane	ND	560	ND	5,600				
Tetrachloroethene	ND	560	ND	5,600				
2-Hexanone	7,200	560	8,400	5,600				
Dibromochloromethane	ND	560	ND	5,600				
1,2-Dibromoethane	ND	560	ND	5,600				
Chlorobenzene	980	560	ND	5,600				
Ethylbenzene	14,000	560	20,000	5,600				
p,&m-Xylene	25,000	560	36,000	5,600				
o-Xylene	10,000	560	16,000	5,600				
Styrene	1,100	560	ND	5,600				
Bromoform	ND	560	ND	5,600				
1,1,2,2-Tetrachloroethane	ND	1,100	ND	11,000				
Benzyl Chloride	ND	560	ND	5,600				
4-Ethyl Toluene	5,800	560	24,000	5,600				
1,3,5-Trimethylbenzene	2,400	1,100	11,000	11,000				
1,2,4-Trimethylbenzene	6,500	1,100	33,000	11,000				
1,3-Dichlorobenzene	ND	560	ND	5,600				
1,4-Dichlorobenzene	2,600	560	7,800	5,600				
1,2-Dichlorobenzene	ND	560	ND	5,600				
1,2,4-Trichlorobenzene	ND	1,100	ND	11,000				
Hexachlorobutadiene	ND	560	ND	5,600				

ND = Not Detected (below RL)
RL = Reporting Limit
d = Analyte reported from secondary dilution.

Reviewed/Approved By: _____ **Date** 6/19/15

Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	METHOD BLANK
Client Sample I.D.:	-
Date/Time Sampled:	-
Date/Time Analyzed:	6/18/15 9:29
QC Batch No.:	150618MS2A1
Analyst Initials:	
Dilution Factor:	0.20

ANALYTE	Result ppbv	RL ppbv
Dichlorodifluoromethane (12)	ND	0.20
Chloromethane	ND	0.40
1,2-Cl-1,1,2,2-F ethane (114)	ND	0.20
Vinyl Chloride	ND	0.20
Bromomethane	ND	0.20
Chloroethane	ND	0.20
Trichlorofluoromethane (11)	ND	0.20
1,1-Dichloroethene	ND	0.20
Carbon Disulfide	ND	1.0
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.20
Acetone	ND	1.0
Methylene Chloride	ND	0.20
t-1,2-Dichloroethene	ND	0.20
1,1-Dichloroethane	ND	0.20
Vinyl Acetate	ND	1.0
c-1,2-Dichloroethene	ND	0.20
2-Butanone	ND	0.20
t-Butyl Methyl Ether (MTBE)	ND	0.20
Chloroform	ND	0.20
1,1,1-Trichloroethane	ND	0.20
Carbon Tetrachloride	ND	0.20
Benzene	ND	0.20
1,2-Dichloroethane	ND	0.20
Trichloroethene	ND	0.20
1,2-Dichloropropane	ND	0.20
Bromodichloromethane	ND	0.20
c-1,3-Dichloropropene	ND	0.20
4-Methyl-2-Pentanone	ND	0.20
Toluene	ND	0.20
t-1,3-Dichloropropene	ND	0.20

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	METHOD BLANK							
Client Sample I.D.:	-							
Date/Time Sampled:	-							
Date/Time Analyzed:	6/18/15 9:29							
QC Batch No.:	150618MS2A1							
Analyst Initials:								
Dilution Factor:	0.20							
ANALYTE	Result ppbv	RL ppbv						
1,1,2-Trichloroethane	ND	0.20						
Tetrachloroethene	ND	0.20						
2-Hexanone	ND	0.20						
Dibromochloromethane	ND	0.20						
1,2-Dibromoethane	ND	0.20						
Chlorobenzene	ND	0.20						
Ethylbenzene	ND	0.20						
p,&m-Xylene	ND	0.20						
o-Xylene	ND	0.20						
Styrene	ND	0.20						
Bromoform	ND	0.20						
1,1,2,2-Tetrachloroethane	ND	0.40						
Benzyl Chloride	ND	0.20						
4-Ethyl Toluene	ND	0.20						
1,3,5-Trimethylbenzene	ND	0.40						
1,2,4-Trimethylbenzene	ND	0.40						
1,3-Dichlorobenzene	ND	0.20						
1,4-Dichlorobenzene	ND	0.20						
1,2-Dichlorobenzene	ND	0.20						
1,2,4-Trichlorobenzene	ND	0.40						
Hexachlorobutadiene	ND	0.20						

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 6/19/15
Mark Johnson
Operations Manager

This 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

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 150618MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	6/18/15 9:29		6/18/15 8:07		6/18/15 8:47						
Data File ID:	18JUN007.D		18JUN005.D		18JUN006.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	10.2	102	10.2	102	0.3	70	130	30	Pass
Methylene Chloride	0.0	10.0	10.7	107	10.7	107	0.1	70	130	30	Pass
Trichloroethene	0.0	10.0	10.7	107	11.0	110	2.5	70	130	30	Pass
Toluene	0.0	10.0	10.2	102	10.0	100	2.0	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	9.4	94	8.9	89	4.6	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____ Date: 6/19/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Bridgeton Landfill, LLC.
Weeklty TRS Sampling Summary

Kurz FM =	**4,530**	scfm
Fleetzoom Total =	**4,717**	scfm

$\Delta =$ **4%**

	PARAMETER	Blower Out
Date	Test Date	6/23/15
Time	Start - Finish	0910-0945
$\%CH_4$	Methane, %	7.65
$\%CO_2$	Carbon Dioxide, %	31.00
$\%O_2$	Oxygen, %	9.95
%Balance	Assumed as Nitorgen, %	40.00
$\%H_2$	Hydrogen, %	10.00
P_g	Flue Gas Static Pressure, inches of H_2O	22.50
t_s	Blower Outlet LFG Temperature, °F	127
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,077
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,530
LFG_{CH4}	Methane, lb/hr	779.4
	Methane, grains/dscf	22.30
LFG_{CO2}	Carbon Dioxide, lb/hr	8,664.6
	Carbon Dioxide, grains/dscf	247.94
LFG_{O2}	Oxygen, lb/hr	2,022.1
	Oxygen, grains/dscf	57.86
LFG_{N2}	Balance gas as Nitrogen, lb/hr	7,116.5
	Balance gas as Nitrogen, grains/dscf	203.64
LFG_{H4}	Hydrogen, lb/hr	128.0
	Hydrogen, grains/dscf	3.66

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.56	0.56
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	0.56	150.00
	Methyl Mercaptan Rate, lb/hr	0.02	4.58
	Methyl Mercaptan Rate, grains/dscf	0.000	0.131
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	2.00
	Ethyl Mercaptan Rate, lb/hr	0.02	0.08
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	960.00	1,100.00
	Dimethyl Sulfide Rate, lb/hr	37.88	43.41
	Dimethyl Sulfide Rate, grains/dscf	1.084	1.242
CS_2	Carbon Disulfide Concentration, ppmd	0.66	0.68
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	380.00	240.00
	Dimethyl Disulfide Rate, lb/hr	22.73	14.36
	Dimethyl Disulfide Rate, grains/dscf	0.651	0.411

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	69.17	69.17
	TRS-->SO2 Emission Rate, grains/dscf	1.979	1.979

❶ TRS assumed moelcular mass = SO2, 64.06 gram/mole, I.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack

Air TECHNOLOGY Laboratories, Inc.

June 29, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G062403-01/02

Enclosed are results for sample(s) received 6/24/15 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 Jim Getting, Mike Lambrich and Ryan Ayers on 6/26/15.

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other: 7 Days				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS & ASTM1946 + H2					
G0G2403-01	Outlet A	6/23/2015	922	C	LFG	NA	X					
↓ -02	Outlet B	6/23/2015	935	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	6-23-15 1000		
FedEx		[illegible]	6/24/15 0858

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

COMMENTS

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/24/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G062403-01		G062403-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/23/15 9:22		6/23/15 9:35					
Date/Time Analyzed:	6/24/15 10:27		6/24/15 11:09					
QC Batch No.:	150623GC3A1		150623GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	ND	0.56	ND	0.56				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	ND	0.56	150 d	5.8				
Ethyl Mercaptan	ND	0.56	2.0	0.56				
Dimethyl Sulfide	960 d	56	1,100 d	56				
Carbon Disulfide	0.66	0.56	0.68	0.56				
Dimethyl Disulfide	380 d	56	240 d	56				
Total Reduced Sulfur	1,700	0.56	1,700	0.56				

ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution

Reviewed/Approved By: _____ Date 6-26-15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150623GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/23/15 15:40		6/24/15 8:26		6/24/15 8:37			
Analyst Initials:	AS		AS		AS			
Datafile:	23jun003		23jun008		23jun009			
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%	92	70-130%	3.3	<30
Carbonyl Sulfide	ND	0.20	99	70-130%	97	70-130%	2.2	<30
Methyl Mercaptan	ND	0.20	102	70-130%	101	70-130%	1.1	<30
Ethyl Mercaptan	ND	0.20	119	70-130%	117	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	92	70-130%	91	70-130%	0.8	<30
Carbon Disulfide	ND	0.20	93	70-130%	92	70-130%	1.5	<30
Dimethyl Disulfide	ND	0.20	99	70-130%	98	70-130%	1.2	<30

ND = Not Detected (Below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date: 6-26-15
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/24/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G062403-01		G062403-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	6/23/15 9:22		6/23/15 9:35					
Date/Time Analyzed:	6/24/15 14:19		6/24/15 14:34					
QC Batch No.:	150624GC8A1		150624GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	10	2.8	10	2.8				
Carbon Dioxide	31	0.028	31	0.028				
Oxygen/Argon	9.9	1.4	10	1.4				
Nitrogen	40	2.8	40	2.8				
Methane	7.8	0.0028	7.5	0.0028				

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 6-26-15

Mark Johnson
Operations Manager

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

QC Batch No.: 150624GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/24/15 13:20		6/24/15 12:13		6/24/15 12:28			
Analyst Initials:	AS		AS		AS			
Datafile:	24jun017		24jun013		24jun014			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	112	70-130%	111	70-130%	0.9	<30
Carbon Dioxide	ND	0.010	100	70-130%	100	70-130%	0.5	<30
Oxygen/Argon	ND	0.50	102	70-130%	102	70-130%	0.2	<30
Nitrogen	ND	1.0	103	70-130%	103	70-130%	0.2	<30
Methane	ND	0.0010	105	70-130%	103	70-130%	2.0	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6-26-15

Mark J. Johnson
Operations Manager

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

	PARAMETER				Blower Out
Date	Test Date				7/1/15
Start	Run Start Time				8:11
	Run Finish Time				9:34
	Net Traversing Points				16 (2 x 8)
Θ	Net Run Time, minutes				1:23:15
C_p	Pitot Tube Coeficient				0.99
P_{Br}	Barometric Pressure, inches of Mercury				29.51
% H_2O	Moisture Content of LFG, %				8.04
% RH	Relative Humidity, %				50.50
M_{fd}	Dry Mole Fraction				0.920
%CH_4	Methane, %				8.00
%CO_2	Carbon Dioxide, %				30.50
%O_2	Oxygen, %				10.00
%Balance	Assumed as Nitorgen, %				40.50
%H_2	Hydrogen, %				10.00
M_d	Dry Molecular Weight, lb/lb-Mole				29.45
M_s	Wet Molecular weight, lb/lb-Mole				28.53
P_g	Flue Gas Static Pressure, inches of H_2O				22.16
P_s	Absolute Flue Gas Pressure, inches of Mercury				31.14
t_s	Average Stack Gas Temperature, °F				137
ΔP_{avg}	Average Velocity Head, inches of H_2O				0.835
v_s	Average LFG Velocity, feet/second				63.39
A_s	Stack Crossectional Area, square feet				1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm				4,356
Q_s	Standard Volumetric Flow Rate, scfm				4,706
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm				5,146
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr				19,980
LFG_{CH4}	Methane, lb/hr				870.9
	Methane, grains/dscf				23.32
LFG_{CO2}	Carbon Dioxide, lb/hr				9,108.3
	Carbon Dioxide, grains/dscf				243.94
LFG_{O2}	Oxygen, lb/hr				2171.3
	Oxygen, grains/dscf				58.15
LFG_{N2}	Balance gas as Nitrogen, lb/hr				7,698.6
	Balance gas as Nitrogen, grains/dscf				206.18
LFG_{H4}	Hydrogen, lb/hr				136.8
	Hydrogen, grains/dscf				3.66

				Blower Out Sample #1	Blower Out Sample #2
H_2S	Hydrogen Sulfide Concentration, ppmd			33.00	10.00
	Hydrogen Sulfide Rate, lb/hr			0.76	0.23
	Hydrogen Sulfide Rate, grains/dscf			0.020	0.006
COS	Carbonyl Sulfide Concentration, ppmd			0.56	0.56
	Carboynl Sulfide Rate, lb/hr			0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf			0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd			170.00	160.00
	Methyl Mercaptan Rate, lb/hr			5.55	5.22
	Methyl Mercaptan Rate, grains/dscf			0.149	0.140
C_2H_6S	Ethyl Mercaptan Concentration, ppmd			2.40	2.10
	Ethyl Mercaptan Rate, lb/hr			0.10	0.09
	Ethyl Mercaptan Rate, grains/dscf			0.003	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd			920.00	860.00
	Dimethyl Sulfide Rate, lb/hr			38.79	36.26
	Dimethyl Sulfide Rate, grains/dscf			1.039	0.971
CS_2	Carbon Disulfide Concentration, ppmd			0.74	0.70
	Carbon Disulfide Rate, lb/hr			0.04	0.04
	Carbon Disulfide Rate, grains/dscf			0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd			110.00	170.00
	Dimethyl Disulfide Rate, lb/hr			7.03	8.78
	Dimethyl Disulfide Rate, grains/dscf			0.188	0.235
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd			1,300.00	1,400.00
	TRS-->SO2 Emission Rate, lb/hr			56.51	60.86
	TRS-->SO2 Emission Rate, grains/dscf			1.514	1.630

❶ TRS assumed moelcular mass = SO2, 64.06 gram/mole, I.e. 1 TRS in LFG assumed to = 1 SO2 emitted from the stack

Wednesday, July 01, 2015

LOCATION	TIME	Q -SCFM		Δ	KURZ	
		METHOD 2	FLEETZOOM			
BLOWER OUT	**8:11**	**4,706**	**4,836**	**2.7%**	**4,910**	4.1%
FL100						
FL120						
FL 140						

AirTECHNOLOGY
Laboratories, Inc.

July 6, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G070203-01/02

Enclosed are results for sample(s) received 7/02/15 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 Jim Getting, Mike Lambrich, Ryan Ayers and David Randall,Weaver Consultants Group, on 7/02/15.

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.

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.

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

TURNAROUND TIME

- Standard ☐ 48 hours ■ (5D)
- Same Day ☒ 72 hours ☐
- 24 hours ☐ 96 hours ☐
- Other: 7 Days

DELIVERABLES

- EDD ☐
- EDF ☐
- Level 3 ☐
- Level 4 ☐

PAGE: 1 OF 1

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS & ASTM1946 + H2 + CO					
G070203-01	Outlet A	7/1/2015	834	C	LFG	NA	X					
↓ -02	Outlet B	7/1/2015	848	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	7-1-15 1100		
FED EX		[illegible]	7/2/15 0914

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

COMMENTS

TAT change per RAyers 7/1/15 SD (email)

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:	**Republic Services**
Attn:	**Jim Getting**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**07/02/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G070203-01		G070203-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/1/15 8:34		7/1/15 8:48					
Date/Time Analyzed:	7/2/15 10:28		7/2/15 11:03					
QC Batch No.:	150702GC3A1		150702GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	33 d	5.6	10	0.56				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	170 d	5.6	160 d	5.6				
Ethyl Mercaptan	2.4	0.56	2.1	0.56				
Dimethyl Sulfide	920 d	56.0	860 d	56.0				
Carbon Disulfide	0.74	0.56	0.70	0.56				
Dimethyl Disulfide	110 d	5.6	170 d	56.0				
Total Reduced Sulfur	1,300	0.56	1,400	0.56				

ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution

Reviewed/Approved By: _____ Date 7-2-15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150702GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/2/15 9:27		7/2/15 8:31		7/2/15 8:42			
Analyst Initials:	AS		AS		AS			
Datafile:	02jul003		02jul001		02jul002			
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%	76	70-130%	2.6	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	104	70-130%	1.8	<30
Methyl Mercaptan	ND	0.20	106	70-130%	105	70-130%	0.7	<30
Ethyl Mercaptan	ND	0.20	100	70-130%	99	70-130%	0.8	<30
Dimethyl Sulfide	ND	0.20	112	70-130%	113	70-130%	0.6	<30
Carbon Disulfide	ND	0.20	109	70-130%	109	70-130%	0.2	<30
Dimethyl Disulfide	ND	0.20	127	70-130%	126	70-130%	0.3	<30

ND = Not Detected (Below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date: 7-2-15
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/02/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G070203-01		G070203-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/1/15 8:34		7/1/15 8:48					
Date/Time Analyzed:	7/2/15 10:16		7/2/15 10:31					
QC Batch No.:	150702GC8A1		150702GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	10	2.8	10	2.8				
Carbon Dioxide	30	0.028	31	0.028				
Oxygen/Argon	10	1.4	10	1.4				
Nitrogen	41	2.8	40	2.8				
Methane	7.8	0.0028	8.1	0.0028				
Carbon Monoxide	0.097	0.0028	0.10	0.0028				

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 7-2-15

Mark Johnson
Operations Manager

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

QC Batch No.: 150702GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/2/15 9:57		7/2/15 9:09		7/2/15 9:24			
Analyst Initials:	AS		AS		AS			
Datafile:	02jul003		02jul.ru		02jul001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	113	70-130%	111	70-130%	1.2	<30
Carbon Dioxide	ND	0.010	99	70-130%	98	70-130%	0.7	<30
Oxygen/Argon	ND	0.50	103	70-130%	102	70-130%	0.6	<30
Nitrogen	ND	1.0	104	70-130%	103	70-130%	0.6	<30
Methane	ND	0.0010	120	70-130%	119	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	123	70-130%	122	70-130%	0.9	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 7-2-15

Mark J. Johnson
Operations Manager

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

ATTACHMENT C

GAS WELL ANALYSES MAPS

LEGEND

< = Well Location

Hydrogen

	<	10%
10	<	20%
20	<	30%
30	<	40%
	>	40%

NOTES:

Hydrogen represents the laboratory reported concentration for samples collected during the month.

Only points monitored during the report period show data.

GEW-004 GEW-003 GEW-002 PGW-60 GEW-005 GEW-001 LCS-6B GEW-006 GEW-048 GEW-046R GEW-047R T-56 GEW-045R GEW-049 GEW-050 GEW-051 GEW-044 GEW-052 GEW-043R LCS-5A GEW-007 GEW-042R GEW-053 GEW-054 GEW-008 GEW-055 GEW-041R GEW-009 GEW-040 GEW-010 GEW-039 GIW-13 GIW-11 GEW-109 GEW-110 GIW-10 GEW-056R LCS-1D GIW-12 GIW-09 GIW-01 GIW-08 GEW-038 GIW-02 GIW-07 GEW-011 GIW-03 GIW-04 GIW-06 GEW-108 SEW-063 GEW-149 GIW-05 GEW-037 GEW-091 GEW-112 SEW-012A GEW-154 GEW-107 GEW-148 GEW-090 GEW-153 GEW-013A GEW-067A GEW-152 GEW-014A GEW-151 GEW-059R GEW-036 GEW-113 SEW-067 GEW-085 SEW-062R GEW-106 GEW-015 GEW-147 GEW-088 GEW-058A GEW-058 GEW-035 GEW-016R GEW-087 GEW-156 GEW-105 GEW-071B GEW-089 SEW-061R GEW-104 GEW-135 SEW-072R GEW-084 GEW-061B GEW-057R GEW-150 GEW-072RR GEW-071 GEW-066 GEW-034 SEW-017R GEW-136 LCS-4B GEW-146 GEW-065A GEW-057B GEW-034A GEW-134 GEW-086 GEW-075 SEW-060R GEW-033R GEW-018B GEW-076R GEW-137 GEW-070R GEW-083 GEW-116 GEW-145 GEW-103 GEW-064A GEW-018R GEW-082R SEW-079R GEW-069R GEW-102 GEW-133 GEW-118 GEW-155 SEW-074 SEW-064 LCS-3C GEW-138 GEW-117 GEW-068A SEW-032R GEW-019A GEW-140 GEW-144 GEW-081 GEW-078R SEW-031R GEW-132 GEW-073R GEW-120 GEW-020A GEW-122 GEW-143 GEW-021A GEW-080 GEW-077 GEW-121 GEW-030R LCS-2D GEW-101 GEW-123 GEW-022R GEW-139 GEW-124 GEW-023A GEW-131 GEW-100 GEW-125 GEW-025A GEW-028R GEW-142 GEW-126 GEW-024A GEW-029 GEW-026R GEW-141 GEW-127 GEW-027A GEW-129 GEW-128

1 inch = 70 meters

0 35 70 105 140

Hydrogen Data Map - June 2015 - Bridgeton Landfill

REPUBLIC SERVICES

LEGEND

< = Well Location

Carbon Monoxide (ppm)

- < 1,000
- 1,001 ≤ 2,000
- 2,001 ≤ 3,000
- 3,001 ≤ 4,000
- 4,001 ≤ 5,000
- > 5,000

NOTES:

Carbon Monoxide represents the laboratory reported concentration for samples collected during the month.

Only points monitored during the report period show data.

GEW-003 PGW-60 GEW-002 GEW-004 GEW-001 GEW-005 GEW-048 LCS-6B GEW-046R GEW-047R T-56 GEW-049 GEW-045R GEW-006 GEW-050 GEW-044 GEW-051 GEW-052 LCS-5A GEW-043R GEW-007 GEW-053 GEW-042R GEW-054 GEW-008 GEW-041R GEW-009 GEW-055 GEW-040 GEW-010 GEW-039 GEW-109 GEW-112 GEW-014A GEW-013A GEW-067A GEW-090 GEW-154 GEW-037 GEW-107 GEW-153 GEW-152 GEW-113 GEW-148 GEW-151 GEW-067 GEW-059R GEW-036 GEW-106 SEW-062R GEW-016R GEW-087 GEW-088 GEW-156 GEW-058A GEW-035 GEW-015 GEW-061B GEW-058 GEW-105 GEW-071B GEW-085 GEW-147 SEW-072R GEW-071 GEW-089 SEW-061R GEW-104 GEW-136 GEW-072RR GEW-066 GEW-150 GEW-135 SEW-017R LCS-4B GEW-084 GEW-083 GEW-057B GEW-057R GEW-034 GEW-134 GEW-086 GEW-033R GEW-034A GEW-076R GEW-065A SEW-060R GEW-116 GEW-018B GEW-137 GEW-146 GEW-070R GEW-103 GEW-133 GEW-018R GEW-075 GEW-064A GEW-145 GEW-069R GEW-117 GEW-118 SEW-079R SEW-074 SEW-064 LCS-3C GEW-019A GEW-082R GEW-138 GEW-068A GEW-102 GEW-120 GEW-155 GEW-140 SEW-031R GEW-132 GEW-078R GEW-073R SEW-032R GEW-020A GEW-021A GEW-122 GEW-144 GEW-121 GEW-077 GEW-101 GEW-081 GEW-080 GEW-139 GEW-143 LCS-2D GEW-123 GEW-131 GEW-030R GEW-022R GEW-100 GEW-124 GEW-023A GEW-028R GEW-142 GEW-125 GEW-025A GEW-029 GEW-024A GEW-141 GEW-126 GEW-027A GEW-026R GEW-129 GEW-127 GEW-128

GEW-010 GEW-039 GIW-11 GEW-109 GIW-12 GEW-056R GIW-08 GEW-110 GIW-13 GEW-038 GIW-10 LCS-1D GIW-01 GIW-09 GIW-02 GIW-07 GIW-03 GIW-04 GIW-06 GEW-011 GEW-108 GIW-05 SEW-063 GEW-091

GEW-010 GEW-039 GIW-11 GEW-109 GIW-12 GIW-08 GIW-13 GEW-056R GEW-038 LCS-1D GIW-01 GIW-10 GIW-09 GIW-02 GIW-07 GIW-03 GIW-04 GIW-06 GEW-011 GEW-108 GIW-05 SEW-063 GEW-091

1 inch = 70 meters

0 35 70 105 140

Carbon Monoxide Data Map - June 2015 - Bridgeton Landfill

REPUBLIC SERVICES

LEGEND

< = Well Location

Maximum Temperature

- < 131°
- 131 < 151°
- 151 < 171°
- 171 < 191°
- 191 < 211°
- 211 < 231°
- > 231°

NOTES:

Maximum Temperature represents the maximum initial wellhead temperature reading collected during the month.

Only points monitored during the report period show data.

GEW-010 GEW-039 GEW-056R GIW-08 GIW-13 GIW-12 GIW-11 GEW-109 GEW-038 GEW-110 GIW-01 GIW-09 GIW-07 GIW-10 LCS-1D GIW-02 GIW-03 GIW-04 GIW-06 GIW-05 GEW-011 GEW-108 SEW-063 GEW-091

GEW-003 PGW-60 GEW-002 GEW-005 GEW-004 GEW-001 GEW-048 LCS-6B GEW-006 GEW-046R T-56 GEW-047R GEW-045R GEW-044 GEW-049 GEW-050 GEW-051 GEW-052 LCS-5A GEW-007 GEW-043R GEW-053 GEW-054 GEW-042R GEW-008 GEW-009 GEW-055 GEW-041R GIW-04 GEW-010 GEW-040 GIW-13 GIW-12 GEW-056R GEW-039 GEW-110 GEW-109 LCS-1D GIW-01 GIW-11 GIW-08 GEW-038 GIW-02 GIW-09 GIW-03 GIW-07 SEW-063 GEW-011 GIW-05 GEW-108 GEW-149 GEW-091 GIW-10 GEW-112 GEW-013A GIW-06 SEW-012A GEW-153 GEW-037 GEW-151 GEW-014A GEW-154 GEW-107 GEW-067A GEW-152 GEW-113 GEW-090 GEW-059R GEW-036 GEW-148 GEW-088 GEW-085 SEW-062R GEW-106 GEW-087 GEW-058A GEW-147 GEW-015 SEW-072R GEW-156 GEW-035 GEW-016R SEW-067 SEW-061R GEW-104 SEW-017R GEW-071 GEW-089 GEW-058 GEW-105 GEW-072RR GEW-084 GEW-066 GEW-135 LCS-4B GEW-071B GEW-061B GEW-150 GEW-034 GEW-136 GEW-146 GEW-083 GEW-034A GEW-134 GEW-057B SEW-060R GEW-076R GEW-116 GEW-018B GEW-086 GEW-103 GEW-132 GEW-133 GEW-137 GEW-145 GEW-082R GEW-075 GEW-070R GEW-065A GEW-057R GEW-118 GEW-018R GEW-155 SEW-079R SEW-074 GEW-069R SEW-064 SEW-032R GEW-033R GEW-117 GEW-064A LCS-3C GEW-120 GEW-068A GEW-144 GEW-122 GEW-138 GEW-140 SEW-031R GEW-102 GEW-020A GEW-021A GEW-078R GEW-077 GEW-019A GEW-081 GEW-080 GEW-073R GEW-101 GEW-123 GEW-131 GEW-142 GEW-143 GEW-121 GEW-139 GEW-100 LCS-2D GEW-022R GEW-124 GEW-023A GEW-029 GEW-030R GEW-126 GEW-141 GEW-125 GEW-129 GEW-028R GEW-025A GEW-024A GEW-026R GEW-027A GEW-127 GEW-128

N

1 inch = 70 meters

0 35 70 105 140

Initial Temperature Maximums - June 2015 - Bridgeton Landfill

ATTACHMENT D

HYDROGEN / CARBON MONOXIDE DATA

ATTACHMENT D-1

LAB ANALYSIS SUMMARY

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(%)					(ppm)
North Quarry							
GEW-002	3/17/2015	55.0	39.0	ND	4.7	0.1	ND
GEW-002	5/12/2015	57.0	40.0	ND	ND	ND	ND
GEW-002	6/2/2015	55.0	39.0	ND	4.2	ND	ND
GEW-003	3/17/2015	53.0	42.0	ND	3.7	ND	ND
GEW-003	5/12/2015	53.0	38.0	ND	8.4	0.1	ND
GEW-003	6/2/2015	53.0	38.0	ND	6.8	0.1	ND
GEW-004	3/17/2015	55.0	38.0	ND	5.4	0.1	ND
GEW-004	5/12/2015	57.0	39.0	ND	ND	0.0	ND
GEW-004	6/2/2015	54.0	39.0	ND	5.3	ND	ND
GEW-005	3/17/2015	55.0	37.0	ND	7.2	0.1	ND
GEW-005	5/12/2015	56.0	36.0	ND	6.6	0.0	ND
GEW-005	6/3/2015	48.0	34.0	ND	16.0	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	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	ND
GEW-008	6/4/2015	52.0	43.0	ND	ND	1.7	32
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-009	6/4/2015	53.0	40.0	ND	5.0	0.6	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-040	6/3/2015	48.0	34.0	3.8	14.0	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	5/12/2015	52.0	34.0	3.0	11.0	ND	ND
GEW-042R	6/3/2015	49.0	34.0	3.1	13.0	ND	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	5/12/2015	60.0	37.0	ND	ND	ND	ND
GEW-045R	6/4/2015	57.0	39.0	ND	ND	ND	ND
GEW-046R	5/12/2015	56.0	38.0	ND	5.2	0.1	ND
GEW-046R	6/4/2015	54.0	37.0	ND	6.9	ND	ND
GEW-047R	3/17/2015	52.0	37.0	ND	9.7	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	5/12/2015	57.0	38.0	ND	4.3	ND	ND
GEW-048	6/3/2015	52.0	36.0	ND	11.0	ND	ND
GEW-049	3/17/2015	49.0	34.0	ND	15.0	0.2	ND

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(%)					(ppm)
GEW-049	5/12/2015	54.0	37.0	ND	7.8	0.1	ND
GEW-049	6/4/2015	43.0	32.0	2.2	22.0	0.0	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	5/13/2015	51.0	40.0	ND	ND	5.2	ND
GEW-053	6/4/2015	51.0	41.0	ND	ND	5.8	71
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	ND
GEW-054	6/4/2015	53.0	41.0	ND	ND	2.9	35
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
GEW-055	6/3/2015	49.0	37.0	2.5	9.2	1.2	ND

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(%)					(ppm)
South Quarry							
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-010	6/1/2015	50.0	36.0	2.5	9.9	0.0	32
GEW-011	3/31/2015	3.3	58.0	ND	5.4	31.0	2,500
GEW-011	5/13/2015	3.4	50.0	ND	21.0	23.0	2,200
GEW-016R	3/31/2015	0.5	53.0	ND	4.9	38.0	2,500
GEW-016R	5/13/2015	0.6	55.0	ND	ND	41.0	2,500
GEW-022R	3/31/2015	3.0	65.0	ND	ND	28.0	3,600
GEW-022R	5/13/2015	1.9	62.0	ND	ND	32.0	4,000
GEW-023A	3/31/2015	0.1	65.0	ND	3.7	28.0	4,000
GEW-023A	5/13/2015	0.1	65.0	ND	ND	31.0	4,800
GEW-025A	3/31/2015	0.1	65.0	ND	3.6	28.0	4,100
GEW-025A	5/13/2015	0.2	64.0	ND	ND	30.0	6,000
GEW-026R	3/31/2015	0.3	65.0	2.2	7.9	23.0	4,700
GEW-028R	5/13/2015	1.9	50.0	3.6	13.0	30.0	3,400
GEW-029	3/31/2015	0.2	55.0	ND	ND	41.0	3,700
GEW-029	5/13/2015	0.2	55.0	ND	ND	40.0	4,100
GEW-034	3/31/2015	15.0	63.0	ND	3.5	16.0	1,100
GEW-035	3/31/2015	3.0	53.0	2.8	12.0	28.0	2,900
GEW-038	3/30/2015	0.1	30.0	11.0	38.0	20.0	1,800
GEW-038	4/15/2015	0.2	41.0	6.5	24.0	28.0	2,600
GEW-038	5/7/2015	0.1	25.0	12.0	44.0	17.0	1,900
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-039	6/1/2015	37.0	53.0	ND	4.3	5.3	240
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	1,400
GEW-056R	6/16/2015	17.0	44.0	ND	23.0	15.0	890
GEW-057R	3/31/2015	0.5	54.0	1.7	6.0	36.0	2,600
GEW-057R	5/12/2015	0.5	55.0	ND	3.4	39.0	2,600
GEW-058	3/31/2015	0.8	56.0	ND	3.9	37.0	2,700
GEW-058	5/8/2015	0.9	54.0	1.7	7.3	35.0	2,600
GEW-058A	3/31/2015	0.4	50.0	2.6	9.4	36.0	2,600
GEW-058A	5/8/2015	0.4	46.0	4.3	16.0	33.0	2,300
GEW-059R	3/31/2015	0.8	51.0	1.8	6.3	39.0	1,700
GEW-059R	5/8/2015	1.5	51.0	1.5	5.3	39.0	1,600
GEW-065A	3/31/2015	0.4	58.0	ND	3.7	35.0	3,300
GEW-065A	5/12/2015	0.4	59.0	ND	ND	37.0	3,400
GEW-071	3/31/2015	0.5	54.0	ND	ND	41.0	2,500
GEW-071	5/13/2015	0.5	53.0	ND	ND	43.0	2,500
GEW-080	3/30/2015	0.3	64.0	ND	3.0	30.0	5,000
GEW-080	5/13/2015	0.3	59.0	ND	3.3	35.0	4,000
GEW-081	5/13/2015	0.3	61.0	ND	ND	35.0	3,900

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(%)					(ppm)
GEW-082R	3/30/2015	1.0	55.0	ND	3.3	38.0	2,500
GEW-082R	5/13/2015	0.9	52.0	1.7	5.8	38.0	2,500
GEW-084	3/31/2015	1.9	65.0	ND	ND	29.0	3,000
GEW-090	3/31/2015	1.7	51.0	1.9	6.6	37.0	2,400
GEW-090	5/13/2015	6.3	50.0	ND	ND	39.0	2,400
GEW-102	3/31/2015	0.7	60.0	ND	ND	35.0	2,600
GEW-107	3/31/2015	0.3	55.0	2.0	7.3	34.0	3,500
GEW-107	5/13/2015	0.3	50.0	3.5	13.0	30.0	3,200
GEW-109	3/18/2015	2.6	56.0	1.6	5.7	33.0	2,400
GEW-109	4/15/2015	1.6	52.0	2.4	8.4	34.0	2,400
GEW-109	5/7/2015	2.6	54.0	1.7	6.0	35.0	2,200
GEW-109	6/1/2015	2.8	55.0	ND	ND	38.0	2,400
GEW-110	3/18/2015	1.3	53.0	2.5	8.9	33.0	2,500
GEW-110	4/10/2015	15.0	40.0	3.6	27.0	14.0	1,200
GEW-110	5/7/2015	11.0	32.0	5.4	41.0	10.0	970
GEW-110	6/1/2015	12.0	37.0	4.7	32.0	14.0	1,200
GEW-116	3/31/2015	20.0	63.0	ND	2.9	12.0	1,300
GIW-01	3/18/2015	2.4	54.0	4.3	15.0	22.0	2,300
GIW-01	4/10/2015	3.0	67.0	ND	ND	27.0	2,600
GIW-01	5/6/2015	4.0	65.0	ND	ND	26.0	2,800
GIW-01	6/5/2015	3.6	65.0	ND	ND	27.0	2,800
GIW-02	3/18/2015	3.6	63.0	ND	ND	30.0	2,500
GIW-02	4/10/2015	10.0	57.0	ND	6.0	25.0	1,600
GIW-02	5/6/2015	9.4	41.0	3.6	26.0	19.0	1,300
GIW-02	6/5/2015	4.9	50.0	3.3	14.0	27.0	1,900
GIW-03	3/30/2015	0.3	39.0	8.4	31.0	21.0	2,200
GIW-03	4/10/2015	0.5	62.0	ND	ND	34.0	3,300
GIW-03	5/6/2015	0.4	51.0	3.4	12.0	31.0	2,800
GIW-03	6/5/2015	0.4	49.0	4.2	15.0	30.0	2,800
GIW-04	3/18/2015	0.4	55.0	1.9	6.8	35.0	3,400
GIW-04	4/8/2015	0.4	52.0	3.4	12.0	31.0	3,000
GIW-04	5/6/2015	0.4	49.0	3.4	12.0	34.0	2,800
GIW-04	6/5/2015	0.5	51.0	ND	4.8	42.0	3,200
GIW-05	3/18/2015	0.6	61.0	ND	3.1	34.0	3,200
GIW-05	4/10/2015	0.7	60.0	ND	3.5	34.0	3,000
GIW-05	5/6/2015	2.1	48.0	4.7	17.0	28.0	2,200
GIW-05	6/5/2015	1.8	34.0	7.8	28.0	28.0	1,700
GIW-06	3/18/2015	0.8	61.0	ND	4.3	32.0	2,300
GIW-06	4/8/2015	0.8	63.0	ND	ND	32.0	1,900
GIW-06	5/6/2015	0.8	64.0	ND	ND	32.0	2,300
GIW-06	6/5/2015	0.6	40.0	7.0	25.0	27.0	1,600
GIW-07	3/18/2015	26.0	58.0	ND	ND	12.0	1,100
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-07	6/5/2015	26.0	61.0	ND	ND	11.0	1,200
GIW-08	3/18/2015	23.0	65.0	ND	2.9	7.3	1,300
GIW-08	4/8/2015	23.0	65.0	ND	3.3	7.5	1,100

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide
		(%)					(ppm)
GIW-08	5/6/2015	23.0	66.0	ND	ND	7.0	1,300
GIW-08	6/5/2015	22.0	66.0	ND	ND	8.7	1,500
GIW-09	3/18/2015	0.8	67.0	ND	ND	26.0	3,400
GIW-09	4/8/2015	0.8	64.0	ND	3.6	28.0	3,400
GIW-09	5/6/2015	0.8	67.0	ND	3.5	26.0	3,400
GIW-09	6/5/2015	0.8	64.0	1.6	5.7	26.0	3,200
GIW-10	3/18/2015	0.3	54.0	ND	3.0	41.0	3,500
GIW-10	4/8/2015	0.7	54.0	ND	ND	42.0	3,200
GIW-10	5/6/2015	3.5	53.0	ND	ND	39.0	2,600
GIW-10	6/5/2015	3.8	54.0	ND	ND	39.0	2,700
GIW-11	3/18/2015	1.5	60.0	ND	ND	34.0	3,200
GIW-11	4/10/2015	2.5	53.0	2.5	10.0	30.0	2,700
GIW-11	5/6/2015	2.1	54.0	2.5	9.9	30.0	2,700
GIW-11	6/5/2015	2.3	44.0	5.0	21.0	27.0	2,200
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	2,300
GIW-12	5/6/2015	3.5	62.0	1.6	6.9	25.0	2,500
GIW-12	6/5/2015	4.3	46.0	4.8	23.0	21.0	1,900
GIW-13	3/18/2015	2.9	62.0	ND	3.4	30.0	2,300
GIW-13	4/10/2015	4.6	58.0	ND	6.6	29.0	2,100
GIW-13	5/6/2015	3.7	60.0	ND	3.7	30.0	2,400
GIW-13	6/5/2015	6.1	56.0	1.5	7.3	28.0	2,300
INLET	3/18/2015	7.2	30.0	11.0	42.0	10.0	1,000
INLET	4/8/2015	6.8	28.0	12.0	44.0	9.1	960
INLET	5/5/2015	7.9	32.0	9.7	39.0	10.0	1,300
OUTLET	6/2/2015	8.3	31.0	9.9	40.0	11.0	1,100

ND = Analyte not detected in sample.

ATTACHMENT D-2

LAB ANALYSIS REPORTS

Air TECHNOLOGY
Laboratories, Inc.

June 22, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G060803-01/37

Enclosed are results for sample(s) received 6/08/15 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 Jim Getting, Mike Lambrich and Ryan Ayers on 6/19/15.

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard ■ 48 hours ☐
Same Day ☐ 72 hours ☐
24 hours ☐ 96 hours ☐
Other:

DELIVERABLES

EDD ☐
EDF ☐
Level 3 ☐
Level 4 ☐

PAGE: 1 OF 4

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.: PO4862452
Bill to: Republic Services
Attn: Mike Lambrich
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G060803-01	GEW-109	6/1/2015	1351 1352	C	LFG	NA	X					
-02	GEW-39	6/1/2015	1407 1408	C	LFG	NA	X					
-03	GEW-10	6/1/2015	1425 1426	C	LFG	NA	X					
-04	GEW-110	6/1/2015	1444 1445	C	LFG	NA	X					
-05	GEW-56R	6/1/2015	1503 1504	C	LFG	NA	~~X~~	cancelled 6/10/15 -SD				
-06	Outlet A	6/2/2015	845	C	LFG	NA	X					
-07	Outlet B	6/2/2015	857	C	LFG	NA	X					
-08	Inlet A	6/2/2015	935	C	LFG	NA	X					
-09	Inlet B	6/2/2015	957	C	LFG	NA	X					
-10	GEW-2	6/2/2015	1446	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	6-5-15 1200		
FedEx		[signature]	6/8/15 1210

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

COMMENTS

* Collection times conf'd via email from R. Ayers 6/9/15 0446 -SD

G060803-05 cancelled per RAyers 6/10/15 via email smpl received w/20" Hg -SD

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

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

PAGE: 2 OF 4

TURNAROUND TIME

Standard	■	48 hours	☐
Same Day	☐	72 hours	☐
24 hours	☐	96 hours	☐
Other:			

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

Condition upon receipt:
Sealed Yes ☐ No ☐
Intact Yes ☐ No ☐
Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G060803-11	GEW-3	6/2/2015	~~1501~~ 1500	C	LFG	NA	X					
-12	GEW-4	6/2/2015	~~1518~~ 1515	C	LFG	NA	X					
-13	GEW-5	6/3/2015	1351	C	LFG	NA	X					
-14	GEW-48	6/3/2015	1402	C	LFG	NA	X					
-15	GEW-40	6/3/2015	1419	C	LFG	NA	X					
-16	GEW-42R	6/3/2015	1512	C	LFG	NA	X					
-17	GEW-55	6/3/2015	~~1520~~ 1526	C	LFG	NA	X					
-18	GEW-45R	6/4/2015	841	C	LFG	NA	X					
-19	GEW-46R	6/4/2015	849	C	LFG	NA	X					
-20	GEW-49	6/4/2015	945	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services DATE/TIME:

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	6-5-15 1200		
FED EX		[signature]	6/8/15 1210
		[signature]	

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

COMMENTS
See note on P. 1 of 4 SDG 6/9/15

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

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

PAGE: 3 OF 4

TURNAROUND TIME				DELIVERABLES		Condition upon receipt:
Standard	■	48 hours	☐	EDD	☐	Sealed Yes ☐ No ☐
Same Day	☐	72 hours	☐	EDF	☐	Intact Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Chilled _____ deg C
Other:				Level 4	☐	

		BILLING	
Project No.:		*P.O. No.:*	PO4862452
Project Name:	Bridgeton Landfill	*Bill to:*	Republic Services
Report To:	Jim Getting		Attn: Mike Lambrich
Company:	Republic Services		13570 St. Charles Rock Rd.
Street:	13570 St. Charles Rock Rd.		Bridgeton, MO 63044
City/State/Zip:	Bridgeton , MO 63044		
Phone& Fax:	314-683-3921		
e-mail:	JGetting@republicservices.com		

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
G060803-21	GEW-53	6/4/2015	958	C	LFG	NA	X					
-22	GEW-54	6/4/2015	1006	C	LFG	NA	X					
-23	GEW-8	6/4/2015	1014	C	LFG	NA	X					
-24	GEW-9	6/4/2015	1028	C	LFG	NA	X					
-25	GIW-6	6/5/2015	842	C	LFG	NA	X					
-26	GIW-7	6/5/2015	852	C	LFG	NA	X					
-27	GIW-8	6/5/2015	900	C	LFG	NA	X					
-28	GIW-9	6/5/2015	908	C	LFG	NA	X					
-29	GIW-10	6/5/2015	918	C	LFG	NA	X					
-30	GIW-4	6/5/2015	926	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services DATE/TIME:

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	6-5-15 1200		
FED EX		DJ Jr	6/8/15 1210

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

COMMENTS

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

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

TURNAROUND TIME				DELIVERABLES		PAGE: 4 OF 4
Standard	■	48 hours	☐	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
G060803-31	GIW-3	6/5/2015	935	C	LFG	NA	X					
-32	GIW-12	6/5/2015	943	C	LFG	NA	X					
-33	GIW-13	6/5/2015	951	C	LFG	NA	X					
-34	GIW-2	6/5/2015	958	C	LFG	NA	X					
-35	GIW-1	6/5/2015	1008	C	LFG	NA	X					
-36	GIW-11	6/5/2015	1019	C	LFG	NA	X					
-37	GIW-5	6/5/2015	1030	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: [signature]	DATE/TIME: 6-5-15 1200	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx	DATE/TIME	RECEIVED BY: [signature] 6/8/15	DATE/TIME 1210
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*

Client:	**Republic Services**
Attn:	**Jim Getting**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/08/15**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	G060803-01		G060803-02		G060803-03		G060803-04	
Client Sample I.D.:	GEW-109		GEW-39		GEW-10		GEW-110	
Date/Time Sampled:	6/1/15 13:51		6/1/15 14:07		6/1/15 14:25		6/1/15 14:44	
Date/Time Analyzed:	6/11/15 15:41		6/11/15 15:56		6/11/15 16:10		6/11/15 16:30	
QC Batch No.:	150611GC8A2		150611GC8A2		150611GC8A2		150611GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		2.8		3.0		2.7	
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	38	3.0	5.3	2.8	0.037 d	0.030	14	2.7
Carbon Dioxide	55	0.030	53	0.028	36	0.030	37	0.027
Oxygen/Argon	ND	1.5	ND	1.4	2.5	1.5	4.7	1.3
Nitrogen	ND	3.0	4.3	2.8	9.9	3.0	32	2.7
Methane	2.8	0.0030	37	0.0028	50	0.0030	12	0.0027
Carbon Monoxide	0.24	0.0030	0.024	0.0028	0.0032	0.0030	0.12	0.0027

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from a secondary analysis QC Batch: 150616GC8A2

Reviewed/Approved By: _____ **Date** 6/18/15

Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-06		G060803-07		G060803-08		G060803-09	
Client Sample I.D.:	Outlet A		Outlet B		Inlet A		Inlet B	
Date/Time Sampled:	6/2/15 8:45		6/2/15 8:57		6/2/15 9:35		6/2/15 9:57	
Date/Time Analyzed:	6/11/15 16:44		6/11/15 16:59		6/11/15 17:13		6/11/15 17:28	
QC Batch No.:	150611GC8A2		150611GC8A2		150611GC8A2		150611GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.8		2.9		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	11	2.8	9.3	2.8	11	2.9	11	2.9
Carbon Dioxide	31	0.028	28	0.028	32	0.029	33	0.029
Oxygen/Argon	9.9	1.4	11	1.4	9.6	1.4	9.3	1.4
Nitrogen	40	2.8	44	2.8	39	2.9	38	2.9
Methane	8.3	0.0028	7.4	0.0028	8.5	0.0029	8.5	0.0029
Carbon Monoxide	0.11	0.0028	0.098	0.0028	0.11	0.0029	0.12	0.0029

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 6/18/15
Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-10		G060803-11		G060803-12		G060803-13	
Client Sample I.D.:	GEW-2		GEW-3		GEW-4		GEW-5	
Date/Time Sampled:	6/2/15 14:46		6/2/15 15:00		6/2/15 15:15		6/3/15 13:51	
Date/Time Analyzed:	6/11/15 17:43		6/11/15 17:57		6/11/15 18:12		6/11/15 18:26	
QC Batch No.:	150611GC8A2		150611GC8A2		150611GC8A2		150611GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.7		2.8		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	ND d	0.028	0.076 d	0.027	ND d	0.028	0.042 d	0.030
Carbon Dioxide	39	0.028	38	0.027	39	0.028	34	0.030
Oxygen/Argon	ND	1.4	ND	1.3	ND	1.4	ND	1.5
Nitrogen	4.2	2.8	6.8	2.7	5.3	2.8	16	3.0
Methane	55	0.0028	53	0.0027	54	0.0028	48	0.0030
Carbon Monoxide	ND	0.0028	ND	0.0027	ND	0.0028	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: 150616GC8A2

Reviewed/Approved By: _____ Date 6/15/15
Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-14		G060803-15		G060803-16		G060803-17	
Client Sample I.D.:	GEW-48		GEW-40		GEW-42R		GEW-55	
Date/Time Sampled:	6/3/15 14:02		6/3/15 14:19		6/3/15 15:12		6/3/15 15:26	
Date/Time Analyzed:	6/11/15 18:41		6/11/15 18:55		6/11/15 19:10		6/11/15 19:25	
QC Batch No.:	150611GC8A2		150611GC8A2		150611GC8A2		150611GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.3		3.4	
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	ND d	0.030	ND d	0.033	1.2 d	0.034
Carbon Dioxide	36	0.030	34	0.030	34	0.033	37	0.034
Oxygen/Argon	ND	1.5	3.8	1.5	3.1	1.6	2.5	1.7
Nitrogen	11	3.0	14	3.0	13	3.3	9.2	3.4
Methane	52	0.0030	48	0.0030	49	0.0033	49	0.0034
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0033	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from a secondary analysis QC Batch: 150616GC8A2

Reviewed/Approved By: _____ Date 6/8/15

Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-18		G060803-19		G060803-20		G060803-21	
Client Sample I.D.:	GEW-45R		GEW-46R		GEW-49		GEW-53	
Date/Time Sampled:	6/4/15 8:41		6/4/15 8:49		6/4/15 9:45		6/4/15 9:58	
Date/Time Analyzed:	6/11/15 19:39		6/11/15 19:54		6/11/15 20:08		6/11/15 20:23	
QC Batch No.:	150611GC8A2		150611GC8A2		150611GC8A2		150611GC8A2	
Analyst Initials:	AS		AS		AS		AS	
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	ND d	0.030	ND d	0.031	0.041 d	0.030	5.8	3.0
Carbon Dioxide	39	0.030	37	0.031	32	0.030	41	0.030
Oxygen/Argon	ND	1.5	ND	1.5	2.2	1.5	ND	1.5
Nitrogen	ND	3.0	6.9	3.1	22	3.0	ND	3.0
Methane	57	0.0030	54	0.0031	43	0.0030	51	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0031	ND	0.0030	0.0071	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from a secondary analysis QC Batch: 150616GC8A2

Reviewed/Approved By: _____ Date 6/18/15
Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-22		G060803-23		G060803-24		G060803-25	
Client Sample I.D.:	GEW-54		GEW-8		GEW-9		GIW-6	
Date/Time Sampled:	6/4/15 10:06		6/4/15 10:14		6/4/15 10:28		6/5/15 8:42	
Date/Time Analyzed:	6/12/15 13:06		6/12/15 13:20		6/12/15 13:35		6/12/15 13:49	
QC Batch No.:	150612GC8A1		150612GC8A1		150612GC8A1		150612GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		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	2.9 d	0.031	1.7 d	0.031	0.55 d	0.030	27	3.0
Carbon Dioxide	41	0.031	43	0.031	40	0.030	40	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	7.0	1.5
Nitrogen	ND	3.1	ND	3.1	5.0	3.0	25	3.0
Methane	53	0.0031	52	0.0031	53	0.0030	0.57	0.0030
Carbon Monoxide	0.0035	0.0031	0.0032	0.0031	ND	0.0030	0.16	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary analysis QC Batch: 150616GC8A2

Reviewed/Approved By: _____ Date 6/8/15
Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-26		G060803-27		G060803-28		G060803-29	
Client Sample I.D.:	GIW-7		GIW-8		GIW-9		GIW-10	
Date/Time Sampled:	6/5/15 8:52		6/5/15 9:00		6/5/15 9:08		6/5/15 9:18	
Date/Time Analyzed:	6/12/15 14:04		6/12/15 14:19		6/12/15 14:33		6/12/15 15:18	
QC Batch No.:	150612GC8A1		150612GC8A1		150612GC8A1		150612GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		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	3.0	8.7	3.1	26	3.2	39	3.0
Carbon Dioxide	61	0.030	66	0.031	64	0.032	54	0.030
Oxygen/Argon	ND	1.5	ND	1.5	1.6	1.6	ND	1.5
Nitrogen	ND	3.0	ND	3.1	5.7	3.2	ND	3.0
Methane	26	0.0030	22	0.0031	0.81	0.0032	3.8	0.0030
Carbon Monoxide	0.12	0.0030	0.15	0.0031	0.32	0.0032	0.27	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 6/8/15

Mark Johnson
Operations Manager

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:	**Republic Services**
Attn:	**Jim Getting**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/08/15**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	G060803-30		G060803-31		G060803-32		G060803-33	
Client Sample I.D.:	GIW-4		GIW-3		GIW-12		GIW-13	
Date/Time Sampled:	6/5/15 9:26		6/5/15 9:35		6/5/15 9:43		6/5/15 9:51	
Date/Time Analyzed:	6/12/15 15:33		6/12/15 15:47		6/12/15 16:02		6/12/15 16:16	
QC Batch No.:	150612GC8A1		150612GC8A1		150612GC8A1		150612GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		2.8	
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	42	3.0	30	3.0	21	3.0	28	2.8
Carbon Dioxide	51	0.030	49	0.030	46	0.030	56	0.028
Oxygen/Argon	ND	1.5	4.2	1.5	4.8	1.5	1.5	1.4
Nitrogen	4.8	3.0	15	3.0	23	3.0	7.3	2.8
Methane	0.52	0.0030	0.41	0.0030	4.3	0.0030	6.1	0.0028
Carbon Monoxide	0.32	0.0030	0.28	0.0030	0.19	0.0030	0.23	0.0028

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 6/18/15

Mark Johnson
Operations Manager

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G060803-34		G060803-35		G060803-36		G060803-37	
Client Sample I.D.:	GIW-2		GIW-1		GIW-11		GIW-5	
Date/Time Sampled:	6/5/15 9:58		6/5/15 10:08		6/5/15 10:19		6/5/15 10:30	
Date/Time Analyzed:	6/12/15 16:31		6/12/15 16:45		6/12/15 17:00		6/12/15 19:27	
QC Batch No.:	150612GC8A1		150612GC8A1		150612GC8A1		150612GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.2		3.3	
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	27	3.0	27	3.1	27	3.2	28	3.3
Carbon Dioxide	50	0.030	65	0.031	44	0.032	34	0.033
Oxygen/Argon	3.3	1.5	ND	1.5	5.0	1.6	7.8	1.6
Nitrogen	14	3.0	ND	3.1	21	3.2	28	3.3
Methane	4.9	0.0030	3.6	0.0031	2.3	0.0032	1.8	0.0033
Carbon Monoxide	0.19	0.0030	0.28	0.0031	0.22	0.0032	0.17	0.0033

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 6/15/15
Mark Johnson
Operations Manager

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

QC Batch No.: 150611GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/11/15 15:26		6/11/15 14:13		6/11/15 14:28			
Analyst Initials:	AS		AS		AS			
Datafile:	11jun029		11jun024		11jun025			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	104	70-130%	103	70-130%	1.1	<30
Carbon Dioxide	ND	0.010	92	70-130%	91	70-130%	1.3	<30
Oxygen/Argon	ND	0.50	101	70-130%	100	70-130%	1.4	<30
Nitrogen	ND	1.0	102	70-130%	100	70-130%	1.4	<30
Methane	ND	0.0010	122	70-130%	118	70-130%	3.7	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6/18/15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150611GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/11/15 15:26		6/11/15 14:42		6/11/15 14:57			
Analyst Initials:	AS		AS		AS			
Datafile:	11jun029		11jun026		11jun027			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Monoxide	ND	0.0010	106	70-130%	107	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 6/18/15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150612GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/12/15 12:22		6/12/15 11:23		6/12/15 11:38			
Analyst Initials:	AS		AS		AS			
Datafile:	12jun010		12jun006		12jun007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	115	70-130%	115	70-130%	0.1	<30
Carbon Dioxide	ND	0.010	96	70-130%	95	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	101	70-130%	100	70-130%	0.1	<30
Nitrogen	ND	1.0	102	70-130%	102	70-130%	0.2	<30
Methane	ND	0.0010	117	70-130%	116	70-130%	0.7	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ for **Date:** 6/15/15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150612GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/12/15 12:22		6/12/15 11:53		6/12/15 12:07			
Analyst Initials:	AS		AS		AS			
Datafile:	12jun010		12jun008		12jun009			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Monoxide	ND	0.0010	105	70-130%	105	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6/18/15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150616GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/16/15 15:59		6/16/15 15:49		6/16/15 15:54			
Analyst Initials:	AS		AS		AS			
Datafile:	16jun029		16jun027		16jun028			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	100	70-130%	99	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 6/18/15

Mark J. Johnson
Operations Manager

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

AirTECHNOLOGY
Laboratories, Inc.

June 29, 2015

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

nelac
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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G061714-01

Enclosed are results for sample(s) received 6/17/15 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 Jim Getting, Mike Lambrich and Ryan Ayers on 6/26/15.

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.

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, inc.

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

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	☒	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other: 7 Days				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Jim Getting
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	JGetting@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G0617K4-01	GEW-56R	6/16/2015	1006	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	6-16-15 1100		
[signature] FEDEX		[signature]	6/17/15 1019
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G061714-01							
Client Sample I.D.:	GEW-56R							
Date/Time Sampled:	6/16/15 10:06							
Date/Time Analyzed:	6/18/15 12:40							
QC Batch No.:	150618GC8A1							
Analyst Initials:	AS							
Dilution Factor:	3.2							
ANALYTE	**Result % v/v**	**RL % v/v**						
Hydrogen	15	3.2						
Carbon Dioxide	44	0.032						
Oxygen/Argon	ND	1.6						
Nitrogen	23	3.2						
Methane	17	0.0032						
Carbon Monoxide	0.089	0.0032						

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 6-26-15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 150618GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/18/15 10:21		6/18/15 9:07		6/18/15 9:22			
Analyst Initials:	AS		AS		AS			
Datafile:	18jun008		18jun003		18jun004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	106	70-130%	107	70-130%	0.0	<30
Carbon Dioxide	ND	0.010	95	70-130%	97	70-130%	1.6	<30
Oxygen/Argon	ND	0.50	97	70-130%	98	70-130%	1.3	<30
Nitrogen	ND	1.0	98	70-130%	100	70-130%	1.4	<30
Methane	ND	0.0010	113	70-130%	112	70-130%	1.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 6-26-15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150618GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/18/15 10:21		6/18/15 9:37		6/18/15 9:51			
Analyst Initials:	AS		AS		AS			
Datafile:	18jun008		18jun005		18jun006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Monoxide	ND	0.0010	112	70-130%	112	70-130%	0.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 6-26-15

Mark J. Johnson
Operations Manager

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

ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

GEM DATA TABLE

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-002	6/2/2015 14:44	56.1	40.9	0.0	3.0	122.3		24	22	-0.42	-0.38	-27.00
GEW-002	6/2/2015 14:51	56.5	40.8	0.0	2.7	121.5		27	26	-0.46	-0.41	-27.18
GEW-002	6/10/2015 14:26	54.5	39.9	0.0	5.6	122.3		29	26	-0.13	-0.14	-15.27
GEW-002	6/10/2015 14:44	55.9	40.4	0.0	3.7	121.3		16	15	-0.10	-0.13	-19.98
GEW-002	6/16/2015 14:07	55.6	44.3	0.0	0.1	119.0	119.0			-0.50	-0.60	-25.67
GEW-002	6/16/2015 14:08	56.0	43.9	0.0	0.1	119.0	119.0	33	33	-0.80	-0.80	-26.04
GEW-002	6/24/2015 15:04	56.0	39.7	0.5	3.8	122.6		19	23	-0.05	-0.10	-28.13
GEW-002	6/24/2015 15:05	55.5	40.4	0.6	3.5	122.1		25	27	-0.22	-0.22	-28.01
GEW-002	6/30/2015 12:15	56.0	40.9	0.0	3.1	87.5		4	4	0.82	0.83	1.04
GEW-002	6/30/2015 12:18	56.4	40.5	0.0	3.1	87.0		5	4	0.83	0.83	0.98
GEW-003	6/2/2015 14:57	52.6	39.9	0.0	7.5	115.0		13	13	0.06	0.06	-26.63
GEW-003	6/2/2015 15:06	53.2	39.2	0.0	7.6	116.1		0	0	-0.05	-0.06	-27.00
GEW-003	6/10/2015 14:24	54.6	39.9	0.0	5.5	120.2		17	15	0.34	0.34	-15.58
GEW-003	6/10/2015 14:48	53.2	39.5	0.0	7.3	121.8		34	37	-0.71	-0.72	-24.25
GEW-003	6/16/2015 14:12	49.5	40.3	0.0	10.2	122.0	122.0	28	27	-2.00	-2.00	-24.51
GEW-003	6/16/2015 14:13	49.8	40.4	0.0	9.8	122.0	122.0	33	35	-1.70	-1.70	-25.21
GEW-003	6/24/2015 15:09	49.1	37.9	0.6	12.4	118.3		16	21	0.21	0.16	-27.58
GEW-003	6/24/2015 15:10	48.9	38.6	0.6	11.9	118.6		24	25	0.08	0.10	-27.34
GEW-003	6/30/2015 13:48	54.6	39.9	0.0	5.5	125.6		0	0	-0.23	-0.25	-26.76
GEW-004	6/2/2015 15:10	53.6	39.3	0.0	7.1	119.6		13	11	0.00	0.01	-27.61
GEW-004	6/2/2015 15:20	53.6	40.9	0.0	5.5	121.1		10	16	-0.04	-0.04	-26.33
GEW-004	6/3/2015 14:56	52.1	39.6	0.0	8.3	122.1		13	13	-0.20	-0.22	-26.94
GEW-004	6/3/2015 14:58	52.5	39.5	0.0	8.0	118.9		0	0	0.09	0.09	-27.31
GEW-004	6/10/2015 14:52	55.8	39.9	0.0	4.3	105.1		12	12	0.50	0.50	-24.62
GEW-004	6/10/2015 14:54	55.3	41.4	0.0	3.3	114.3		25	25	-0.09	-0.07	-23.95
GEW-004	6/16/2015 14:16	45.4	40.4	0.0	14.2	124.0	124.0	18	22	-1.60	-1.60	-25.60
GEW-004	6/16/2015 14:18	45.7	40.3	0.0	14.0	124.0	124.0	8	12	-1.30	-1.30	-25.78
GEW-004	6/23/2015 9:23	47.3	39.0	0.0	13.7	118.9		26	25	-1.34	-1.36	-28.59
GEW-004	6/23/2015 9:25	47.4	38.1	0.0	14.5	112.8		0	0	-1.15	-1.14	-28.41
GEW-004	6/30/2015 14:04	56.0	40.4	0.0	3.6	92.2		6	6	0.54	0.54	-27.18
GEW-004	6/30/2015 14:09	56.3	40.7	0.0	3.0	116.6		24	24	-0.12	-0.12	-27.61
GEW-005	6/3/2015 13:48	50.1	34.1	0.0	15.8	95.3		24	26	-0.06	-0.06	-27.61
GEW-005	6/3/2015 13:54	48.8	34.7	0.0	16.5	95.5		23	22	-0.07	-0.07	-27.55
GEW-005	6/3/2015 14:30	47.2	36.0	0.0	16.8	95.5		0	0	0.00	0.00	-26.82
GEW-005	6/10/2015 15:13	55.3	40.7	0.0	4.0	99.8		11	11	0.44	0.44	-25.11
GEW-005	6/10/2015 15:15	55.3	40.7	0.0	4.0	100.6		36	36	-0.20	-0.20	-23.52
GEW-005	6/16/2015 14:27	33.9	34.7	0.0	31.4	96.0	96.0	35	36	-1.50	-1.50	-25.06
GEW-005	6/16/2015 14:28	34.3	33.8	0.0	31.9	96.0	96.0	23	28	-1.20	-1.20	-25.30
GEW-005	6/23/2015 9:37	31.8	32.7	0.0	35.5	94.4		29	29	-1.36	-1.39	-27.24
GEW-005	6/23/2015 9:39	31.8	32.7	0.0	35.5	93.2		4	5	-0.93	-0.92	-27.98
GEW-005	6/30/2015 14:20	54.8	40.3	0.0	4.9	90.5		6	7	0.59	0.59	-27.79
GEW-005	6/30/2015 14:21	55.0	40.1	0.0	4.9	90.6		7	7	0.58	0.58	-27.37

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-006	6/4/2015 8:26	59.8	40.1	0.0	0.1	88.0	88.0	10	10	0.10	0.10	-27.61
GEW-006	6/4/2015 8:28	59.6	40.3	0.0	0.1	88.0	88.0	16	14	0.00	0.00	-27.96
GEW-006	6/10/2015 15:27	57.3	39.3	0.0	3.4	101.8		11	11	0.68	0.68	-24.74
GEW-006	6/10/2015 15:30	58.2	38.6	0.0	3.2	91.3		30	34	-0.06	-0.04	-24.13
GEW-006	6/16/2015 14:34	52.7	39.3	0.0	8.0	89.0	89.0	20	28	-1.00	-0.90	-24.59
GEW-006	6/23/2015 8:55	47.2	37.5	0.1	15.2	87.4		33	37	-1.70	-1.68	-27.67
GEW-006	6/23/2015 8:56	46.9	37.0	0.0	16.1	87.2		7	7	-0.97	-0.97	-27.86
GEW-006	6/30/2015 14:33	57.1	39.0	0.0	3.9	91.5		7	7	0.73	0.73	-27.61
GEW-006	6/30/2015 14:33	57.4	38.9	0.0	3.7	91.3		7	6	0.75	0.76	-27.37
GEW-007	6/4/2015 8:39	57.8	42.1	0.0	0.1	95.0	95.0	14	13	-0.70	-0.70	-26.42
GEW-007	6/11/2015 10:45	56.7	39.8	0.0	3.5	99.4		46	46	-0.60	-0.60	-25.84
GEW-007	6/17/2015 7:32	58.1	41.8	0.0	0.1	95.0	95.0	8	6	-0.60	-0.60	-27.26
GEW-007	6/17/2015 7:33	57.7	42.1	0.0	0.2	95.0	95.0	6	6	-1.70	-1.70	-27.47
GEW-007	6/25/2015 9:48	56.9	40.5	0.2	2.4	100.0		9	12	-1.50	-1.51	-29.36
GEW-008	6/4/2015 9:13	52.7	45.9	0.0	1.4	117.0	117.0	10	11	-0.20	-0.20	-26.97
GEW-008	6/4/2015 9:17	54.6	43.9	0.0	1.5	117.0	117.0	13	15	-0.20	-0.20	-26.67
GEW-008	6/11/2015 10:34	51.4	42.6	0.0	6.0	118.1		17	16	-0.14	-0.15	-25.66
GEW-008	6/17/2015 7:59	54.1	45.2	0.0	0.7	118.0	118.0	13	11	-0.10	-0.10	-26.94
GEW-008	6/25/2015 10:06	51.6	42.4	0.4	5.6	116.0		18	17	0.93	0.93	-28.44
GEW-008	6/25/2015 10:07	50.9	44.0	0.4	4.7	116.3		22	23	0.69	0.70	-28.62
GEW-009	6/4/2015 9:27	52.2	43.3	0.0	4.5	125.0	125.0	5	8	-0.20	-0.20	-26.34
GEW-009	6/4/2015 9:31	52.7	42.2	0.0	5.1	125.0	125.0	12	12	-0.20	-0.20	-26.47
GEW-009	6/11/2015 10:39	51.8	41.3	0.0	6.9	125.3		35	35	-0.22	-0.23	-25.23
GEW-009	6/17/2015 8:02	53.3	44.1	0.0	2.6	124.0	124.0	32	35	-0.20	-0.20	-23.86
GEW-009	6/23/2015 9:46	55.3	42.9	0.0	1.8	125.0	125.0	42	42	-0.10	-0.10	-25.10
GEW-010	6/1/2015 14:22	49.8	41.5	1.8	6.9	75.3				-5.67	-5.67	-25.96
GEW-010	6/1/2015 14:32	51.2	38.7	1.9	8.2	75.3				-5.67	-5.67	-26.70
GEW-010	6/8/2015 7:45	55.8	44.1	0.0	0.1	82.0	82.0	72	71	-1.00	-1.00	-26.24
GEW-010	6/15/2015 9:02	55.5	39.6	0.4	4.5	86.8				-3.50	-3.49	-25.78
GEW-010	6/23/2015 9:42	53.0	42.3	1.4	3.3	93.0	93.0	112	112	-2.60	-2.60	-24.73
GEW-010	6/29/2015 16:14	56.5	42.3	0.3	0.9	98.1				0.45	0.45	-19.94
GEW-010	6/29/2015 16:16	56.5	41.3	0.3	1.9	98.5				-0.53	-0.54	-19.08
GEW-011	6/24/2015 14:43	4.6	52.7	0.7	42.0	187.0				-7.68	-7.74	-18.08
GEW-011	6/24/2015 14:46	5.0	54.6	0.6	39.8	186.4				-6.71	-6.65	-18.33
GEW-014A	6/22/2015 8:26	0.2	44.2	5.2	50.4	87.7				-15.55	-15.37	-15.09
GEW-014A	6/22/2015 8:59	0.2	46.7	3.7	49.4	90.9				-12.68	-14.02	-13.74
GEW-014A	6/22/2015 9:00	0.2	47.5	3.4	48.9	91.1				-14.09	-15.12	-14.23
GEW-018R	6/19/2015 14:17	4.7	63.8	0.1	31.4	92.2				-19.02	-19.82	-18.20
GEW-020A	6/23/2015 14:33	2.3	38.3	9.8	49.6	99.8				-14.33	-14.27	-14.42
GEW-020A	6/23/2015 14:36	3.1	41.3	8.1	47.5	99.7				-14.33	-14.33	-14.48
GEW-021A	6/23/2015 14:44	4.4	32.0	11.1	52.5	158.5				-12.74	-13.17	-12.95
GEW-021A	6/23/2015 14:45	5.0	24.9	15.1	55.0	158.5				-12.68	-12.68	-12.83

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-022R	6/19/2015 14:38	17.5	64.6	0.1	17.8	191.6				-1.72	-1.52	-2.14
GEW-024A	6/23/2015 14:54	1.1	68.2	0.1	30.6	201.6				0.17	0.04	-0.92
GEW-024A	6/23/2015 14:55	1.4	69.1	0.0	29.5	201.6				1.19	1.71	-0.73
GEW-025A	6/23/2015 15:12	0.4	64.4	0.6	34.6	111.2				88.72		-13.50
GEW-025A	6/23/2015 15:16	1.1	60.8	1.2	36.9	117.5				80.43	81.89	-13.50
GEW-026R	6/23/2015 15:22	3.9	33.8	11.1	51.2	131.4				-12.38	-12.26	-12.22
GEW-026R	6/23/2015 15:25	3.7	34.7	10.3	51.3	129.4				-12.32	-12.20	-12.10
GEW-027A	6/23/2015 11:51	18.4	47.9	3.8	29.9	181.9				-7.80	-6.83	-14.97
GEW-028R	6/24/2015 15:42	0.3	56.8	1.8	41.1	176.4				-16.34	-17.07	-16.98
GEW-028R	6/24/2015 15:44	0.2	58.9	1.0	39.9	179.7				-14.70	-14.88	-16.62
GEW-029	6/24/2015 11:15	0.2	55.7	0.0	44.1	88.9				29.94	30.24	-17.59
GEW-029	6/24/2015 11:17	0.2	57.2	0.0	42.6	89.1				25.91	26.34	-17.10
GEW-035	6/24/2015 11:50	7.8	47.9	2.0	42.3	111.0				-12.56	-12.26	-12.71
GEW-035	6/24/2015 11:51	8.1	47.4	2.0	42.5	111.0				-12.20	-12.20	-12.22
GEW-035	6/24/2015 11:52	8.1	47.2	2.0	42.7	111.0				-11.77	-11.71	-11.79
GEW-035	6/26/2015 9:58	26.2	42.5	1.2	30.1	100.5				-12.87	-12.99	-12.71
GEW-038	6/1/2015 13:39	0.2	44.0	6.2	49.6	134.4				-13.05	-12.87	-12.83
GEW-038	6/1/2015 13:40	0.3	45.1	6.1	48.5	134.4				-12.87	-12.93	-12.77
GEW-038	6/8/2015 7:32	0.2	51.2	4.8	43.8	135.0	135.0	198	200	-13.00	-12.80	-12.20
GEW-038	6/15/2015 8:37	0.3	45.6	5.3	48.8	135.0		256	257	-13.41	-13.54	-13.56
GEW-038	6/15/2015 8:41	0.2	47.4	4.8	47.6	135.8		257	259	-13.90	-13.96	-13.68
GEW-038	6/23/2015 9:33	0.3	37.5	9.1	53.1	127.0	127.0	198	201	-11.70	-11.50	-11.60
GEW-038	6/29/2015 15:46	0.1	32.0	10.8	57.1	137.3				-25.89	-26.37	-25.87
GEW-038	6/29/2015 15:48	0.1	31.5	10.2	58.2	138.1				-28.39	-26.43	-30.15
GEW-039	6/1/2015 14:03	37.0	54.9	0.0	8.1	133.8				-0.53	-0.60	-25.53
GEW-039	6/1/2015 14:13	37.9	53.0	0.0	9.1	134.1				-0.66	-0.68	-27.98
GEW-039	6/8/2015 7:40	37.0	57.7	0.0	5.3	136.0	0.0	47	54	-0.60	-0.60	-25.36
GEW-039	6/15/2015 8:52	37.7	54.1	0.0	8.2	134.1				-0.66	-0.68	-25.66
GEW-039	6/15/2015 8:55	38.4	51.9	0.0	9.7	135.6				-1.83	-1.93	-29.38
GEW-039	6/23/2015 9:27	34.3	52.1	0.0	13.6	136.0	136.0	92	92	-2.20	-2.20	-26.87
GEW-039	6/23/2015 9:29	34.0	53.2	0.0	12.8	136.0	136.0	85	85	-1.90	-1.90	-26.77
GEW-039	6/29/2015 15:52	34.5	49.8	0.3	15.4	135.0				-1.87	-1.89	-28.26
GEW-039	6/29/2015 15:53	34.9	49.1	0.2	15.8	134.6				-1.40	-1.36	-27.46
GEW-040	6/3/2015 14:13	56.5	39.8	0.0	3.7	93.6		6	6	-0.24	-0.24	-27.43
GEW-040	6/3/2015 14:24	57.3	40.0	0.0	2.7	93.6		25	25	-0.27	-0.27	-28.28
GEW-040	6/8/2015 8:34	55.9	44.0	0.0	0.1	93.0	93.0			-0.30	-0.30	-29.21
GEW-040	6/16/2015 13:34	55.7	41.6	0.6	2.1	95.0	95.0	41	41	-0.40	-0.40	-26.51
GEW-040	6/24/2015 13:26	57.1	39.5	0.0	3.4	95.2		16	16	-0.44	-0.44	-28.87
GEW-040	6/30/2015 12:27	57.7	40.9	0.0	1.4	94.1		8	7	-0.49	-0.49	-28.59
GEW-041R	6/3/2015 15:05	55.3	38.7	0.0	6.0	110.2		14	14	-0.48	-0.47	-27.86
GEW-041R	6/8/2015 8:41	56.9	42.1	0.0	1.0	109.0	109.0		14	-0.50	-0.50	-28.86
GEW-041R	6/16/2015 13:37	57.6	42.3	0.0	0.1	110.0	110.0	16	15	-0.30	-0.30	-26.18

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-041R	6/24/2015 13:30	54.6	38.2	0.0	7.2	108.6		15	16	-0.44	-0.42	-27.65
GEW-041R	6/30/2015 12:33	56.8	38.7	0.0	4.5	109.9		17	17	-0.41	-0.41	-27.49
GEW-042R	6/3/2015 15:09	54.7	38.9	0.0	6.4	96.4		4	4	-0.73	-0.73	-24.80
GEW-042R	6/3/2015 15:16	55.0	39.5	0.0	5.5	96.5		8	8	-0.74	-0.74	-23.95
GEW-042R	6/8/2015 8:47	56.1	42.1	0.0	1.8	95.0	95.0	10	10	-0.80	-0.70	-25.69
GEW-042R	6/16/2015 13:40	57.2	42.7	0.0	0.1	97.0	97.0	14	13	-0.40	-0.40	-23.17
GEW-042R	6/24/2015 13:33	53.6	38.7	0.0	7.7	96.9		8	7	-0.59	-0.57	-23.67
GEW-042R	6/30/2015 12:38	56.4	39.3	0.0	4.3	97.7		7	7	-0.54	-0.53	-23.52
GEW-043R	6/4/2015 7:32	56.4	43.5	0.0	0.1	128.0	128.0	21	21	-1.00	-1.00	-27.00
GEW-043R	6/8/2015 8:52	55.8	44.1	0.0	0.1	135.0	135.0	21	19	-0.30	-0.20	-27.25
GEW-043R	6/8/2015 8:55	55.5	44.4	0.0	0.1	136.0	136.0	21	18	-0.20	-0.20	-27.43
GEW-043R	6/16/2015 13:43	56.2	43.7	0.0	0.1	133.0	133.0	20	50	0.00	-0.30	-24.75
GEW-043R	6/16/2015 13:45	56.6	43.3	0.0	0.1	133.0	133.0	19	18	-0.10	-0.20	-24.95
GEW-043R	6/24/2015 13:36	54.5	39.8	0.0	5.7	129.9		19	18	-0.19	-0.20	-28.87
GEW-043R	6/30/2015 12:44	56.5	40.4	0.0	3.1	132.9		21	19	-0.43	-0.38	-27.43
GEW-043R	6/30/2015 12:45	56.3	40.8	0.0	2.9	132.9		19	19	-0.46	-0.42	-27.31
GEW-044	6/4/2015 7:35	44.3	35.3	0.0	20.4	91.0	91.0	8	8	-0.60	-0.60	-26.74
GEW-044	6/8/2015 9:02	48.7	36.8	0.0	14.5	100.0	100.0	9	9	-0.50	-0.40	-25.81
GEW-044	6/16/2015 13:48	46.3	37.3	0.0	16.4	99.0	99.0	14	12	-0.40	-0.40	-24.43
GEW-044	6/24/2015 13:38	47.0	37.1	0.0	15.9	95.8		7	7	-0.36	-0.36	-24.28
GEW-044	6/30/2015 11:55	55.8	36.5	0.0	7.7	96.0		3	3	-0.72	-0.72	-23.27
GEW-045R	6/4/2015 7:39	56.8	43.1	0.0	0.1	90.0	90.0	14	14	-0.40	-0.40	-27.63
GEW-045R	6/4/2015 7:44	57.3	42.5	0.0	0.2	90.0	90.0	16	16	-0.50	-0.50	-27.60
GEW-045R	6/8/2015 9:07	57.0	42.9	0.0	0.1	92.0	92.0	13	14	-0.10	-0.10	-27.87
GEW-045R	6/16/2015 13:53	57.0	42.9	0.0	0.1	95.0	95.0	15	13	-0.10	-0.10	-25.22
GEW-045R	6/16/2015 13:54	57.1	42.8	0.0	0.1	97.0	97.0	16	17	-1.40	-1.30	-25.24
GEW-045R	6/24/2015 13:41	57.0	38.5	0.0	4.5	96.2		11	9	-0.81	-0.81	-29.42
GEW-045R	6/24/2015 13:42	57.5	39.8	0.0	2.7	97.5		9	8	-1.22	-1.23	-28.01
GEW-045R	6/30/2015 12:04	59.6	38.6	0.0	1.8	98.2		5	5	-3.24	-3.24	-27.86
GEW-046R	6/4/2015 7:47	57.4	42.3	0.0	0.3	90.0	90.0	53	56	-0.10	-0.40	-27.46
GEW-046R	6/4/2015 7:52	57.3	42.3	0.0	0.4	90.0	90.0	32	21	-0.10	-0.30	-27.47
GEW-046R	6/8/2015 9:12	57.2	42.7	0.0	0.1	94.0	94.0	13	12	0.10	0.10	-27.85
GEW-046R	6/16/2015 13:57	56.4	42.2	0.0	1.4	90.0	90.0	16	16	-0.10	-0.10	-25.62
GEW-046R	6/16/2015 13:59	57.6	41.5	0.0	0.9	90.0	90.0	18	17	-0.20	-0.20	-25.57
GEW-046R	6/24/2015 13:45	54.5	39.1	0.0	6.4	96.9		11	11	0.14	0.15	-29.36
GEW-046R	6/24/2015 13:46	55.0	39.3	0.0	5.7	98.0		14	14	0.07	0.08	-29.24
GEW-046R	6/30/2015 12:10	55.2	38.4	0.0	6.4	100.9		10	11	-0.18	-0.19	-28.65
GEW-047R	6/3/2015 14:39	44.8	37.6	0.0	17.6	117.3		33	34	0.06	0.07	-27.06
GEW-047R	6/3/2015 14:41	44.2	37.6	0.0	18.2	114.5		0	0	0.18	0.18	-27.37
GEW-047R	6/10/2015 15:06	55.2	41.5	0.0	3.3	97.7		10	10	0.51	0.51	-24.56
GEW-047R	6/10/2015 15:09	55.5	41.6	0.0	2.9	117.1		25		-0.02		-24.56
GEW-047R	6/16/2015 14:23	38.2	36.2	0.1	25.5	117.0	117.0	22	16	-1.30	-1.30	-25.29

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-047R	6/16/2015 14:24	38.8	36.4	0.1	24.7	117.0	117.0	13	11	-1.00	-1.00	-25.90
GEW-047R	6/23/2015 9:16	38.9	34.7	0.6	25.8	113.3		0	0	-1.19	-1.18	-28.22
GEW-047R	6/23/2015 9:17	38.7	34.6	0.6	26.1	111.1		0	0	-1.02	-1.03	-28.41
GEW-047R	6/30/2015 14:14	56.7	41.6	0.0	1.7	101.1		0	0	0.59	0.59	-27.86
GEW-047R	6/30/2015 14:15	56.8	41.7	0.0	1.5	99.7		0	0	0.59	0.60	-28.04
GEW-048	6/3/2015 14:00	54.8	38.6	0.0	6.6	106.7		0	0	-0.25	-0.25	-27.67
GEW-048	6/3/2015 14:07	54.4	39.3	0.0	6.3	106.7		0	0	-0.23	-0.21	-25.96
GEW-048	6/3/2015 14:34	53.9	38.7	0.0	7.4	104.8		0	0	0.27	0.27	-26.82
GEW-048	6/10/2015 15:19	55.9	40.5	0.0	3.6	98.4		0	10	0.68	0.66	-24.74
GEW-048	6/10/2015 15:22	55.5	41.3	0.0	3.2	107.1		26	28	-0.12	-0.14	-24.98
GEW-048	6/16/2015 14:30	54.7	40.9	0.0	4.4	107.0	107.0	21	20	-1.20	-1.10	-25.66
GEW-048	6/16/2015 14:32	54.4	40.5	0.0	5.1	107.0	107.0	26	25	-1.40	-1.30	-25.51
GEW-048	6/23/2015 9:30	50.9	37.6	0.0	11.5	105.0		24	28	-1.65	-1.66	-27.98
GEW-048	6/23/2015 9:32	50.6	38.4	0.0	11.0	103.6		0	0	-0.88	-0.87	-28.10
GEW-048	6/30/2015 14:25	58.3	40.4	0.0	1.3	89.3		7	6	0.80	0.80	-27.67
GEW-048	6/30/2015 14:26	58.0	40.7	0.0	1.3	89.3		7	7	0.80	0.79	-27.37
GEW-049	6/4/2015 8:44	45.8	38.1	0.0	16.1	111.0	111.0	15	12	-0.20	-0.20	-27.84
GEW-049	6/4/2015 8:49	45.0	37.9	0.0	17.1	111.0	111.0			-0.10	-0.10	-26.81
GEW-049	6/10/2015 15:35	56.1	38.6	0.0	5.3	113.1		14	13	0.05	0.06	-25.23
GEW-049	6/10/2015 15:37	55.6	39.9	0.0	4.5	114.5		17	16	-0.06	-0.05	-24.01
GEW-049	6/17/2015 7:37	40.8	36.0	0.0	23.2	108.0	108.0	9	5	-0.70	-0.70	-25.49
GEW-049	6/17/2015 7:39	40.7	35.5	0.0	23.8	108.0	108.0			-0.50	-0.50	-25.32
GEW-049	6/23/2015 9:08	23.0	28.2	0.4	48.4	102.1		6	7	-0.75	-0.76	-25.90
GEW-049	6/23/2015 9:10	22.9	28.4	0.4	48.3	96.9		4	3	-0.69	-0.69	-25.41
GEW-049	6/30/2015 14:53	56.7	40.0	0.0	3.3	91.2		8	7	0.31	0.31	-24.68
GEW-049	6/30/2015 14:54	56.6	40.3	0.0	3.1	91.5		7	7	0.29	0.30	-23.58
GEW-050	6/4/2015 8:33	58.2	41.7	0.0	0.1	109.0	109.0	13	14	-0.10	-0.10	-24.06
GEW-050	6/11/2015 10:11	46.7	31.4	3.9	18.0	90.3		9	9	-0.18	-0.18	-22.91
GEW-050	6/11/2015 10:16	52.3	36.4	1.3	10.0	90.1		4	3	-0.17	-0.17	-21.81
GEW-050	6/17/2015 7:23	58.0	41.9	0.0	0.1	101.0	101.0	11	10	-0.40	-0.30	-21.98
GEW-050	6/25/2015 9:37	57.7	39.4	0.1	2.8	107.0		15	15	1.13	1.13	-27.40
GEW-050	6/30/2015 14:43	58.6	38.5	0.0	2.9	109.4		10	10	0.49	0.50	-23.70
GEW-050	6/30/2015 14:44	58.0	40.0	0.0	2.0	109.6		7	8	0.52	0.51	-21.44
GEW-051	6/4/2015 8:51	57.3	42.6	0.0	0.1	125.0	125.0	16	16	-0.60	-0.60	-27.18
GEW-051	6/10/2015 15:41	54.6	40.3	0.0	5.1	126.7		32	35	-0.04	-0.02	-24.86
GEW-051	6/17/2015 7:43	56.5	42.8	0.0	0.7	127.0	127.0	12	9	-0.60	-0.60	-26.81
GEW-051	6/25/2015 9:52	54.9	41.0	0.2	3.9	124.3		15	14	0.47	0.47	-28.07
GEW-051	6/25/2015 9:53	54.5	41.5	0.2	3.8	125.1		26	22	0.21	0.22	-28.87
GEW-051	6/30/2015 14:57	55.9	40.4	0.0	3.7	126.1		20	23	-0.75	-0.73	-26.82
GEW-052	6/4/2015 8:37	55.6	40.5	0.0	3.9	111.0	111.0	29	29	-0.10	-0.10	-26.79
GEW-052	6/11/2015 10:23	54.0	37.8	0.0	8.2	115.3		11	10	-0.13	-0.14	-23.34
GEW-052	6/17/2015 7:26	56.4	40.7	0.0	2.9	114.0	114.0	26	26	-0.10	-0.10	-27.30

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-052	6/17/2015 7:28	56.0	40.7	0.0	3.3	114.0	114.0	13	11	-0.20	-0.20	-27.23
GEW-052	6/25/2015 9:44	55.4	36.6	0.2	7.8	114.3		13	14	0.23	0.25	-27.58
GEW-052	6/25/2015 9:45	55.1	39.5	0.2	5.2	114.7		19	19	0.09	0.09	-27.95
GEW-052	6/30/2015 14:48	55.1	39.5	0.0	5.4	115.5		18	18	-0.28	-0.31	-27.61
GEW-053	6/4/2015 8:56	51.4	44.8	0.0	3.8	140.0	140.0	16	19	-0.40	-0.40	-26.88
GEW-053	6/4/2015 9:01	51.1	45.0	0.0	3.9	140.0	140.0	17	16	-0.40	-0.30	-27.31
GEW-053	6/10/2015 15:56	50.1	42.0	0.0	7.9	140.9		14	20	0.02	0.06	-24.19
GEW-053	6/10/2015 15:57	49.6	43.0	0.0	7.4	141.5		16	12	-0.07	-0.05	-23.95
GEW-053	6/17/2015 7:46	52.9	44.4	0.0	2.7	140.0	140.0	10	12	-0.40	-0.40	-27.14
GEW-053	6/17/2015 7:47	51.6	44.7	0.0	3.7	140.0	140.0	10	11	-0.40	-0.40	-27.06
GEW-053	6/25/2015 10:02	50.7	40.5	0.3	8.5	139.7		16	16	0.65	0.67	-28.93
GEW-053	6/25/2015 10:03	50.6	42.3	0.3	6.8	140.7		20	23	0.53	0.56	-28.07
GEW-053	6/30/2015 15:02	52.4	41.6	0.0	6.0	140.6		21	24	-0.56	-0.56	-27.61
GEW-054	6/4/2015 9:04	53.7	43.5	0.0	2.8	145.0	145.0	30	27	-2.10	-2.10	-28.07
GEW-054	6/4/2015 9:09	53.2	44.0	0.0	2.8	145.0	145.0	29	29	-2.10	-2.10	-28.04
GEW-054	6/10/2015 16:02	52.0	42.2	0.0	5.8	142.5		35	33	-1.89	-1.83	-26.21
GEW-054	6/10/2015 16:04	52.5	42.0	0.0	5.5	142.9		19	28	-0.52	-0.50	-26.33
GEW-054	6/17/2015 7:51	52.8	43.8	0.0	3.4	148.0	148.0	22	18	-0.40	-0.40	-27.26
GEW-054	6/17/2015 7:53	52.2	44.0	0.0	3.8	148.0	148.0	19	25	-0.70	-0.60	-27.42
GEW-054	6/25/2015 9:59	53.1	41.0	0.3	5.6	139.3		31	31	-0.74	-0.73	-29.66
GEW-054	6/25/2015 10:00	52.1	42.3	0.3	5.3	139.3		28	28	-0.70	-0.69	-27.03
GEW-054	6/30/2015 17:04	51.6	42.8	0.0	5.6	146.3		20	28	-0.55	-0.60	-27.79
GEW-054	6/30/2015 17:05	51.7	42.9	0.0	5.4	146.3		30	29	-0.55	-0.57	-28.04
GEW-055	6/3/2015 15:22	53.0	40.9	0.0	6.1	126.7		35	35	-0.62	-0.62	-27.73
GEW-055	6/3/2015 15:30	53.0	42.0	0.0	5.0	126.7		38	37	-0.65	-0.65	-27.37
GEW-055	6/10/2015 16:08	52.8	41.7	0.0	5.5	127.2		12	13	-0.53	-0.52	-24.56
GEW-055	6/10/2015 16:09	52.3	42.4	0.0	5.3	126.1		0	0	-0.38	-0.37	-26.02
GEW-055	6/17/2015 7:56	54.6	43.7	0.0	1.7	126.0	126.0	3	5	-0.30	-0.30	-27.23
GEW-055	6/25/2015 10:21	52.5	40.6	0.4	6.5	125.3		29	28	-0.39	-0.40	-25.26
GEW-055	6/30/2015 17:11	52.9	41.9	0.0	5.2	127.2		15	17	-0.13	-0.14	-26.76
GEW-056R	6/1/2015 14:55	17.0	50.1	0.0	32.9	165.7				-1.27	-1.28	-20.59
GEW-056R	6/1/2015 15:12	16.6	49.4	0.0	34.0	166.1				-1.29	-1.28	-20.10
GEW-056R	6/8/2015 7:56	18.8	55.7	0.0	25.5	168.0	168.0	60	60	-1.00	-1.00	-20.35
GEW-056R	6/15/2015 9:07	17.3	48.0	0.0	34.7	167.6				-0.98	-0.99	-18.81
GEW-056R	6/15/2015 9:10	17.6	48.7	0.0	33.7	169.0				-1.94	-1.94	-20.71
GEW-056R	6/16/2015 9:04	18.4	48.3	0.0	33.3	158.0	158.0	91	91	-2.30	-2.20	-20.22
GEW-056R	6/16/2015 9:09	18.9	47.8	0.0	33.3	158.0	158.0	92	92	-2.20	-2.20	-20.20
GEW-056R	6/23/2015 9:38	15.8	47.4	0.0	36.8	166.0	166.0	92	92	-2.40	-2.40	-20.02
GEW-056R	6/29/2015 16:08	13.5	41.4	0.6	44.5	162.7				-4.12	-4.20	-14.01
GEW-056R	6/29/2015 16:10	13.5	41.0	0.5	45.0	162.7				-4.10	-4.10	-11.87
GEW-057B	6/24/2015 13:09	0.5	56.2	0.0	43.3	178.4				12.74	12.32	12.71
GEW-057B	6/24/2015 13:10	0.5	56.2	0.0	43.3	178.0				12.32	12.32	12.65

June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-057R	6/24/2015 13:03	0.5	54.0	0.0	45.5	185.1				11.83	11.77	12.71
GEW-057R	6/24/2015 13:04	0.5	54.9	0.0	44.6	185.7				11.59	11.59	12.65
GEW-058	6/22/2015 11:44	7.7	52.6	0.1	39.6	188.5				-23.48	-23.41	-26.94
GEW-058	6/22/2015 11:45	8.0	54.6	0.1	37.3	188.5				-23.41	-23.84	-27.31
GEW-058A	6/22/2015 11:36	1.0	48.4	2.5	48.1	176.2				-26.04	-27.26	-26.94
GEW-058A	6/22/2015 11:41	1.1	51.8	2.1	45.0	175.7				-18.96	-19.02	-26.63
GEW-059R	6/22/2015 11:13	1.8	52.2	0.4	45.6	183.0				-22.38	-22.38	-26.45
GEW-059R	6/22/2015 11:16	1.4	52.3	0.3	46.0	183.0				-20.98	-20.55	-30.36
GEW-061B	6/22/2015 12:15	0.6	1.0	20.4	78.0	98.4				-26.83	-26.71	-26.88
GEW-061B	6/22/2015 12:15	0.7	0.9	20.3	78.1	99.2				-26.83	-26.83	-26.88
GEW-065A	6/23/2015 16:06	5.1	57.6	0.0	37.3	197.9				-11.89	-7.01	-13.50
GEW-065A	6/23/2015 16:08	5.6	59.0	0.0	35.4	197.9				-7.80	-7.13	-13.19
GEW-066	6/24/2015 15:08	1.3	53.6	0.0	45.1	195.0				-17.87	-16.52	-27.43
GEW-066	6/24/2015 15:09	1.2	53.1	0.0	45.7	195.0				-19.02	-17.87	-27.98
GEW-067A	6/24/2015 15:14	1.1	56.4	0.5	42.0	195.4				-11.65	-11.59	-11.42
GEW-067A	6/24/2015 15:15	1.3	57.6	0.5	40.6	195.0				-10.67	-10.61	-10.20
GEW-069R	6/23/2015 16:26	2.8	1.5	19.8	75.9	95.8				-15.24	-15.67	-15.27
GEW-069R	6/23/2015 16:27	2.9	1.1	19.8	76.2	97.7				-15.12	-14.76	-15.03
GEW-070R	6/23/2015 16:31	17.7	30.7	7.7	43.9	102.3				-26.89	-26.83	-26.82
GEW-070R	6/23/2015 16:31	18.7	30.8	7.1	43.4	102.8				-27.32	-27.38	-27.06
GEW-071	6/22/2015 10:17	0.6	51.7	0.0	47.7	113.5				19.09	20.49	-11.73
GEW-071	6/22/2015 10:19	0.6	53.4	0.0	46.0	113.3				23.90	24.39	-12.28
GEW-075	6/24/2015 15:30	2.2	38.2	5.4	54.2	92.2				-5.49	-5.43	-14.11
GEW-075	6/24/2015 15:31	2.2	37.6	5.4	54.8	93.1				-4.89	-4.80	-14.60
GEW-080	6/23/2015 14:12	0.7	62.5	0.6	36.2	196.4				-8.96	-8.96	-10.69
GEW-080	6/23/2015 14:13	0.8	63.5	0.6	35.1	197.2				-10.06	-10.00	-11.48
GEW-081	6/23/2015 14:06	0.6	60.6	0.0	38.8	129.6				7.26	7.20	5.19
GEW-081	6/23/2015 14:07	0.5	64.1	0.0	35.4	129.7				7.26	7.26	5.25
GEW-082R	6/23/2015 14:19	1.5	59.0	0.0	39.5	195.0				-11.95	-11.89	-12.16
GEW-082R	6/23/2015 14:20	1.9	57.4	0.0	40.7	195.0				-12.44	-12.80	-11.91
GEW-083	6/23/2015 16:02	9.4	36.3	7.3	47.0	112.5				-5.06	-5.00	-26.88
GEW-083	6/23/2015 16:03	10.5	40.1	6.7	42.7	112.9				-5.24	-5.06	-26.76
GEW-084	6/22/2015 10:26	0.7	22.2	13.9	63.2	95.4				-12.32	-13.17	-12.77
GEW-084	6/22/2015 10:27	0.7	19.9	14.0	65.4	96.2				-10.30	-12.68	-10.75
GEW-085	6/22/2015 10:39	0.0	1.4	20.6	78.0	108.1				-27.38	-27.74	-27.55
GEW-085	6/22/2015 10:43	0.0	0.6	20.5	78.9	107.6				-27.87	-27.32	-28.41
GEW-086	6/19/2015 15:09	16.0	47.0	3.9	33.1	80.3				-28.29	-31.04	-28.34
GEW-089	6/23/2015 15:51	1.4	2.0	19.8	76.8	97.8				-26.83	-26.83	-26.45
GEW-089	6/23/2015 15:53	1.7	1.7	19.7	76.9	99.1				-27.32	-27.13	-26.88
GEW-090	6/19/2015 15:39	38.6	54.5	0.0	6.9	191.6				-19.94	-17.99	-19.49
GEW-090	6/22/2015 10:49	7.1	50.4	0.2	42.3	190.2				-12.13	-14.45	-12.52
GEW-090	6/22/2015 10:50	6.8	51.4	0.1	41.7	190.2				-13.66	-11.22	-13.68

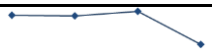
June 2015 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		"H_2O		
GEW-101	6/24/2015 11:28	4.2	64.6	0.4	30.8	107.5				-19.09	-19.09	-20.71
GEW-101	6/26/2015 9:27	14.3	67.9	0.0	17.8	89.9				-20.00	-20.12	0.49
GEW-101	6/26/2015 9:30	15.5	67.8	0.0	16.7	90.6				-21.16	-21.16	0.06
GEW-104	6/19/2015 15:00	15.5	49.6	3.8	31.1	90.3				-10.98	-10.24	-11.00

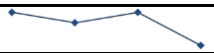
ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

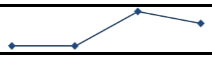
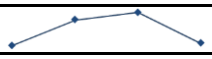
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
GEW-001	--	--	--	--		
GEW-002	122.3	123.0	124.0	122.6		
GEW-003	122.6	124.5	126.0	125.6		
GEW-004	118.6	117.0	122.0	124.0		
GEW-005	96.9	95.4	95.0	100.6		
GEW-006	91.2	91.1	91.3	101.8		
GEW-007	93.4	99.0	99.4	100.0		
GEW-008	117	118.0	120.0	118.1		
GEW-009	125.4	126.0	125.0	125.3		
GEW-010	97.9	104.7	108.8	98.5		
GEW-011	185.8	190.2	189.4	187.0		
GEW-013A	--	--	--	--		
GEW-014A	95.2	83.2	118.7	91.1		
GEW-015	--	--	--	--		
GEW-016R	196.6	196.0	196.6	--		
GEW-018B	--	--	--	--		
GEW-018R	180.8	179.3	193.1	92.2		Flow Restricted
GEW-019A	--	--	--	--		
GEW-020A	55.5	63.8	84.8	99.8		
GEW-021A	88.7	88.4	112.8	158.5		Flow Restored
GEW-022R	191.3	191.9	191.9	191.6		
GEW-023A	147.7	165.0	186.9	--		
GEW-024A	--	--	--	201.6		
GEW-025A	187.9	189.6	193.7	117.5		Flow Restricted
GEW-026R	177.3	150.5	115.5	131.4		
GEW-027A	71	178.2	176.2	181.9		
GEW-028R	87.8	184.1	184.6	179.7		
GEW-029	192	193.1	193.7	89.1		Flow Restricted
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	92.5	79.5	102.6	--		
GEW-034A		--	--	--		
GEW-035	123.2	133.1	124.0	111.0		
GEW-036	--	--	--	--		

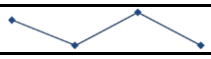
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
GEW-037	--	89.8	--	--		
GEW-038	158.8	165.5	165.5	138.1		
GEW-039	138.4	136.5	139.0	136.0		
GEW-040	92.3	92.7	93.2	95.2		
GEW-041R	107.2	107.6	108.1	110.2		
GEW-042R	87.8	90.9	93.0	97.7		
GEW-043R	130.6	134.7	136.3	136.0		
GEW-044	91.7	99.2	99.0	100.0		
GEW-045R	53.8	87.0	87.6	98.2		
GEW-046R	81.5	88.8	90.9	100.9		
GEW-047R	116.6	115.0	117.0	117.3		
GEW-048	104.7	107.0	106.1	107.1		
GEW-049	107.4	110.0	110.0	114.5		
GEW-050	106.5	109.2	109.3	109.6		
GEW-051	120.4	123.7	125.0	127.0		
GEW-052	112.1	117.0	114.0	115.5		
GEW-053	138.8	138.0	139.7	141.5		
GEW-054	145.5	147.0	150.0	148.0		
GEW-055	126.6	124.9	127.0	127.2		
GEW-056R	161.4	166.0	175.0	169.0		
GEW-057B	185.7	187.9	179.3	178.4		
GEW-057R	187.4	190.2	186.3	185.7		
GEW-058	192.5	194.1	191.9	188.5		
GEW-058A	191.3	191.6	187.9	176.2		
GEW-059R	184.6	183.5	184.1	183.0		
GEW-061B	43.1	87.6	78.9	99.2		
GEW-064A	--	--	--	--		
GEW-065A	195.4	196.0	196.0	197.9		
GEW-066	199	196.7	196.7	195.0		
GEW-067A	193.7	191.9	194.2	195.4		
GEW-068A	--	--	--	--		
GEW-069R	95.7	113.2	102.1	97.7		
GEW-070R	70.7	104.5	85.1	102.8		
GEW-071	196	170.2	196.5	113.5		Flow Restricted

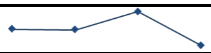
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	48.2	91.7	72.9	93.1		
GEW-076R	--	--	--	--		
GEW-077	--	--	--	--		
GEW-078R	--	--	--	--		
GEW-080	197.2	197.2	197.8	197.2		
GEW-081	--	--	198.4	129.7		Flow Restricted
GEW-082R	190.8	191.3	192.5	195.0		
GEW-083	61.1	89.4	92.7	112.9		
GEW-084	90.1	79.5	85.5	96.2		
GEW-085	--	--	97.1	108.1		
GEW-086	76.1	102.0	73.3	--		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		
GEW-089	53.7	85.1	77.6	99.1		
GEW-090	193.7	192.5	192.5	191.6		
GEW-091	--	--	--	--		
GEW-100	--	--	--	--		
GEW-101	82.1	--	92.1	107.5		
GEW-102	118.8	--	--	--		
GEW-103	81.5	--	84.5	--		
GEW-104	83.4	122.1	105.6	90.3		
GEW-105	76.6	95.9	83.2	111.0		
GEW-106	--	--	--	--		
GEW-107	81.3	132.1	147.0	85.9		Flow Restricted
GEW-108	--	--	--	--		
GEW-109	186.3	186.3	178.5	179.7		
GEW-110	169	168.3	170.0	170.0		
GEW-112	--	--	--	100.3		
GEW-113	--	--	--	--		
GEW-116	59.9	63.3	87.4	--		
GEW-117	--	--	--	97.8		

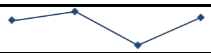
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
GEW-118	--	--	--	--		
GEW-120	61.7	108.8	194.8	165.2		
GEW-121	193.7	194.8	194.8	200.1		
GEW-122	194.8	190.2	194.8	87.2		Flow Restricted
GEW-123	181.4	190.3	190.2	189.8		
GEW-124	140.8	87.8	--	190.9		
GEW-125	178.3	189.1	190.9	194.3		
GEW-126	194.2	195.4	194.2	197.9		
GEW-127	185.2	186.3	186.3	187.0		
GEW-128	183.1	183.0	182.4	181.5		
GEW-129	161.4	163.2	164.1	163.3		
GEW-130	--	--	--	--		
GEW-131	148.9	178.7	175.2	147.7		
GEW-132	189.6	193.1	188.5	185.1		
GEW-133	64.6	188.5	195.3	114.4		Flow Restricted
GEW-134	116.9	105.6	182.8	190.6		
GEW-135	57.9	190.8	191.6	194.3		
GEW-136	125.4	179.1	197.2	147.0		Flow Restricted
GEW-137	161.9	146.7	138.0	183.9		Flow Restored
GEW-138	197.2	186.5	178.2	183.3		
GEW-139	193.1	193.7	193.1	195.0		
GEW-140	187.4	186.8	187.4	188.9		
GEW-141	126	140.0	127.8	125.0		
GEW-142	189.6	192.5	191.6	184.5		
GEW-143	192.5	193.7	195.0	195.5		
GEW-144	100.2	107.2	143.9	145.2		
GEW-145	80.2	106.6	110.4	--		
GEW-146	127.2	99.3	136.1	99.2		Flow Restricted
GEW-147	191.3	190.6	194.8	196.4		
GEW-148	183	189.1	194.5	187.0		
GEW-149	178.3	181.4	149.3	145.2		
GEW-150	177.7	191.9	191.8	149.7		Flow Restricted
GEW-151	46.2	199.6	166.9	98.6		Flow Restricted
GEW-152	188.5	187.9	188.5	107.0		Flow Restricted

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
GEW-153	46.6	82.1	95.3	95.6		
GEW-154	162.7	161.4	200.2	127.8		Flow Restricted
GEW-155	198.5	168.3	150.7	150.2		
GEW-156	171.7	164.1	168.8	186.4		
GIW-01	192.5	193.0	195.0	193.0		
GIW-02	70.4	86.1	92.5	100.4		
GIW-03	69.2	86.8	90.5	97.8		
GIW-04	68.3	84.2	88.2	97.7		
GIW-05	75.2	95.0	93.4	96.3		
GIW-06	79.5	87.2	86.8	98.2		
GIW-07	70.2	87.2	88.0	95.6		
GIW-08	92.7	100.8	115.1	113.1		
GIW-09	192.8	194.2	193.7	192.0		
GIW-10	71.2	87.6	90.9	97.7		
GIW-11	171.2	175.0	170.2	169.4		
GIW-12	155.8	180.2	181.0	166.9		
GIW-13	177.7	178.8	172.5	162.8		
LCS-1D	--	--	--	--		
LCS-2D	126.3	123.0	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	100.7	98.3	94.2	95.3		
LCS-6B	62.2	84.9	90.5	102.8		
PGW-60	91.1	92.3	83.8	90.8		
SEW-002	--	--	--	--		
SEW-012A	65.7	76.4	85.7	--		
SEW-017R	140.7	132.3	136.0	107.3		
SEW-031R	191.8	193.1	--	194.9		
SEW-032R	101.4	64.6	--	--		
SEW-060R	67.4	90.3	--	--		
SEW-061R	127	120.0	--	100.1		
SEW-062R	175.7	104.1	82.1	87.5		
SEW-063	111.3	155.4	185.0	190.9		
SEW-064	115.7	124.9	152.1	152.9		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Mar 2015	Apr 2015	May 2015	June 2015		
SEW-067	94.7	--	89.6	115.0		
SEW-072R	93.1	103.0	66.0	96.4		Flow Restored
SEW-074	87.8	104.5	90.6	92.2		
SEW-079R	54.3	101.0	90.5	101.1		
T-56	48.9	59.1	69.5	82.2		

-- = Indicates n

ATTACHMENT F

SETTLEMENT FRONT MAP

APPROXIMATE QUARRY WALL LOCATION

CONTOUR AT 1.53 FT REPRESENTS 1.35 FT SETTLEMENT PER THIRTY DAY PERIOD - SURVEY PERIOD IS 34 DAYS (1.35 * 34/30 = 1.53)

SCALE: 1" = 200'

LEGEND

- TOPOGRAPHY (2' CONTOUR)
- 500 — TOPOGRAPHY (10' CONTOUR)
- ELEVATION CHANGE (0.25' CONTOUR)
- −1.50 — ELEVATION CHANGE (0.50' CONTOUR)
- JUNE 16, 2015 SETTLEMENT FRONT

GENERAL NOTES :

1.) TOPOGRAPHY SHOWN BASED ON PHOTOGRAPHY DATED 2-10-2015.

SETTLEMENT NOTES :

1.) CONTOURS ARE OF CHANGE IN ELEVATION FROM 5/13/15 TO 6/16/15 PERFORMED AT GRID POINTS USING GPS METHODS.

2.) SETTLEMENT IS REPORTED AS A NEGATIVE CHANGE IN ELEVATION.

3.) ANY POINTS THAT WERE NOT A GROUND TO GROUND COMPARISON FROM THE PREVIOUS MONTH OR WERE NOT SURVEYED IN THE SAME LOCATION AS THE PREVIOUS MONTH HAVE BEEN FILTERED OUT.

ELEVATION CHANGE (FEET)				
Number	Minimum Elev. Change	Maximum Elev. Change	Area (sq.ft.)	Color
1	−5.00	−4.00	0.00	
2	−4.00	−3.00	0.00	
3	−3.00	−2.00	4101.53	
4	−2.00	−1.00	160331.99	
5	−1.00	0.00	1217383.20	
6	0.00	1.00	155933.04	

BRIDGETON LANDFILL, LLC
13570 SAINT CHARLES ROCK RD
BRIDGETON, MO 63044

BRIDGETON LANDFILL
SETTLEMENT MONITORING

SETTLEMENT FROM 5-13-15 TO 6-16-15 (34 DAYS)

Engineering for a Better World
FEEZOR ENGINEERING, INC.

DATE: JUNE 2015
DESIGNED BY:DMK
APPROVED BY:ALK

PROJ. NO: BT-021 FILE PATH: \BRIDGETON SETTLEMENT\JUNE 2015\SETTLEMENT MAY 2015 - JUNE 2015 - 11x17.dwg

REVISION | DATE

DRAWING NO.:
001

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

June 1, 2015 – June 30, 2015 / MDNR ODOR COMPLAINTS

Name: NA

Message: Odor logged June 1, 2015, at 3:20 pm strength of 9

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

Name: NA

Message: Odor logged June 1, 2015, at 3:21 pm, strength 9

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

Name: NA

Message: Odor logged June 1, 2015, at 3:29 pm, strength of 8

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

Name: Mary Dieckmeyer

Message: Odor logged June 1, 2015, at 3:00 pm, strength of 8

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

Name: Sheila Gray

Message: Odor logged June 1, 2015, at 12:10 pm, strength of 7

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

Name: NA

Message: Odor logged June 1, 2015, at 1:52 pm, strength of 6

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

Name: NA

Message: Odor logged June 1, 2015, at 1:50 pm, strength of 7

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

Name: Juan Calvo

Message: Odor logged June 1, 2015, at 11:00 am, strength of 6

Follow-up: The following concern was investigated shortly after receipt. No odor related to the Bridgeton Landfill was observed.

Name: Ann Yeoman

Message: Odor logged June 1, 2015, at 8:00 am, strength of 9

Follow-up: The following concern occurred shortly before an odor self-inspection. No odor related to the Bridgeton Landfill was observed in this vicinity. An odor associated with another known odor source was observed upwind of this location and later in the day at this location.

Name: Robbin Dailey

Message: Odor logged June 2, 2015, at 2:18 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: Meagan beckermann

Message: Odor logged June 1, 2015, at 10:25 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: Monica Pemberton

Message: Odor logged June 1, 2015, at 7:35 am, 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: Rhonda Steelman

Message: Odor logged June 1, 2015, at 9:13 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: Bud Simpson

Message: Odor logged June 1, 2015, at 3:44 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: NA

Message: Odor logged June 1, 2015, at 11:48 am, 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: NA

Message: Odor logged June 1 2015, at 6:09 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: Michelle Favignano

Message: Odor logged June 1, 2015, at 4:12 pm, strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This was not a Bridgeton Landfill related odor.

Name: Rhonda Steelman

Message: Odor logged June 5, 2015, at 10:24, strength of 7

Follow-up: The following concern was investigated immediately after receipt. No odor associated with the Bridgeton Landfill was observed.

Name: NA

Message: Odor logged June 5, 2015, at 7:44 pm, strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor self-inspection was performed approximately one hour after this concern, no odor related to the Bridgeton Landfill was observed.

Name: NA

Message: Odor logged June 6, 2015, at 11:18 am, strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a generally southern origin at the time of this concern, placing this location upwind of the Bridgeton Landfill and downwind from other known odor sources.

Name: Kathy Bell

Message: Odor logged June 6, 2015, at 1:19 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a generally southern origin at the time of this concern, placing this location upwind of the Bridgeton Landfill and downwind from other known odor sources.

Name: Debi Disser

Message: Odor logged June 7, 2015, at 12:14 am, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern references a time of frequent south and southwest winds, placing this location upwind of the Bridgeton Landfill and directly downwind of another known odor source.

Name: Kathy Bell

Message: Odor logged June 8, 2015, at 7:30 pm, strength 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Kathy Bell

Message: Odor logged June 9, 2015, at 4:45 pm, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Kathy Bell

Message: Odor logged June 9, 2015, at 8:19 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: NA

Message: Odor logged June 9, 2015, at 8:55 pm, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Rhonda Steelman

Message: Odor logged June 8, 2015, at 7:13 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Tonya Mason

Message: Odor logged June 9, 2015, at 9:00 pm, strength 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Debi Disser

Message: Odor logged June 9, 2015, at 8:53 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds were of a consistent western origin throughout the time period of this concern, placing this location upwind of the Bridgeton Landfill. Multiple observations by Bridgeton Landfill staff in the vicinity of this concern did not observe any odor related to the Bridgeton Landfill.

Name: Saul Fein

Message: Odor logged June 9, 2015, at 1:15 pm, strength 8

Follow-up: The following concern cited a time during a Bridgeton Landfill odor self-inspection. No odor related to the Bridgeton Landfill was observed at any location during this inspection. Winds were of a persistent western origin, placing this location upwind of the Bridgeton Landfill and downwind of another known odor concern with multiple instances of off-site odor observed during the last several days by Bridgeton Landfill staff.

Name: NA

Message: Odor logged June 10, 2015, at 9:00 pm, strength 8

Follow-up: The following concern references a time during a Bridgeton Landfill odor self-inspection that observed no odors related to the Bridgeton Landfill. Winds were of a persistent southwest origin throughout the evening, placing this concern location upwind of the Bridgeton Landfill and downwind of another known odor source with frequent odor observations throughout the past several days.

Name: Steve Commuso

Message: Odor logged June 10, 2015, at 11:00 pm, strength 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor self-inspection was performed immediately before the time cited in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent southwest origin, placing this location upwind of the Bridgeton Landfill and directly downwind of another known odor source with frequent odor observations over the past several days. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 14, 2015, at 10:45 am, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor self-inspection was performed immediately before the time cited in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent southwest origin, placing this location upwind of the Bridgeton Landfill and directly downwind of another known odor source with frequent odor observations over the past several days. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged June 15, 2015, at 5:30 pm, strength 7

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged June 17, 2015, at 4:33 pm, strength 10

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Kathy Bell

Message: Odor logged June 17, 2015, at 6:16 pm, strength 8

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Tonya Mason

Message: Odor logged June 17, 2015, at 3:30 pm, strength 9

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Tonya Mason

Message: Odor logged June 17, 2015, at 6:42 pm, strength 9

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Emily Jacobi

Message: Odor logged June 17, 2015, at 7:09 pm, strength 8

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Tonya Mason

Message: Odor logged June 17, 2015, at 9:08 pm, strength 9

Follow-up: On the date of this concern winds were of a persistent southwest origin, placing this location upwind of Bridgeton Landfill. Frequent odors throughout the last several weeks have been observed from a known odor source located to the southwest of this location and Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged June 18, 2015, at 10:59 am, strength 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This location is due south of the Bridgeton Landfill, winds have been of a persistent west or southwest origin throughout the day and no odor related to the Bridgeton Landfill has been observed off-site, up or down wind. A garbage odor was observed at multiple points in close proximity to this concern location on this date however, and at many other points throughout the area during odor self-inspections performed on this date. This odor is originating from a point to the west of I-70 and has been observed with increasing strength and frequency over the last several weeks. This was not a Bridgeton Landfill odor.

Name: Nicole Hayes

Message: Odor logged June 18, 2015, at 4:02 pm, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location cited was well upwind of the Bridgeton Landfill at the time of this concern and directly downwind of another known odor source with frequent off-site odor observed. This was not a Bridgeton Landfill odor.

Name: Michael Wolff

Message: Odor logged June 18, 2015, at 4:06 pm, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location is of a greater distance from the Bridgeton Landfill than any confirmed observations to date. At this time winds were of a consistent eastern origin placing this location directly upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Missy Quigg

Message: Odor logged June 18, 2015, at 7:41 pm, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location cited in this concern is directly adjacent to a known source of frequent odors throughout the area. This was not a Bridgeton Landfill odor.

Name: Kathy Schlag

Message: Odor logged June 18, 2015, at 11:30 am, strength 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time cited in this concern winds were of a persistent southwest origin, placing this location directly upwind of the Bridgeton Landfill and directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 18, 2015, at 3:00 pm, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location cited is in the immediate vicinity of another known odor source with off-site odor emissions observed on this date. At the time cited in this concern the concern location was directly downwind of this other odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 18, 2015, at 5:19 pm, strength 10

Follow-up: The following concern did not provide location details and therefore is invalid.

Name: Rhonda Steelman

Message: Odor logged June 18, 2015, at 4:38 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. All atmospheric and observational data contradicts the potential for Bridgeton Landfill odor to have been observed at the cited location. This was not a Bridgeton Landfill odor.

Name: Wortham

Message: Odor logged June 18, 2015, at 7:40 pm, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern this location was directly downwind from another known odor source far closer to this location than the Bridgeton Landfill, an odor source with frequent off-site odor observations in recent history. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 19, 2015, at 8:45 pm, strength 8

Follow-up: The following concern was investigated by Bridgeton Landfill staff less than half an hour from the time of submittal. An odor was detected that may have originated from the Bridgeton Landfill.

Name: Rhonda Steelman

Message: Odor logged June 20, 2015, at 4:36 am, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location of this concern is of significant distance from the Bridgeton Landfill and was directly downwind of another odor source at the time of this concern. This is not believed to have been a Bridgeton Landfill odor.

Name: Joshua Zimerman

Message: Odor logged June 21, 2015, at 1:30 pm, strength 10

Follow-up: The following concern lacks location information and is therefore invalid.

Name: Traci Vette

Message: Odor logged June 18, 2015, at 7:15 pm, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern location at the time cited in this concern was directly downwind of another known odor source of far closer proximity to this location than the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Kathy Schlag

Message: Odor logged June 22, 2015, at 2:00 pm, strength 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Winds have been of a persistent southwest origin throughout the day on this date. A strong sludge/septic odor has been readily apparent throughout the area originating from a point to the west of the Bridgeton Landfill and was observed in close proximity to this concern earlier in the day. This was likely the source of this odor and this was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 22, 2015, at 8:00 am, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor self-inspection was performed in close proximity to both the time and location of this concern. A strong septic/sludge waste odor was detected. As winds were of a persistent southwest origin and the strongest observations of this odor were at points located progressively further to the west it is quite clear that the source of this odor was not Bridgeton Landfill but another known odor source southwest of this concern location.

Name: NA

Message: Odor logged June 22, 2015, at 7:00 pm, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a southwest origin, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source with frequent off-site odor observations on this date. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged June 22, 2015, at 10:48 am, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a southwest origin, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source with frequent off-site odor observations on this date. This was not a Bridgeton Landfill odor.

Name: Emily jacobi

Message: Odor logged June 23, 2015, at 7:30 am, strength 9

Follow-up: The following concern was investigated immediately following receipt. No odor associated with the Bridgeton Landfill was observed. A complete odor round was performed along with this investigation, no odor related to the Bridgeton Landfill was observed at multiple additional points between this location and the Bridgeton Landfill.

Name: Kathy Bell

Message: Odor logged June 23, 2015, at 3:30 am, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Before and during the time of this concern winds were of a persistent western origin, placing this location upwind of the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at monitoring points in close proximity to this concern location during evening or morning rounds.

Name: NA

Message: Odor logged June 24, 2015, at 9:56 am, strength 8

Follow-up: The following concern was investigated within one hour of receipt. At the location cited a distinct to strong garbage odor was observed. This location is directly adjacent to a known odor source with that odor profile. The odor did not match the odor profile of any odor source located within the Bridgeton Landfill property. This was not a Bridgeton Landfill odor.

Name: Ann Yeoman

Message: Odor logged June 25, 2015, at 8:04 am, strength 7

Follow-up: The following concern was investigated during a Bridgeton Landfill odor self-inspection. That inspection observed a distinct garbage odor at the intersection of Corporate Exchange Drive and Rider Trail South. This odor at this location has typically been linked to a known odor source to the south of the landfill, but as winds were of a low velocity and high

variability at this time the odor could not be conclusively traced back to the source. However, this odor is not consistent with any form of Bridgeton Landfill odor and was not detected at multiple points far closer to the Bridgeton Landfill, as such it is clear the source of this odor was not from within the Bridgeton Landfill site boundaries.

Name: Sara Schulz

Message: Odor logged June 23, 2015, at 6:30 am, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was received over two days after the stated observation time. On the date stated winds were of predominantly southwestern origin and a garbage odor associated with another known odor source in the area directly upwind of this location based on that wind vector were observed. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged June 25, 2015, at 6:23 pm, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This location is far closer to two other known odor sources than it is to the Bridgeton Landfill. Winds were of a west southwest vector at the time of this concern, placing this location well upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 25, 2015, at 6:46 pm, strength 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This location is far closer to two other known odor sources than it is to the Bridgeton Landfill. Winds were of a west southwest vector at the time of this concern, placing this location well upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Greg and Ellen Wortham

Message: Odor logged June 26, 2015, at 11:55 am, strength 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. In close proximity to the time cited in this concern Bridgeton Landfill staff observed a trash odor typically associated with active landfills, not matching with Bridgeton Landfill odors. Winds at the time also placed the Bridgeton Landfill downwind of this location at the time of this concern. This was not a Bridgeton Landfill odor.

Name: Meghan Cousino

Message: Odor logged June 26, 2015, at 3:30 pm, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern location was well upwind of the Bridgeton Landfill and in close proximity with two other known odor sources. No odor was observed during Bridgeton Landfill self-inspections at multiple points between this location and the Bridgeton Landfill.

Name: NA

Message: Odor logged June 28, 2015, at 12:28 am, strength 3

Follow-up: The following concern has been investigated by Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed during self-inspections both before and after this concern. The location of this concern is to the southwest of the Bridgeton Landfill, in close proximity of two other known odor sources. Winds were of a western origin, placing this location direction upwind of the Bridgeton Landfill and downwind of those other sources. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 29, 2015, at 6:49 am, strength 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A garbage odor was observed by multiple Bridgeton Landfill staffers in close time proximity to to this concern during commute. Winds were of a western origin and the location of this concern is due south of the Bridgeton landfill while due east (directly downwind) of another odor source with an odor profile matching the observed odor. This was unlikely to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 29, 2015, at 6:49 am, strength 6

Follow-up: This concern lacks valid location data.

Name: Katie Keeven

Message: Odor logged June 30, 2015, at 9:45 am, strength 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor observation was performed at multiple points in close proximity to this concern just prior to the time cited in this concern. A septic/fecal odor was readily apparent at multiple points,

originating from an odor source to the west of this location and to the west of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 30, 2015, at 10:42 am, strength 7

Follow-up: This concern lacks valid location data.

Name: Kathy Schalg

Message: Odor logged June 30, 2015, at 2:46 pm, strength 6

Follow-up: An odor self-inspection was performed shortly before the time cited in this concern. A garbage odor was observed in close proximity to this location. Winds were of a western origin, placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill related odor.

Name: Greg and Ellen Wortham

Message: Odor logged June 30, 2015, at 2:45 pm, strength 4

Follow-up: An odor self-inspection was performed shortly before the time cited in this concern. A garbage odor was observed in close proximity to this location. Winds were of a western origin, placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill related odor.

Name: NA

Message: Odor logged June 30, 2015, at 7:37 pm, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this evening winds were of a persistent western origin. As this location is west of the Bridgeton Landfill it was upwind of the site and directly downwind of another known odor source with multiple observed instances of odor in the recent past, including on this date in particular. This was unlikely to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 30, 2015, at 7:37 pm, strength 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this evening winds were of a persistent western origin. As this location is west of the Bridgeton Landfill it was upwind of the site and directly downwind of another known odor

source with multiple observed instances of odor in the recent past, including on this date in particular. This was unlikely to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged June 30, 2015, at 8:32 pm, strength 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this evening winds were of a persistent western origin. As this location is west of the Bridgeton Landfill it was upwind of the site and directly downwind of another known odor source with multiple observed instances of odor in the recent past, including on this date in particular. This was unlikely to have been a Bridgeton Landfill odor.

Name: Greg and Ellen Wortham

Message: Odor logged June 30, 2015, at 10:25 pm, strength 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this evening winds were of a persistent western origin. As this location is west of the Bridgeton Landfill it was upwind of the site and directly downwind of another known odor source with multiple observed instances of odor in the recent past, including on this date in particular. This was unlikely to have been a Bridgeton Landfill odor.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

June 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
6/1/2015	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	0
6/2/2015				0
6/3/2015				97,500
6/4/2015				127,500
6/5/2015				127,500
6/6/2015				0
6/7/2015				0
6/8/2015				97,500
6/9/2015				142,500
6/10/2015				142,500
6/11/2015				142,500
6/12/2015				142,500
6/13/2015				0
6/14/2015				0
6/15/2015				142,500
6/16/2015				142,500
6/17/2015				142,500
6/18/2015				135,000
6/19/2015				142,500
6/20/2015				330,000
6/21/2015				330,000
6/22/2015				142,500
6/23/2015				142,500
6/24/2015				135,000
6/25/2015				0
6/26/2015				0
6/27/2015				0
6/28/2015				0
6/29/2015				142,500
6/30/2015				142,500
			Total=	**3,090,000**

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
6/1/2015	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	279,057
6/2/2015			246,549
6/3/2015			267,244
6/4/2015			267,244
6/5/2015			286,055
6/6/2015			234,260
6/7/2015			284,144
6/8/2015			308,323
6/9/2015			308,208
6/10/2015			285,062
6/11/2015			317,652
6/12/2015			296,456
6/13/2015			288,256
6/14/2015			287,010
6/15/2015			294,515
6/16/2015			278,744
6/17/2015			283,786
6/18/2015			268,711
6/19/2015			122,469
6/20/2015			149,984
6/21/2015			244,082
6/22/2015			254,643
6/23/2015			252,570
6/24/2015			286,446
6/25/2015			280,374
6/26/2015			241,016
6/27/2015			308,679
6/28/2015			252,141
6/29/2015			214,338
6/30/2015			299,956
		Total=	**7,987,975**