Bridgeton Landfill, LLC

Monthly Data Submittals

July, 2015

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

Contents:

Commentary on Data
Attachment A Work Completed and Planned
Attachment B Daily Flare Monitoring Data
- **B-1** Flow Data Table
- **B-2** Flow Data Graphs
- **B-3** Flare TRS / Flare Station Flow

Attachment C Gas Well Analyses Maps
Attachment D Hydrogen Data / Carbon Monoxide Data
- **D-1** Lab Analyses Summary
- **D-2** Lab Analyses Reports

Attachment E Gas Wellfield Data
- **E-1** GEM Data Table
- **E-2** Maximum Wellhead Temperature Table

Attachment F Settlement Front Map
Attachment G Summary of Odor Complaints
Attachment H Liquid Characterization Data and Discharge Log

Provided Separately:

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

August 20, 2015

Commentary on Data

August 20, 2015

The following observations and comments are offered for the July 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 July averaged 4,688 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. Fifteen vertical wells decreased by 30°F or more in July. Additionally, 2 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 July. These consisted of 11 older GEW wells (<#-120) that are experiencing low flows; 6 new GEW wells (>#-120) that are experiencing restricted flows; 6 GIW wells that have low gas flow; and 1 SEW wells that is shallow extractor. By the end of the month, the majority (76%) of these wells still exhibited oxygen at the wellhead at or greater than 5%. All these wells, except the new GEWs are low-flow/vacuum sensitive wells with valves only slightly open. On-going tuning and maintenance and pump operation is being performed to manage the oxygen content. The wells are in the south quarry area where the flexible membrane liner cap is in place to prevent atmospheric intrusion into the waste mass.

- A detailed review of the gas extraction wells in the neck area was conducted. Temperature is consistent with previous months in each of the monitorable wells in vicinity to the neck. Carbon monoxide (CO) results from July showed stable month-over-month; wells remain within historical norms, with the exception of GIW-07, GIW-08, GIW-09, GIW-12. The carbon monoxide concentrations decreased at GIW-07 (1,200 to 990 ppm), GIW-08 (1,500 to 460 ppm), GIW-09 (3,200 to 850 ppm), and GIW-12 (1,900 to 490 ppm). The drop in carbon monoxide concentration may be attributed to the removal of heat/energy due to the heat extraction system that was installed within the previous twelve months.

- All wells in the North Quarry continue to exhibit a maximum wellhead temperature under 145° F for the month of July, with the exception of GEW-054, that had a maximum temperature of 152.9° 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 were non-detect for this well (GEW-054) during the July 2015 sample event. GEW-053 and GEW-055 continue to show low level concentrations similar to previous monthly sampling events. Historically, GEW-08 had recorded low levels of carbon monoxide but during the July 2015 sampling event, carbon monoxide was a non-detect at GEW-08. 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 GCCS wellfield conditions observed in the North Quarry for some time.

Settlement

- The South Quarry exhibited monthly maximum settlement up to **1.8 feet (see Attachment F)** for the month of July; 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 July 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 July 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

- Continued operation and maintenance of the HES.

Leachate Management System

- Continued routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Continued ongoing operation of facility.

Other Projects:

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

Work Planned for August 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

- Continue 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
July 2015

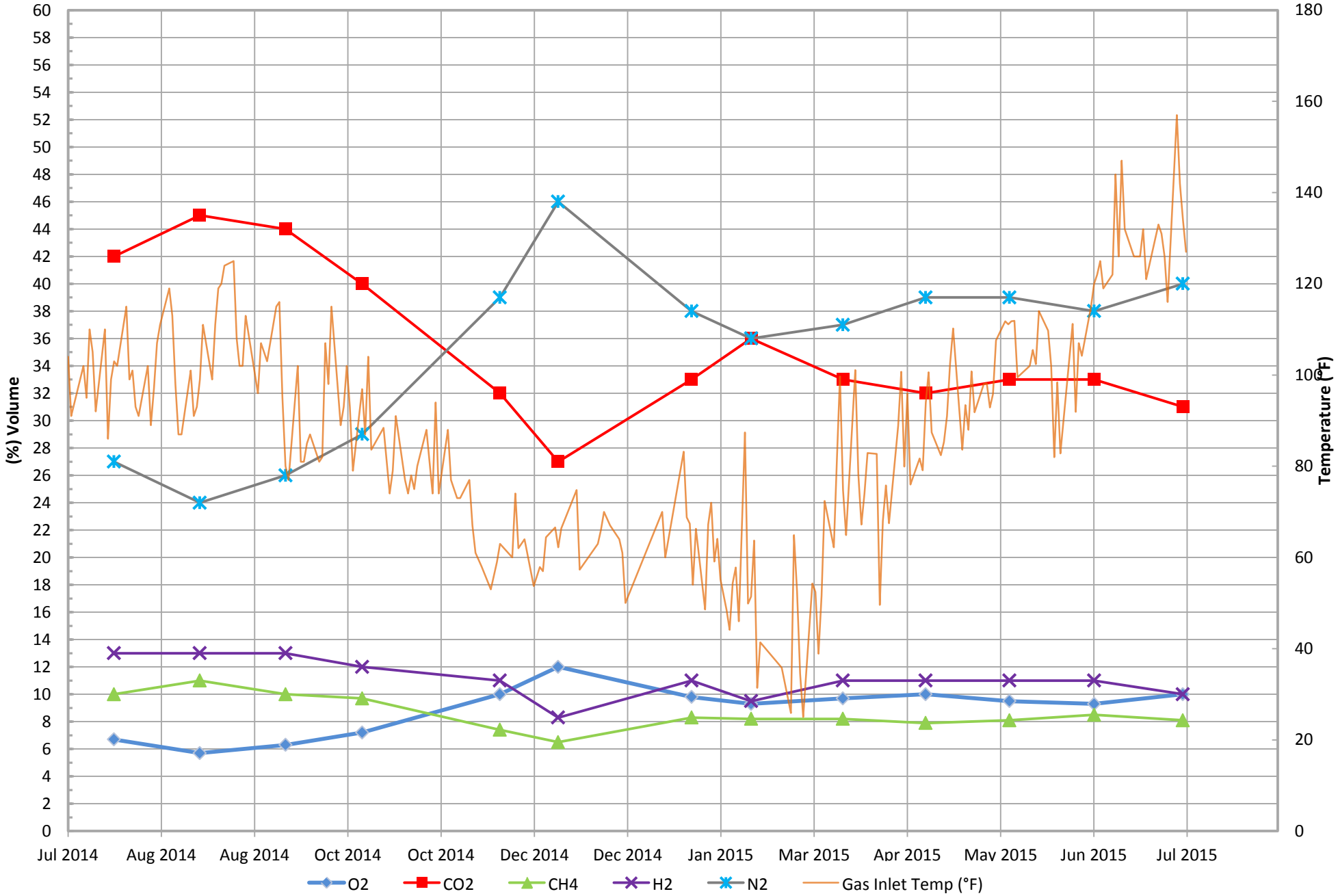
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	E. Aux. Utility Flare	
7/1/2015	1,444	1,536	1,763		4,743
7/2/2015	1,448	1,497	1,770	295	5,010
7/3/2015	1,504	1,493	1,758	548	5,303
7/4/2015	1,519	1,519	1,749		4,787
7/5/2015	1,519	1,489	1,753		4,761
7/6/2015	1,513	1,471	1,765		4,750
7/7/2015	1,383	1,438	1,755		4,576
7/8/2015	1,336	1,459	1,765	773	5,334
7/9/2015	1,549	1,313	1,825	548	5,235
7/10/2015	1,485	1,523	1,800		4,807
7/11/2015	1,609	1,620	1,797		5,026
7/12/2015	1,636	1,619	1,787		5,041
7/13/2015	1,585	1,601	1,737		4,923
7/14/2015	1,570	1,538	1,643		4,751
7/15/2015	1,479	1,599	1,721		4,800
7/16/2015	1,547	1,546	1,741		4,835
7/17/2015	1,469	1,511	1,725		4,705
7/18/2015	1,595	1,194	1,786		4,574
7/19/2015	1,426	1,545	1,544		4,514
7/20/2015	1,087	1,589	1,547		4,224
7/21/2015	1,461	1,542	1,507		4,511
7/22/2015	1,473	1,538	1,531		4,542
7/23/2015	1,483	1,520	1,525		4,528
7/24/2015	1,454	1,482	1,505		4,442
7/25/2015	1,431	1,515	1,503		4,448
7/26/2015	1,392	1,462	1,505		4,359
7/27/2015	1,414	1,480	1,481		4,375
7/28/2015	1,405	1,462	1,471		4,337
7/29/2015	1,405	1,484	1,476		4,366
7/30/2015	1,411	1,470	1,486		4,366
7/31/2015	1,410	1,476	1,483		4,369
				Average	**4,688**

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

ATTACHMENT B-2

FLOW DATA GRAPHS

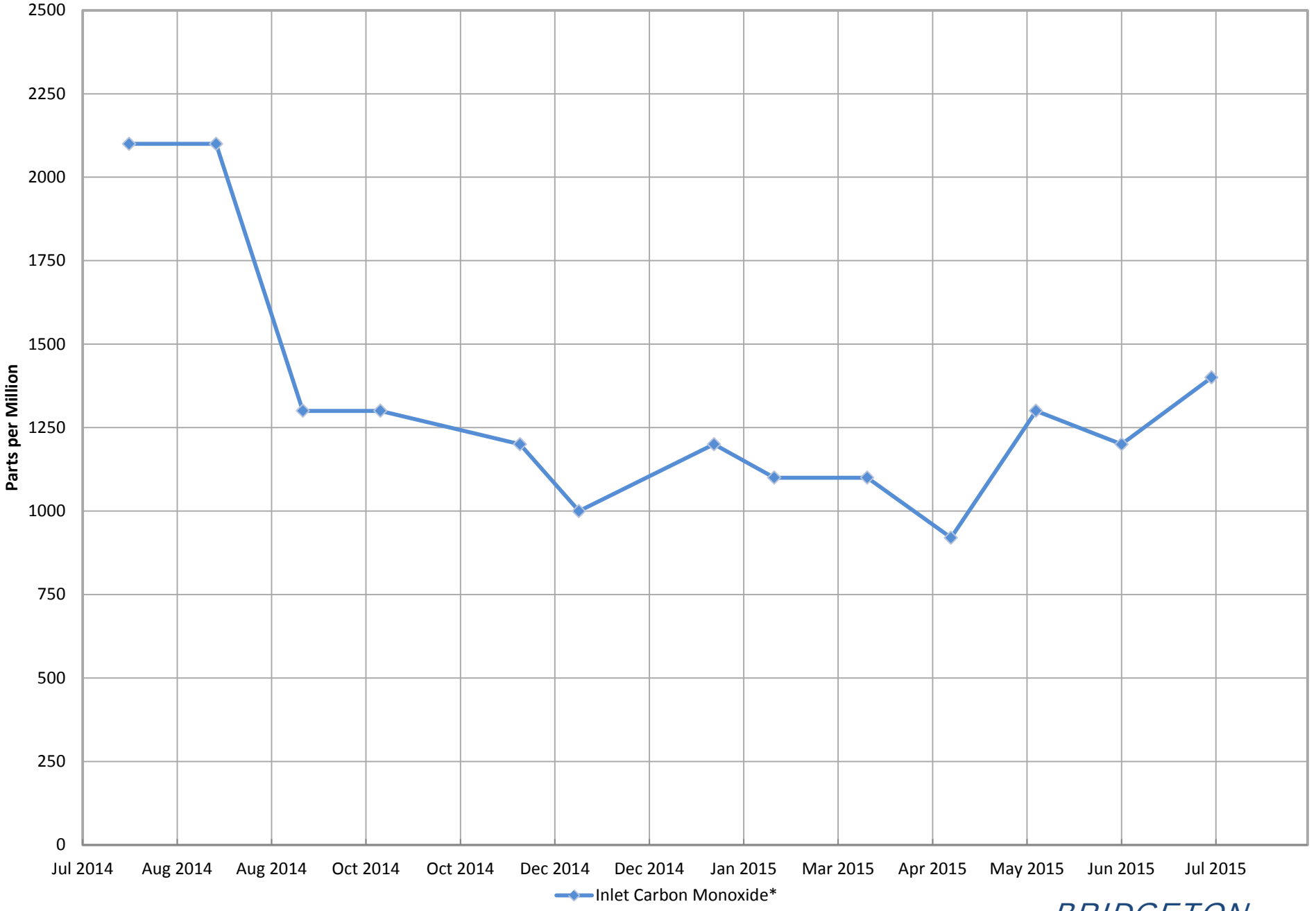
Inlet Gas and Temperature*



*Gas data collected from Laboratory Reports. Temperature data

BRIDGETON

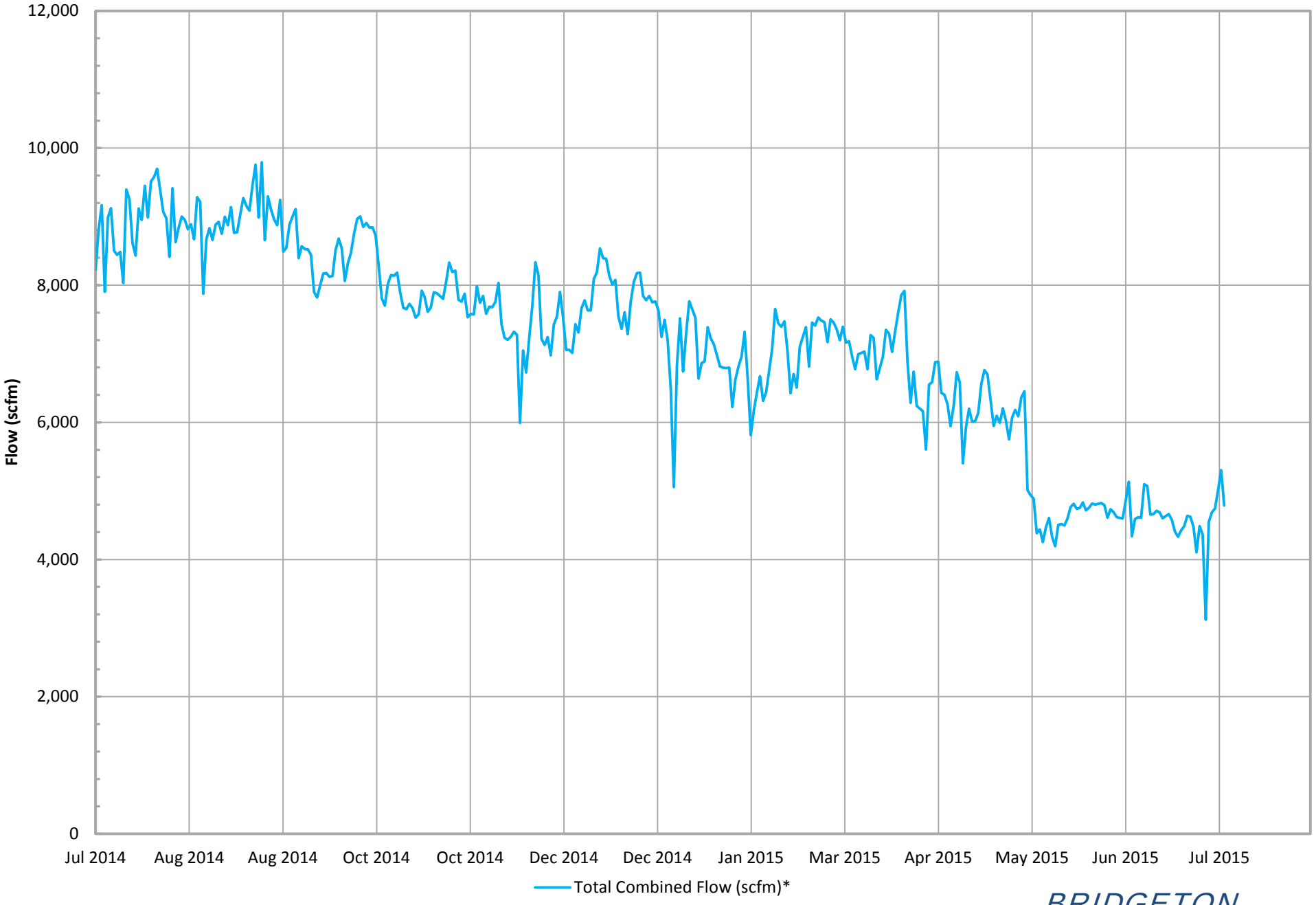
Inlet Carbon Monoxide*



*Data collected from

BRIDGETON LANDFILL

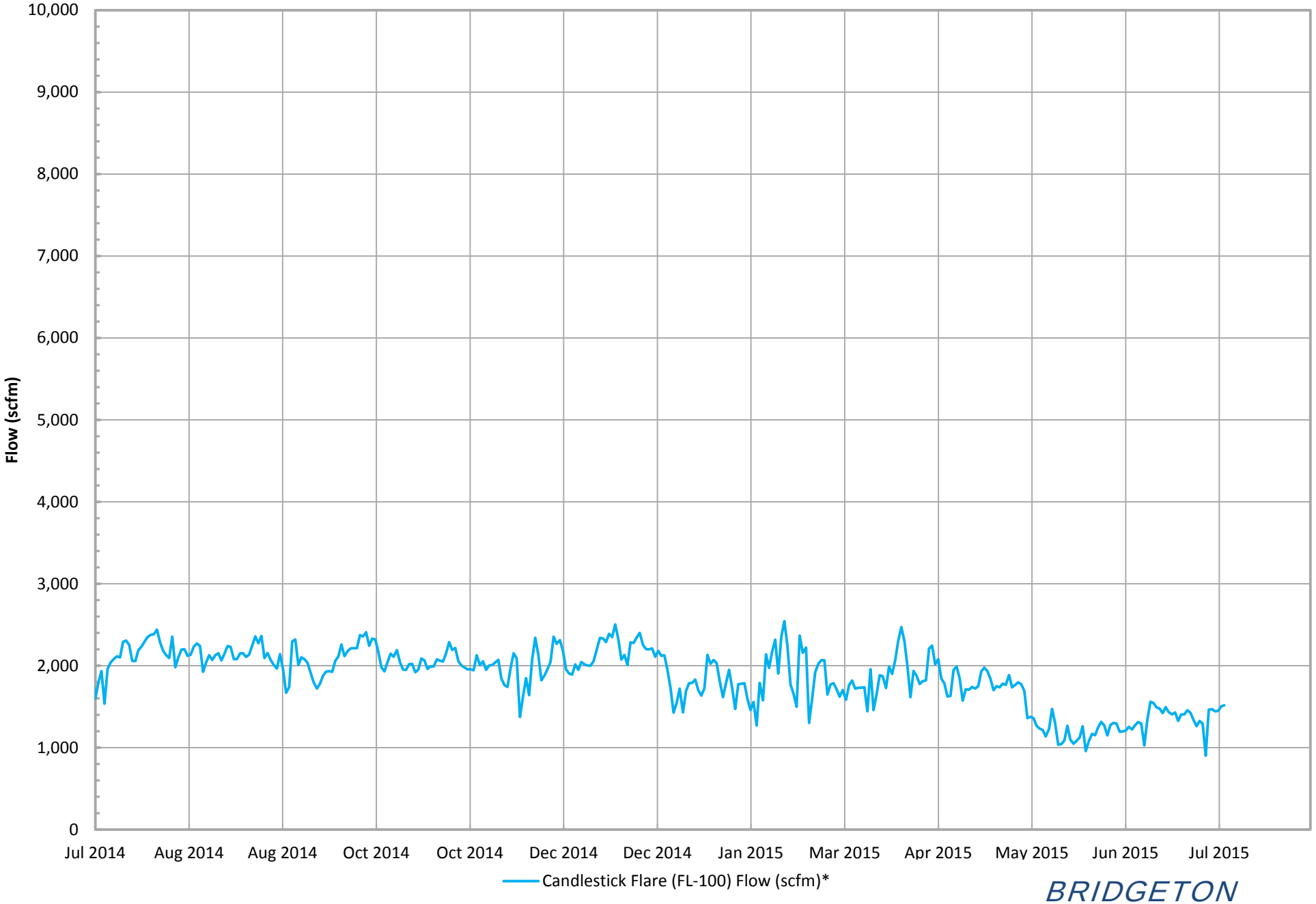
Total Combined Flow (scfm)*



*Combined flow is based on tabulated flow data

BRIDGETON LANDFILL

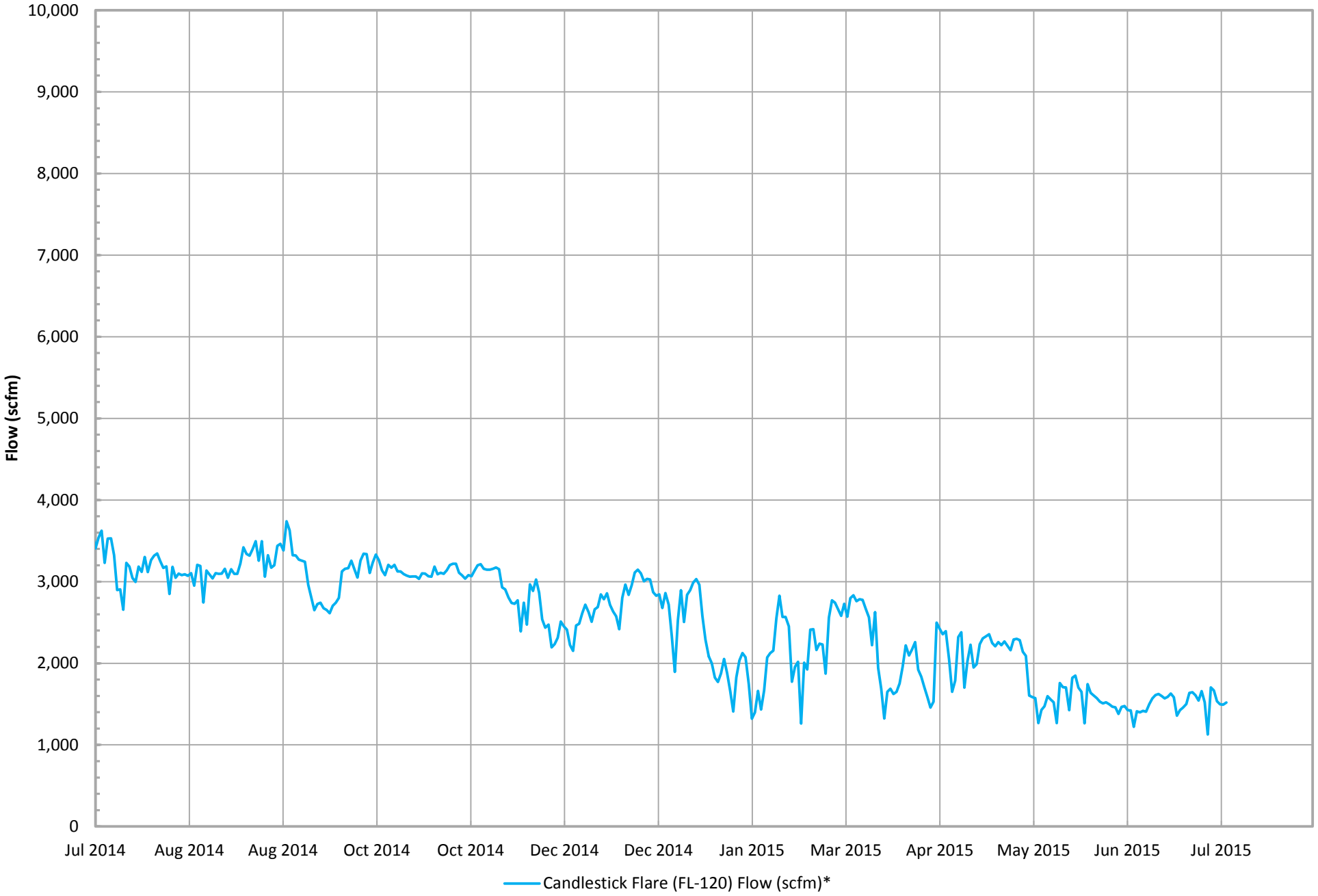
Candlestick Flare (FL-100) Flow (scfm)*



*Flow is based on tabulated flow data collected

BRIDGETON LANDFILL

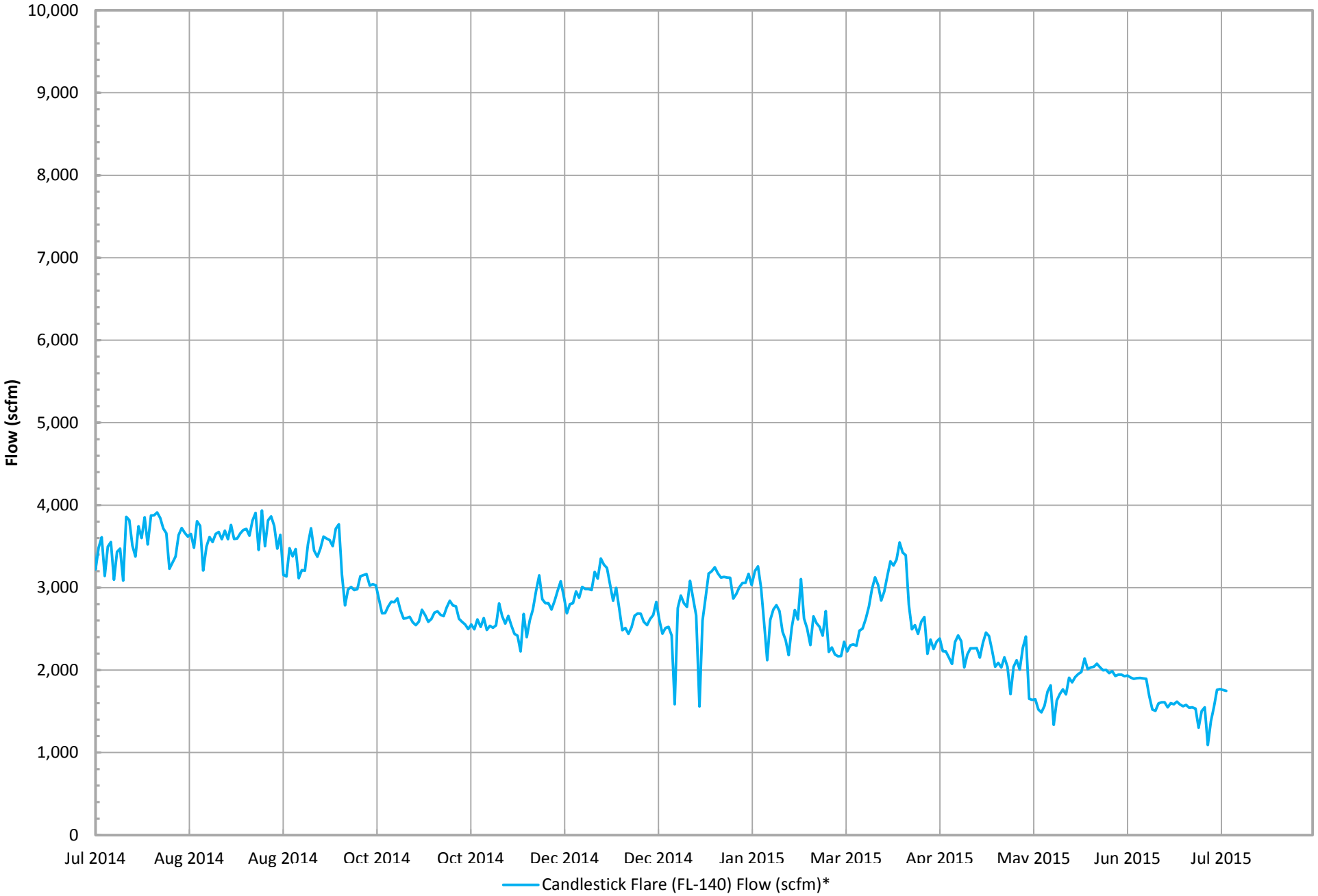
Candlestick Flare (FL-120) Flow (scfm)*



*Flow is based on tabulated flow data collected

BRIDGETON LANDFILL

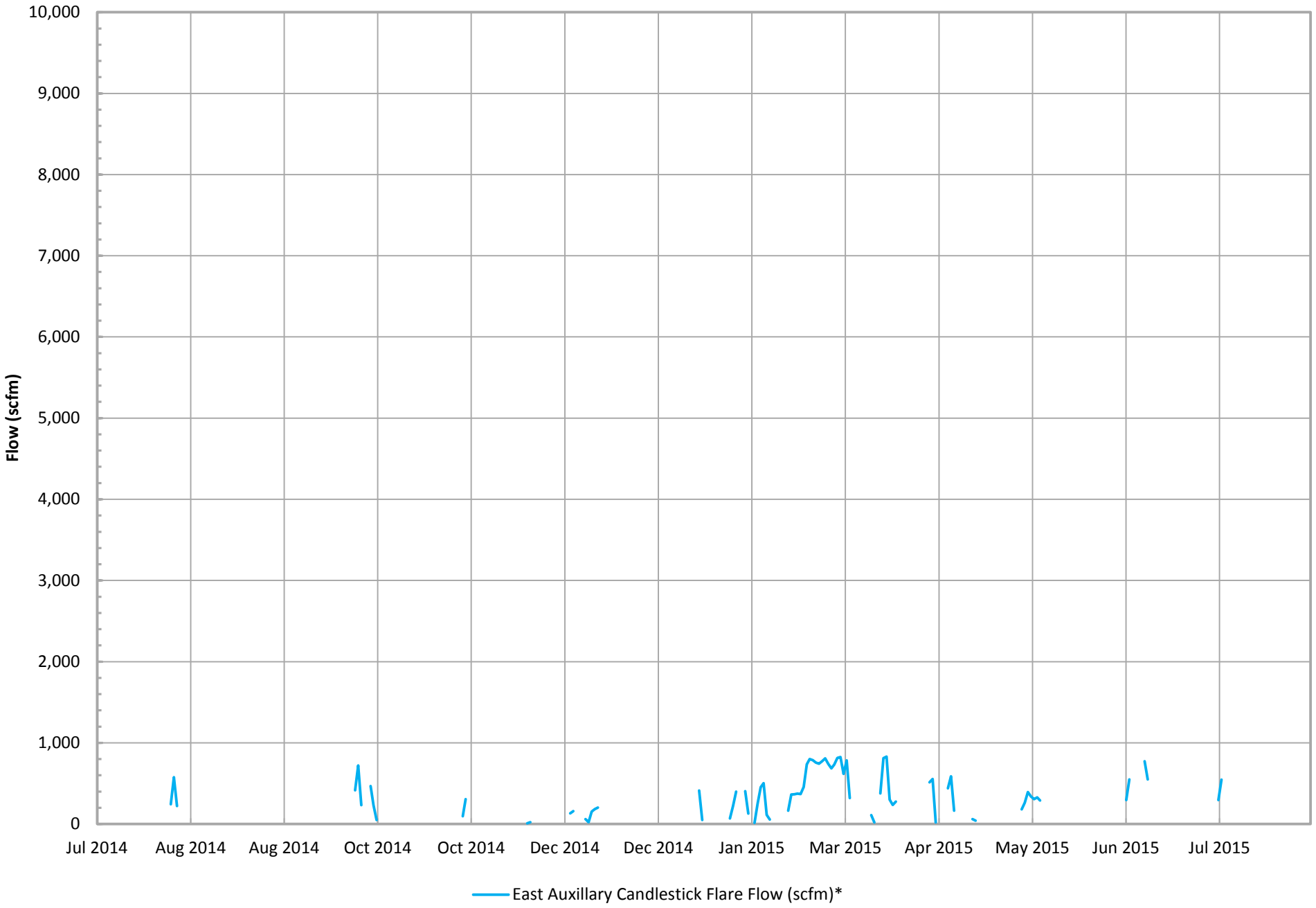
Candlestick Flare (FL-140) Flow (scfm)*



*Flow is based on tabulated flow data collected

BRIDGETON LANDFILL

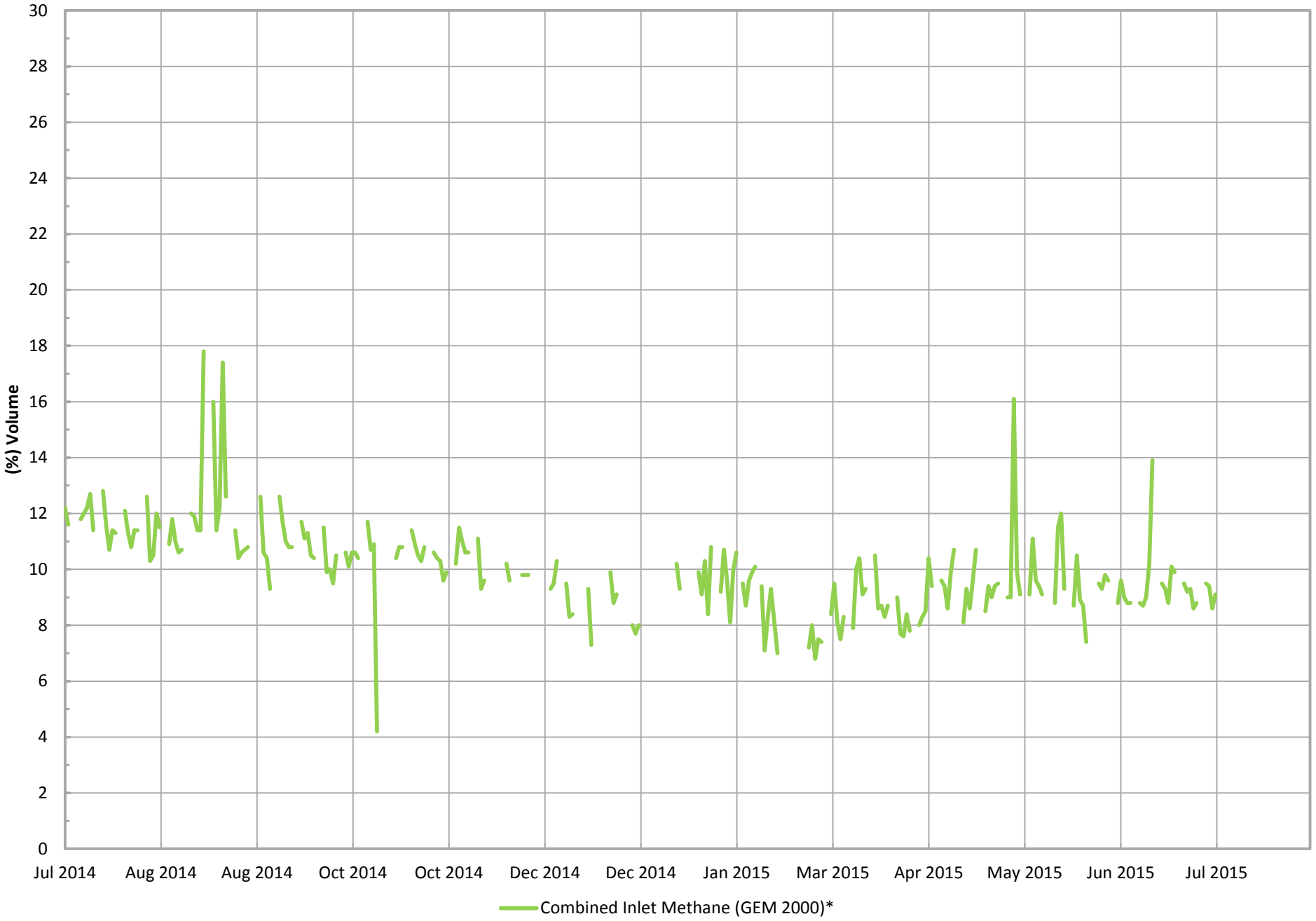
East Auxillary Candlestick Flare Flow (scfm)*



*Flow is based on tabulated flow data collected

BRIDGETON LANDFILL

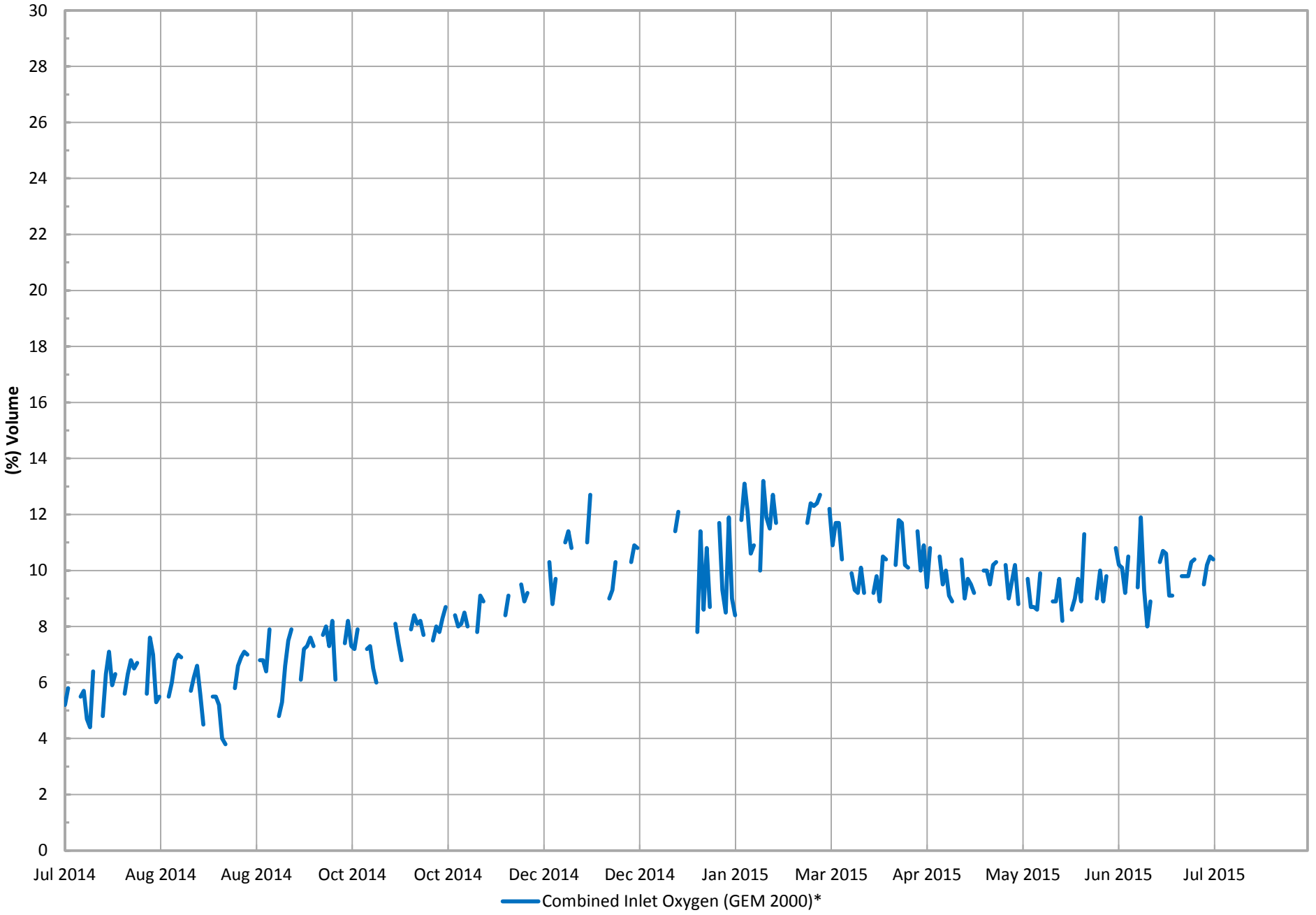
Combined Inlet Methane (GEM 2000)*



*Gas data collected from GEM 2000

BRIDGETON LANDFILL

Combined Inlet Oxygen (GEM 2000)*

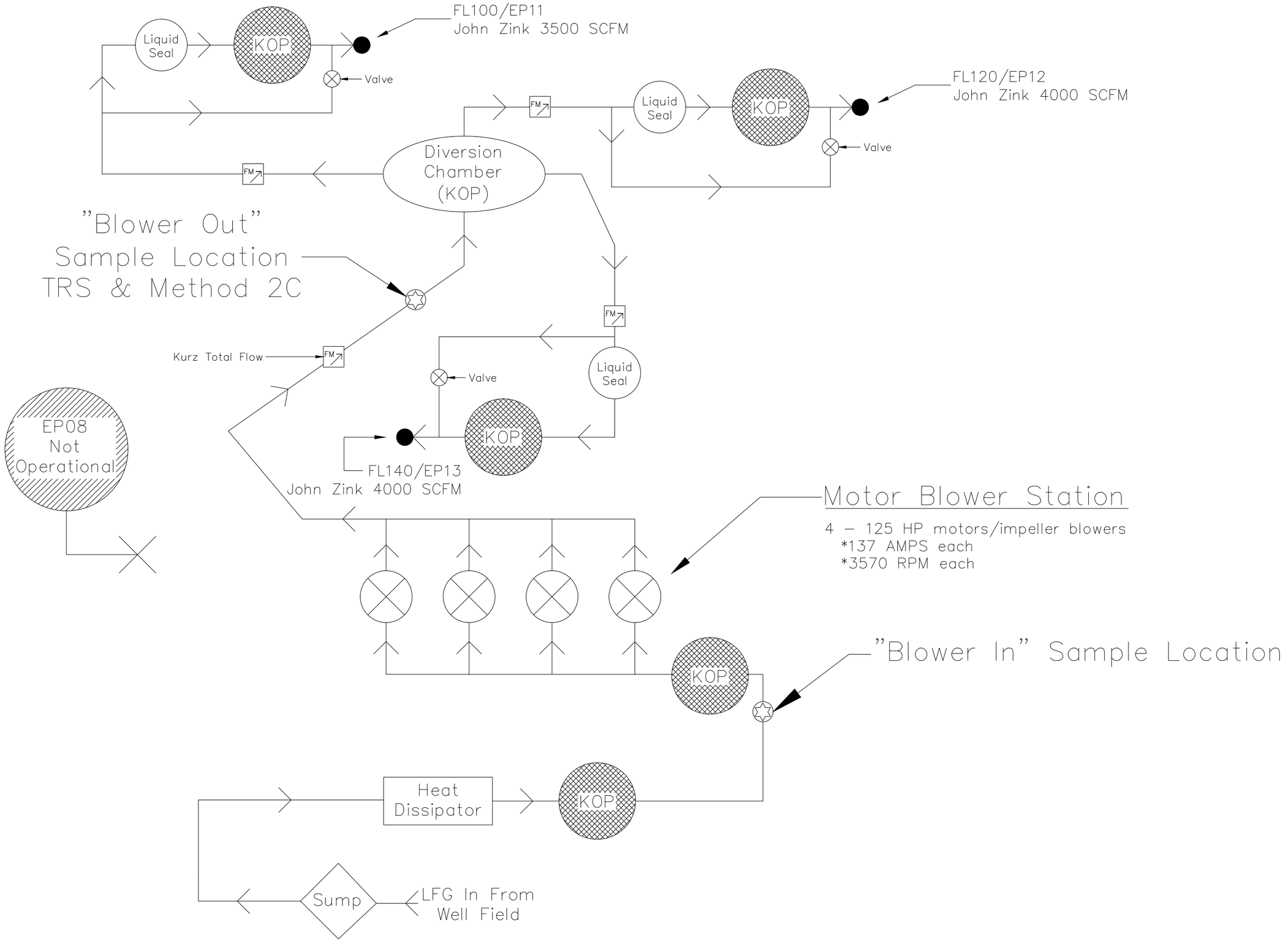


*Gas data collected from GEM 2000

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 **July 1, 2012 to August 4, 2015**

Flare Compound: *Blower Outlet*

SAMPLE EVENT #	DATE	VELOCITY ft/sec	❶ FLOW dscfm	❷ TRS ppm_{vd}
17	7/1/2015	63.39	4356	1300 1400
18	7/7/2015	51.40	4163	910 1300
19	7/14/2015	53.14	4304	1200 1400
20	7/21/2015	50.67	4104	1300 1500
21	7/28/2015	48.70	3945	1200 1500
22	8/4/2015	51.76	3218	1600 1400

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

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

	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.

Bridgeton Landfill, LLC.
Weeklty TRS Sampling Summary

Kurz FM =	**4,625**	**scfm**
Fleetzoom Total =	**4,813**	**scfm**

$\Delta =$ **4%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		7/7/15
Time	Start - Finish	8:05	8:15
%CH_4	Methane, %	6.80	8.80
%CO_2	Carbon Dioxide, %	23.00	31.00
%O_2	Oxygen, %	13.00	9.70
%Balance	Assumed as Nitorgen, %	49.00	39.00
%H_2	Hydrogen, %	7.40	9.80
P_g	Flue Gas Static Pressure, inches of H_2O	22.00	22.00
t_s	Blower Outlet LFG Temperature, °F	125	125
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,163	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,625	
LFG_{CH4}	Methane, lb/hr	707.3	915.4
	Methane, grains/dscf	19.83	25.66
LFG_{CO2}	Carbon Dioxide, lb/hr	6,563.2	8,846.1
	Carbon Dioxide, grains/dscf	183.95	247.94
LFG_{O2}	Oxygen, lb/hr	2,697.2	2,012.6
	Oxygen, grains/dscf	75.60	56.41
LFG_{N2}	Balance gas as Nitrogen, lb/hr	8,900.3	7,083.9
	Balance gas as Nitrogen, grains/dscf	249.46	198.55
LFG_{H4}	Hydrogen, lb/hr	96.7	128.1
	Hydrogen, grains/dscf	2.71	3.59

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.56	0.56
	Hydrogen Sulfide Rate, lb/hr	0.01	0.56
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.016
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	22.00	150.00
	Methyl Mercaptan Rate, lb/hr	0.69	4.68
	Methyl Mercaptan Rate, grains/dscf	0.019	0.131
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	2.40
	Ethyl Mercaptan Rate, lb/hr	0.02	0.10
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	620.00	930.00
	Dimethyl Sulfide Rate, lb/hr	24.98	37.47
	Dimethyl Sulfide Rate, grains/dscf	0.700	1.050
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.71
	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	130.00	110.00
	Dimethyl Disulfide Rate, lb/hr	7.94	6.72
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.188

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	910.00	1,300.00
	TRS-->SO2 Emission Rate, lb/hr	37.80	54.00
	TRS-->SO2 Emission Rate, grains/dscf	1.059	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

Air TECHNOLOGY Laboratories, Inc.

July 10, 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 TRS Landfill; 4862452
Lab Number: G070807-01/02

Enclosed are results for sample(s) received 7/8/15 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 7/10/15.

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

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					
G070807-01	Outlet A	7/7/2015	806	C	LFG	NA	X					
-02	Outlet B	7/7/2015	817	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	7-7-15 0900		
FedEx		[illegible]	7/8/15 1142

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: 07/08/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G070807-01		G070807-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/7/15 8:06		7/7/15 8:17					
Date/Time Analyzed:	7/9/15 14:18		7/9/15 14:32					
QC Batch No.:	150709GC8A1		150709GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	7.4	2.8	9.8	2.8				
Carbon Dioxide	23	0.028	31	0.028				
Oxygen/Argon	13	1.4	9.7	1.4				
Nitrogen	49	2.8	39	2.8				
Methane	6.8	0.0028	8.8	0.0028				

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

Reviewed/Approved By: _____ Date 7-10-15

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.: 150709GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/9/15 13:02		7/9/15 9:28		7/9/15 9:42			
Analyst Initials:	AS		AS		AS			
Datafile:	09jul015		09jul004		09jul005			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	110	70-130%	107	70-130%	3.0	<30
Carbon Dioxide	ND	0.010	99	70-130%	96	70-130%	2.6	<30
Oxygen/Argon	ND	0.50	100	70-130%	98	70-130%	2.0	<30
Nitrogen	ND	1.0	101	70-130%	99	70-130%	2.1	<30
Methane	ND	0.0010	103	70-130%	102	70-130%	1.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 7-10-15

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: 07/08/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G070807-01		G070807-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/7/15 8:06		7/7/15 8:17					
Date/Time Analyzed:	7/9/15 10:32		7/9/15 11:07					
QC Batch No.:	150709GC3A1		150709GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	ND	0.56	30 d	5.6				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	22	0.56	150 d	5.6				
Ethyl Mercaptan	ND	0.56	2.4	0.56				
Dimethyl Sulfide	620 d	56	930 d	56				
Carbon Disulfide	ND	0.56	0.71	0.56				
Dimethyl Disulfide	130 d	5.6	110 d	5.6				
Total Reduced Sulfur	910	0.56	1,300	0.56				

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

Reviewed/Approved By: _____ Date 7-10-15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150709GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/9/15 9:58		7/9/15 9:35		7/9/15 9:46			
Analyst Initials:	AS		AS		AS			
Datafile:	08jul003		08jul001		08jul002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	98	70-130%	97	70-130%	1.1	<30
Carbonyl Sulfide	ND	0.20	110	70-130%	109	70-130%	1.2	<30
Methyl Mercaptan	ND	0.20	109	70-130%	109	70-130%	0.9	<30
Ethyl Mercaptan	ND	0.20	128	70-130%	126	70-130%	1.5	<30
Dimethyl Sulfide	ND	0.20	105	70-130%	102	70-130%	2.8	<30
Carbon Disulfide	ND	0.20	103	70-130%	102	70-130%	1.4	<30
Dimethyl Disulfide	ND	0.20	119	70-130%	116	70-130%	2.9	<30

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

Reviewed/Approved By: _____ **Date:** 7-10-15
Mark J. Johnson
Operations Manager

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

Kurz FM =	**4,782**	**scfm**
Fleetzoom Total =	**5,174**	**scfm**

$\Delta =$ **8%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		7/14/15
Time	Start - Finish	7:30	8:00
$\%CH_4$	Methane, %	7.40	7.60
$\%CO_2$	Carbon Dioxide, %	29.00	30.00
$\%O_2$	Oxygen, %	11.00	10.00
%Balance	Assumed as Nitorgen, %	43.00	41.00
$\%H_2$	Hydrogen, %	8.80	9.30
P_g	Flue Gas Static Pressure, inches of H_2O	22.00	22.00
t_s	Blower Outlet LFG Temperature, °F	125	125
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,304	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,782	
LFG_{CH4}	Methane, lb/hr	795.9	817.4
	Methane, grains/dscf	21.57	22.16
LFG_{CO2}	Carbon Dioxide, lb/hr	8,556.3	8,851.3
	Carbon Dioxide, grains/dscf	231.94	239.94
LFG_{O2}	Oxygen, lb/hr	2,359.8	2,145.2
	Oxygen, grains/dscf	63.97	58.15
LFG_{N2}	Balance gas as Nitrogen, lb/hr	8,075.6	7,700.0
	Balance gas as Nitrogen, grains/dscf	218.91	208.73
LFG_{H4}	Hydrogen, lb/hr	118.9	125.7
	Hydrogen, grains/dscf	3.22	3.41

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	2.80	0.59
	Hydrogen Sulfide Rate, lb/hr	0.06	0.56
	Hydrogen Sulfide Rate, grains/dscf	0.002	0.015
COS	Carbonyl Sulfide Concentration, ppmd	0.59	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	110.00	0.59
	Methyl Mercaptan Rate, lb/hr	3.55	0.02
	Methyl Mercaptan Rate, grains/dscf	0.096	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.60	0.59
	Ethyl Mercaptan Rate, lb/hr	0.07	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	790.00	840.00
	Dimethyl Sulfide Rate, lb/hr	32.91	34.99
	Dimethyl Sulfide Rate, grains/dscf	0.892	0.949
CS_2	Carbon Disulfide Concentration, ppmd	0.72	0.79
	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	140.00	300.00
	Dimethyl Disulfide Rate, lb/hr	8.84	18.95
	Dimethyl Disulfide Rate, grains/dscf	0.240	0.514

❶ **$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,200.00	1,400.00
	TRS-->SO2 Emission Rate, lb/hr	51.54	60.13
	TRS-->SO2 Emission Rate, grains/dscf	1.397	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.

July 16, 2015

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton TRS Landfill; 4862452
Lab Number: G071503-01/02

Enclosed are results for sample(s) received 7/15/15 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 7/16/15.

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

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

		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: EPA 15/16 + TRS & ASTM1946 + H2					
G071503-01	Outlet A	7/14/2015	730	C	LFG	NA	X					
↓ -02	Outlet B	7/14/2015	742	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	7-14-15 0850		
FedEx			7/15/15 1201

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: 07/15/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071503-01		G071503-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/14/15 7:30		7/14/15 7:42					
Date/Time Analyzed:	7/16/15 11:36		7/16/15 11:50					
QC Batch No.:	150716GC8A1		150716GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	8.8	3.0	9.3	3.0				
Carbon Dioxide	29	0.030	30	0.030				
Oxygen/Argon	11	1.5	10	1.5				
Nitrogen	43	3.0	41	3.0				
Methane	7.4	0.0030	7.6	0.0030				

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

Reviewed/Approved By: _____ Date 7/16/15
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.: 150716GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/16/15 11:20		7/16/15 10:33		7/16/15 10:48			
Analyst Initials:	AS		AS		AS			
Datafile:	16jul006		16jul003		16jul004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	106	70-130%	105	70-130%	1.3	<30
Carbon Dioxide	ND	0.010	99	70-130%	98	70-130%	1.5	<30
Oxygen/Argon	ND	0.50	100	70-130%	99	70-130%	1.3	<30
Nitrogen	ND	1.0	101	70-130%	99	70-130%	1.2	<30
Methane	ND	0.0010	126	70-130%	124	70-130%	1.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 7/16/15

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:	**07/15/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G071503-01		G071503-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/14/15 7:30		7/14/15 7:42					
Date/Time Analyzed:	7/16/15 9:06		7/16/15 9:45					
QC Batch No.:	150716GC3A1		150716GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	2.8	0.59	ND	0.59				
Carbonyl Sulfide	ND	0.59	ND	0.59				
Methyl Mercaptan	110 d	5.9	ND	0.59				
Ethyl Mercaptan	1.6	0.59	ND	0.59				
Dimethyl Sulfide	790 d	59.0	840 d	59.0				
Carbon Disulfide	0.72	0.59	0.79	0.59				
Dimethyl Disulfide	140 d	5.9	300 d	59.0				
Total Reduced Sulfur	1,200	0.59	1,400	0.59				

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

Reviewed/Approved By: _____ **Date** 7/16/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150716GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/16/15 8:55		7/16/15 8:31		7/16/15 8:43			
Analyst Initials:	AS		AS		AS			
Datafile:	16jul004		16jul002		16jul003			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	96	70-130%	96	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	106	70-130%	106	70-130%	0.2	<30
Methyl Mercaptan	ND	0.20	106	70-130%	104	70-130%	1.8	<30
Ethyl Mercaptan	ND	0.20	118	70-130%	118	70-130%	0.4	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	99	70-130%	0.3	<30
Carbon Disulfide	ND	0.20	100	70-130%	99	70-130%	0.1	<30
Dimethyl Disulfide	ND	0.20	107	70-130%	106	70-130%	0.7	<30

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

Reviewed/Approved By: _____ Date: 7/16/15
Mark J. Johnson
Operations Manager

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

Kurz FM =	**4,560**	**scfm**
Fleetzoom Total =	**4,720**	**scfm**

$\Delta =$ **3%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		7/21/15
Time	Start - Finish	8:50	9:05
%CH_4	Methane, %	9.20	9.90
%CO_2	Carbon Dioxide, %	31.00	34.00
%O_2	Oxygen, %	9.90	8.90
%Balance	Assumed as Nitorgen, %	39.00	36.00
%H_2	Hydrogen, %	9.30	9.90
P_g	Flue Gas Static Pressure, inches of H_2O	22.00	22.00
t_s	Blower Outlet LFG Temperature, °F	125	125
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	4,104	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,560	
LFG_{CH4}	Methane, lb/hr	943.5	1,015.3
	Methane, grains/dscf	26.82	28.86
LFG_{CO2}	Carbon Dioxide, lb/hr	8,721.9	9,566.0
	Carbon Dioxide, grains/dscf	247.94	271.93
LFG_{O2}	Oxygen, lb/hr	2,025.2	1,820.7
	Oxygen, grains/dscf	57.57	51.76
LFG_{N2}	Balance gas as Nitrogen, lb/hr	6,984.5	6,447.2
	Balance gas as Nitrogen, grains/dscf	198.55	183.28
LFG_{H4}	Hydrogen, lb/hr	119.9	127.6
	Hydrogen, grains/dscf	3.41	3.63

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	7.50	0.58
	Hydrogen Sulfide Rate, lb/hr	0.16	0.56
	Hydrogen Sulfide Rate, grains/dscf	0.005	0.016
COS	Carbonyl Sulfide Concentration, ppmd	1.10	0.58
	Carboynl Sulfide Rate, lb/hr	0.04	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	130.00	0.58
	Methyl Mercaptan Rate, lb/hr	4.00	0.02
	Methyl Mercaptan Rate, grains/dscf	0.114	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.40	0.58
	Ethyl Mercaptan Rate, lb/hr	0.06	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	900.00	950.00
	Dimethyl Sulfide Rate, lb/hr	35.75	37.74
	Dimethyl Sulfide Rate, grains/dscf	1.016	1.073
CS_2	Carbon Disulfide Concentration, ppmd	0.71	0.78
	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	120.00	290.00
	Dimethyl Disulfide Rate, lb/hr	7.23	17.46
	Dimethyl Disulfide Rate, grains/dscf	0.205	0.496

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,300.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	53.24	61.43
	TRS-->SO2 Emission Rate, grains/dscf	1.514	1.746

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.

July 22, 2015

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G072203-01/02

Enclosed are results for sample(s) received 7/22/15 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 7/23/15.

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					
G072203-01	Outlet A	7/21/2015	853	C	LFG	NA	X					
↓ -02	Outlet B	7/21/2015	904	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
RELINQUISHED BY: Fed EX	DATE/TIME	RECEIVED BY: [signature]	DATE/TIME: 7/22/15 0854
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: 07/22/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G072203-01		G072203-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/21/15 8:53		7/21/15 9:04					
Date/Time Analyzed:	7/22/15 14:53		7/22/15 15:07					
QC Batch No.:	150722GC8A1		150722GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.9		2.9					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	9.3	2.9	9.9	2.9				
Carbon Dioxide	31	0.029	34	0.029				
Oxygen/Argon	9.9	1.4	8.9	1.4				
Nitrogen	39	2.9	36	2.9				
Methane	9.2	0.0029	9.9	0.0029				

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

Reviewed/Approved By: _____ Date 7/23/15
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.: 150722GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/22/15 10:51		7/22/15 10:06		7/22/15 10:21			
Analyst Initials:	AS		AS		AS			
Datafile:	22jul009		22jul006		22jul007			
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%	1.4	<30
Carbon Dioxide	ND	0.010	99	70-130%	99	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	100	70-130%	100	70-130%	0.1	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.1	<30
Methane	ND	0.0010	130	70-130%	127	70-130%	2.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 7/23/15

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:	**07/22/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G072203-01		G072203-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/21/15 8:53		7/21/15 9:04					
Date/Time Analyzed:	7/22/15 13:36		7/22/15 14:11					
QC Batch No.:	150722GC3A1		150722GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.9		2.9					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	7.5	0.58	ND	0.58				
Carbonyl Sulfide	1.1	0.58	ND	0.58				
Methyl Mercaptan	130 d	5.8	ND	0.58				
Ethyl Mercaptan	1.4	0.58	ND	0.58				
Dimethyl Sulfide	900 d	58.0	950 d	58.0				
Carbon Disulfide	0.71	0.58	0.78	0.58				
Dimethyl Disulfide	120 d	5.8	290 d	58.0				
Total Reduced Sulfur	1,300	0.58	1,500	0.58				

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

Reviewed/Approved By: _____ Date 7/23/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150722GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/22/15 13:24		7/22/15 12:10		7/22/15 13:12			
Analyst Initials:	AS		AS		AS			
Datafile:	22jul005		22jul003		22jul004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	85	70-130%	76	70-130%	11.4	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	104	70-130%	0.8	<30
Methyl Mercaptan	ND	0.20	106	70-130%	106	70-130%	0.2	<30
Ethyl Mercaptan	ND	0.20	127	70-130%	126	70-130%	1.2	<30
Dimethyl Sulfide	ND	0.20	103	70-130%	104	70-130%	0.8	<30
Carbon Disulfide	ND	0.20	101	70-130%	101	70-130%	0.0	<30
Dimethyl Disulfide	ND	0.20	115	70-130%	118	70-130%	2.6	<30

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

Reviewed/Approved By: _____ Date: 7/23/15
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 =	**4,384**	**scfm**
Fleetzoom Total =	**4,326**	**scfm**

$\Delta =$ **-1%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		7/28/15
Time	Start - Finish	8:05	8:15
%CH_4	Methane, %	9.50	11.00
%CO_2	Carbon Dioxide, %	32.00	37.00
%O_2	Oxygen, %	9.50	7.90
%Balance	Assumed as Nitorgen, %	38.00	33.00
%H_2	Hydrogen, %	9.50	11.00
P_g	Flue Gas Static Pressure, inches of H_2O	22.00	22.00
t_s	Blower Outlet LFG Temperature, °F	125	125
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 10%H2O)	3,945	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	4,384	
LFG_{CH4}	Methane, lb/hr	936.6	1,084.5
	Methane, grains/dscf	27.70	32.07
LFG_{CO2}	Carbon Dioxide, lb/hr	8,655.2	10,007.6
	Carbon Dioxide, grains/dscf	255.94	295.93
LFG_{O2}	Oxygen, lb/hr	1,868.3	1,553.6
	Oxygen, grains/dscf	55.25	45.94
LFG_{N2}	Balance gas as Nitrogen, lb/hr	6,542.3	5,681.5
	Balance gas as Nitrogen, grains/dscf	193.46	168.00
LFG_{H4}	Hydrogen, lb/hr	117.7	136.3
	Hydrogen, grains/dscf	3.48	4.03

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	15.00	31.00
	Hydrogen Sulfide Rate, lb/hr	0.31	0.56
	Hydrogen Sulfide Rate, grains/dscf	0.009	0.017
COS	Carbonyl Sulfide Concentration, ppmd	0.59	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	150.00	180.00
	Methyl Mercaptan Rate, lb/hr	4.43	5.32
	Methyl Mercaptan Rate, grains/dscf	0.131	0.157
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.00	2.30
	Ethyl Mercaptan Rate, lb/hr	0.08	0.09
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	780.00	930.00
	Dimethyl Sulfide Rate, lb/hr	29.79	35.51
	Dimethyl Sulfide Rate, grains/dscf	0.881	1.050
CS_2	Carbon Disulfide Concentration, ppmd	0.74	0.83
	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	100.00	170.00
	Dimethyl Disulfide Rate, lb/hr	5.79	9.84
	Dimethyl Disulfide Rate, grains/dscf	0.171	0.291

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,200.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	47.25	59.06
	TRS-->SO2 Emission Rate, grains/dscf	1.397	1.746

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.

July 30, 2015

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G072902-01/02

Enclosed are results for sample(s) received 7/29/15 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 7/30/15.

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

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	■
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					
G072902-01	Outlet A	7/28/2015	806	C	LFG	NA	X					
↓ -02	Outlet B	7/28/2015	818	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]	7-28-15 0900		
FedEx	7/29/15 9:00	[signature]	7/29/15 9:00

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: 07/29/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G072902-01		G072902-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/28/15 8:06		7/28/15 8:18					
Date/Time Analyzed:	7/29/15 13:43		7/29/15 13:58					
QC Batch No.:	150729GC8A1		150729GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	9.5	3.0	11	3.0				
Carbon Dioxide	32	0.030	37	0.030				
Oxygen/Argon	9.5	1.5	7.9	1.5				
Nitrogen	38	3.0	33	3.0				
Methane	9.5	0.0030	11	0.0030				

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

Reviewed/Approved By: _____ Date 7/30/15
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.: 150729GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/29/15 12:44		7/29/15 12:00		7/29/15 12:15			
Analyst Initials:	AS		AS		AS			
Datafile:	29jul009		29jul006		29jul007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	102	70-130%	102	70-130%	0.0	<30
Carbon Dioxide	ND	0.010	97	70-130%	97	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	100	70-130%	101	70-130%	0.4	<30
Nitrogen	ND	1.0	100	70-130%	101	70-130%	0.4	<30
Methane	ND	0.0010	128	70-130%	128	70-130%	0.0	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 7/30/15

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:	**07/29/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G072902-01		G072902-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	7/28/15 8:06		7/28/15 8:18					
Date/Time Analyzed:	7/30/15 13:03		7/30/15 13:40					
QC Batch No.:	150730GC3A1		150730GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	15	0.59	31 d	5.9				
Carbonyl Sulfide	ND	0.59	ND	0.59				
Methyl Mercaptan	150 d	5.9	180 d	5.9				
Ethyl Mercaptan	2.0	0.59	2.3	0.59				
Dimethyl Sulfide	780 d	59.0	930 d	59.0				
Carbon Disulfide	0.74	0.59	0.83	0.59				
Dimethyl Disulfide	100 d	5.9	170 d	59.0				
Total Reduced Sulfur	1,200	0.59	1,500	0.59				

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

Reviewed/Approved By: _____ Date 7/30/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150730GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/30/15 11:31		7/30/15 11:09		7/30/15 11:20			
Analyst Initials:	AS		AS		AS			
Datafile:	30jul003		30jul001		30jul002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	103	70-130%	105	70-130%	1.7	<30
Carbonyl Sulfide	ND	0.20	110	70-130%	108	70-130%	2.0	<30
Methyl Mercaptan	ND	0.20	112	70-130%	111	70-130%	1.3	<30
Ethyl Mercaptan	ND	0.20	129	70-130%	129	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	104	70-130%	103	70-130%	0.6	<30
Carbon Disulfide	ND	0.20	104	70-130%	104	70-130%	0.4	<30
Dimethyl Disulfide	ND	0.20	119	70-130%	117	70-130%	1.8	<30

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

Reviewed/Approved By: _____ Date: 7/30/15
Mark J. Johnson
Operations Manager

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

	PARAMETER				Blower Out
Date	Test Date				8/4/15
Start	Run Start Time				7:34
	Run Finish Time				9:13
	Net Traversing Points				16 (2 x 8)
Θ	Net Run Time, minutes				1:38:54
C_p	Pitot Tube Coeficient				0.99
P_{Br}	Barometric Pressure, inches of Mercury				29.54
% H_2O	Moisture Content of LFG, %				15.81
% RH	Relative Humidity, %				50.50
M_{fd}	Dry Mole Fraction				0.842
%CH_4	Methane, %				9.50
%CO_2	Carbon Dioxide, %				37.00
%O_2	Oxygen, %				7.95
%Balance	Assumed as Nitorgen, %				32.50
%H_2	Hydrogen, %				11.50
M_d	Dry Molecular Weight, lb/lb-Mole				29.69
M_s	Wet Molecular weight, lb/lb-Mole				27.84
P_g	Flue Gas Static Pressure, inches of H_2O				21.73
P_s	Absolute Flue Gas Pressure, inches of Mercury				31.14
t_s	Average Stack Gas Temperature, °F				144
ΔP_{avg}	Average Velocity Head, inches of H_2O				0.537
v_s	Average LFG Velocity, feet/second				51.76
A_s	Stack Crossectional Area, square feet				1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm				3,218
Q_s	Standard Volumetric Flow Rate, scfm				3,727
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm				4,202
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr				14,879
LFG_{CH4}	Methane, lb/hr				764.1
	Methane, grains/dscf				27.70
LFG_{CO2}	Carbon Dioxide, lb/hr				8,163.7
	Carbon Dioxide, grains/dscf				295.93
LFG_{O2}	Oxygen, lb/hr				1275.4
	Oxygen, grains/dscf				46.23
LFG_{N2}	Balance gas as Nitrogen, lb/hr				4,564.4
	Balance gas as Nitrogen, grains/dscf				165.46
LFG_{H4}	Hydrogen, lb/hr				116.2
	Hydrogen, grains/dscf				4.21

				Blower Out Sample #1	Blower Out Sample #2
H_2S	Hydrogen Sulfide Concentration, ppmd			59.00	6.80
	Hydrogen Sulfide Rate, lb/hr			1.01	0.12
	Hydrogen Sulfide Rate, grains/dscf			0.037	0.004
COS	Carbonyl Sulfide Concentration, ppmd			0.59	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			200.00	170.00
	Methyl Mercaptan Rate, lb/hr			4.82	4.10
	Methyl Mercaptan Rate, grains/dscf			0.175	0.149
C_2H_6S	Ethyl Mercaptan Concentration, ppmd			2.60	2.60
	Ethyl Mercaptan Rate, lb/hr			0.08	0.08
	Ethyl Mercaptan Rate, grains/dscf			0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd			1,200.00	990.00
	Dimethyl Sulfide Rate, lb/hr			37.38	30.84
	Dimethyl Sulfide Rate, grains/dscf			1.355	1.118
CS_2	Carbon Disulfide Concentration, ppmd			0.87	1.10
	Carbon Disulfide Rate, lb/hr			0.03	0.04
	Carbon Disulfide Rate, grains/dscf			0.001	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd			98.00	130.00
	Dimethyl Disulfide Rate, lb/hr			4.63	4.96
	Dimethyl Disulfide Rate, grains/dscf			0.168	0.180
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd			1,600.00	1,400.00
	TRS-->SO2 Emission Rate, lb/hr			51.39	44.97
	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.

August 7, 2015

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G080501-01/02

Enclosed are results for sample(s) received 8/05/15 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 8/7/15.

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

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	EPA 15/16 + TRS & ASTM1946 + H2					
G080501-01	Outlet A	8/4/2015	742	C	LFG	NA	X					
-02	Outlet B	8/4/2015	753	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	8-4-15 1100		
FedEx		Kathy C	8/5/15 8:56

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: 08/05/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G080501-01		G080501-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	8/4/15 7:42		8/4/15 7:53					
Date/Time Analyzed:	8/5/15 17:38		8/5/15 17:53					
QC Batch No.:	150805GC8A1		150805GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	11	3.0	12	3.0				
Carbon Dioxide	36	0.030	38	0.030				
Oxygen/Argon	8.4	1.5	7.5	1.5				
Nitrogen	34	3.0	31	3.0				
Methane	9.3	0.0030	9.9	0.0030				

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

Reviewed/Approved By: _____ Date 8-7-15

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.: 150805GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/5/15 12:36		8/5/15 11:52		8/5/15 12:07			
Analyst Initials:	AS		AS		AS			
Datafile:	05aug010		05aug007		05aug008			
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%	0.2	<30
Carbon Dioxide	ND	0.010	100	70-130%	100	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	100	70-130%	100	70-130%	0.0	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.1	<30
Methane	ND	0.0010	93	70-130%	91	70-130%	1.9	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 8-7-15

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:	**08/05/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G080501-01		G080501-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	8/4/15 7:42		8/4/15 7:53					
Date/Time Analyzed:	8/5/15 9:59		8/5/15 10:36					
QC Batch No.:	150805GC3A1		150805GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	59 d	5.9	6.8	0.59				
Carbonyl Sulfide	ND	0.59	ND	0.59				
Methyl Mercaptan	200 d	5.9	170 d	5.9				
Ethyl Mercaptan	2.6	0.59	2.6	0.59				
Dimethyl Sulfide	1,200 d	59.0	990 d	59.0				
Carbon Disulfide	0.87	0.59	1.1	0.59				
Dimethyl Disulfide	98 d	5.9	130 d	5.9				
Total Reduced Sulfur	1,600	0.59	1,400	0.59				

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

Reviewed/Approved By: _____ Date 8-7-15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 150805GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/5/15 8:46		8/5/15 8:23		8/5/15 8:34			
Analyst Initials:	AS		AS		AS			
Datafile:	05aug003		05aug001		05aug002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	93	70-130%	91	70-130%	2.0	<30
Carbonyl Sulfide	ND	0.20	102	70-130%	100	70-130%	1.7	<30
Methyl Mercaptan	ND	0.20	102	70-130%	102	70-130%	0.2	<30
Ethyl Mercaptan	ND	0.20	123	70-130%	124	70-130%	0.6	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	98	70-130%	0.7	<30
Carbon Disulfide	ND	0.20	91	70-130%	91	70-130%	0.2	<30
Dimethyl Disulfide	ND	0.20	109	70-130%	107	70-130%	1.9	<30

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

Reviewed/Approved By: _____ Date: 8-7-15
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.

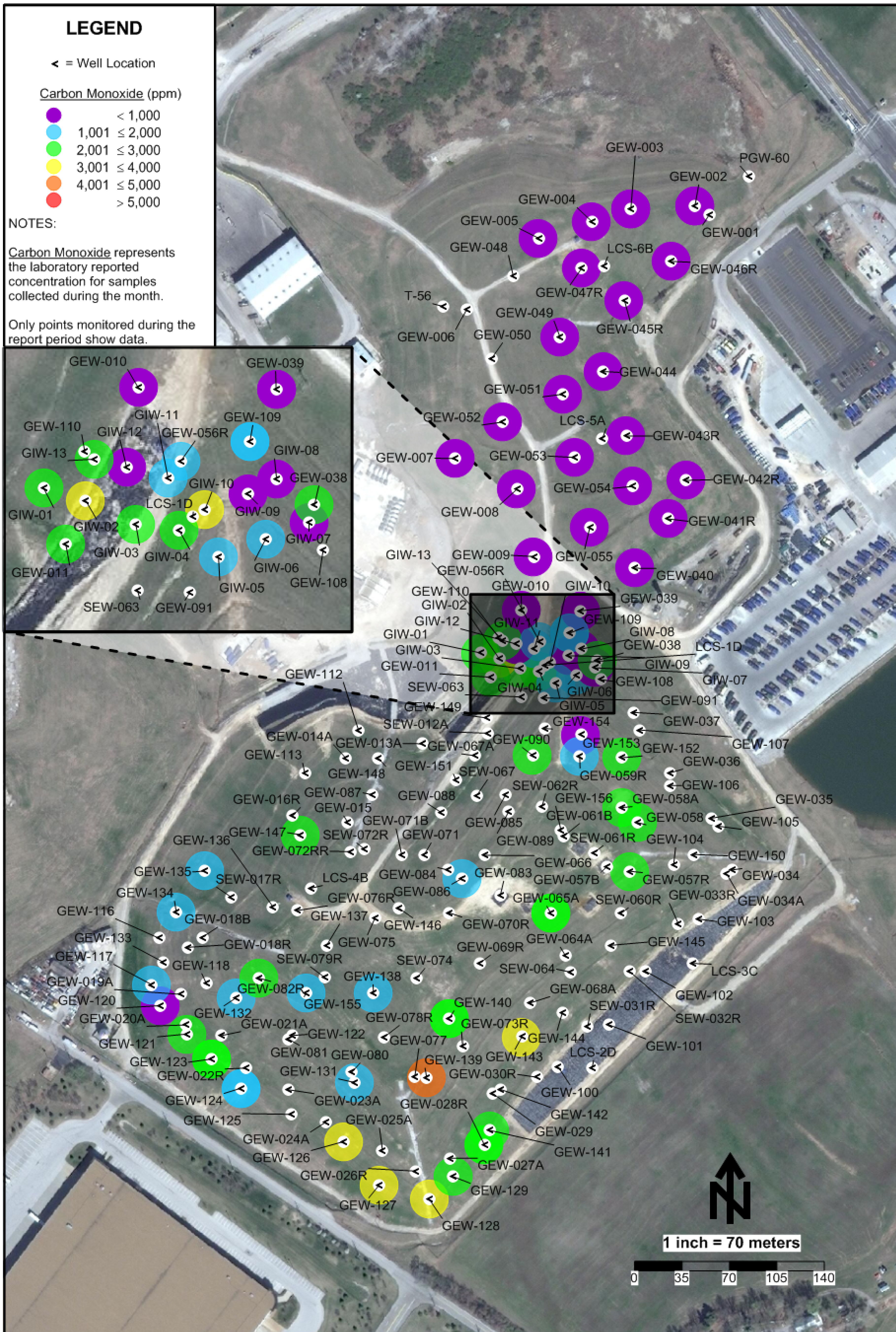
GEW-004 GEW-003 GEW-002 PGW-60 GEW-005 GEW-001 LCS-6B GEW-006 GEW-048 GEW-046R GEW-047R GEW-045R T-56 GEW-049 GEW-050 GEW-051 GEW-044 GEW-052 GEW-043R LCS-5A GEW-007 GEW-042R GEW-053 GEW-054 GEW-008 GEW-055 GEW-041R GEW-009 GEW-040 GEW-010 GEW-039 GEW-011 GEW-109 GEW-013 GEW-056R GEW-110 GEW-012 GEW-011 GEW-08 GEW-01 GEW-09 GEW-038 GEW-02 GEW-10 LCS-1D GEW-06 GEW-07 GEW-05 GEW-03 GEW-04 GEW-108 SEW-063 GEW-091 GEW-112 GEW-149 GEW-148 SEW-012A GEW-037 GEW-107 GEW-013A GEW-067A GEW-090 GEW-153 GEW-152 GEW-014A GEW-151 GEW-036 GEW-113 SEW-067 GEW-085 GEW-059R GEW-106 SEW-062R GEW-015 GEW-147 GEW-058A GEW-035 GEW-088 GEW-058 GEW-016R GEW-087 GEW-156 GEW-105 GEW-071B GEW-089 GEW-135 SEW-072R GEW-084 SEW-061R GEW-104 GEW-150 GEW-072RR GEW-061B GEW-057R GEW-066 GEW-136 LCS-4B GEW-034 SEW-017R GEW-146 GEW-065A GEW-057B GEW-034A GEW-134 GEW-086 GEW-075 SEW-060R GEW-033R GEW-018B GEW-083 GEW-076R GEW-137 GEW-070R GEW-145 GEW-103 GEW-116 GEW-064A GEW-018R GEW-082R SEW-079R GEW-069R SEW-064 GEW-102 GEW-133 GEW-118 GEW-155 SEW-074 LCS-3C GEW-138 GEW-117 GEW-068A SEW-032R GEW-019A GEW-140 GEW-144 GEW-081 GEW-078R SEW-031R GEW-120 GEW-020A GEW-132 GEW-073R GEW-122 GEW-143 GEW-121 GEW-021A GEW-080 GEW-077 GEW-030R LCS-2D GEW-101 GEW-123 GEW-022R GEW-131 GEW-139 GEW-100 GEW-124 GEW-023A GEW-142 GEW-125 GEW-025A GEW-028R 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 - July 2015 - Bridgeton Landfill

REPUBLIC SERVICES



Carbon Monoxide Data Map - July 2015 - Bridgeton Landfill

REPUBLIC SERVICES

LEGEND

< = Well Location

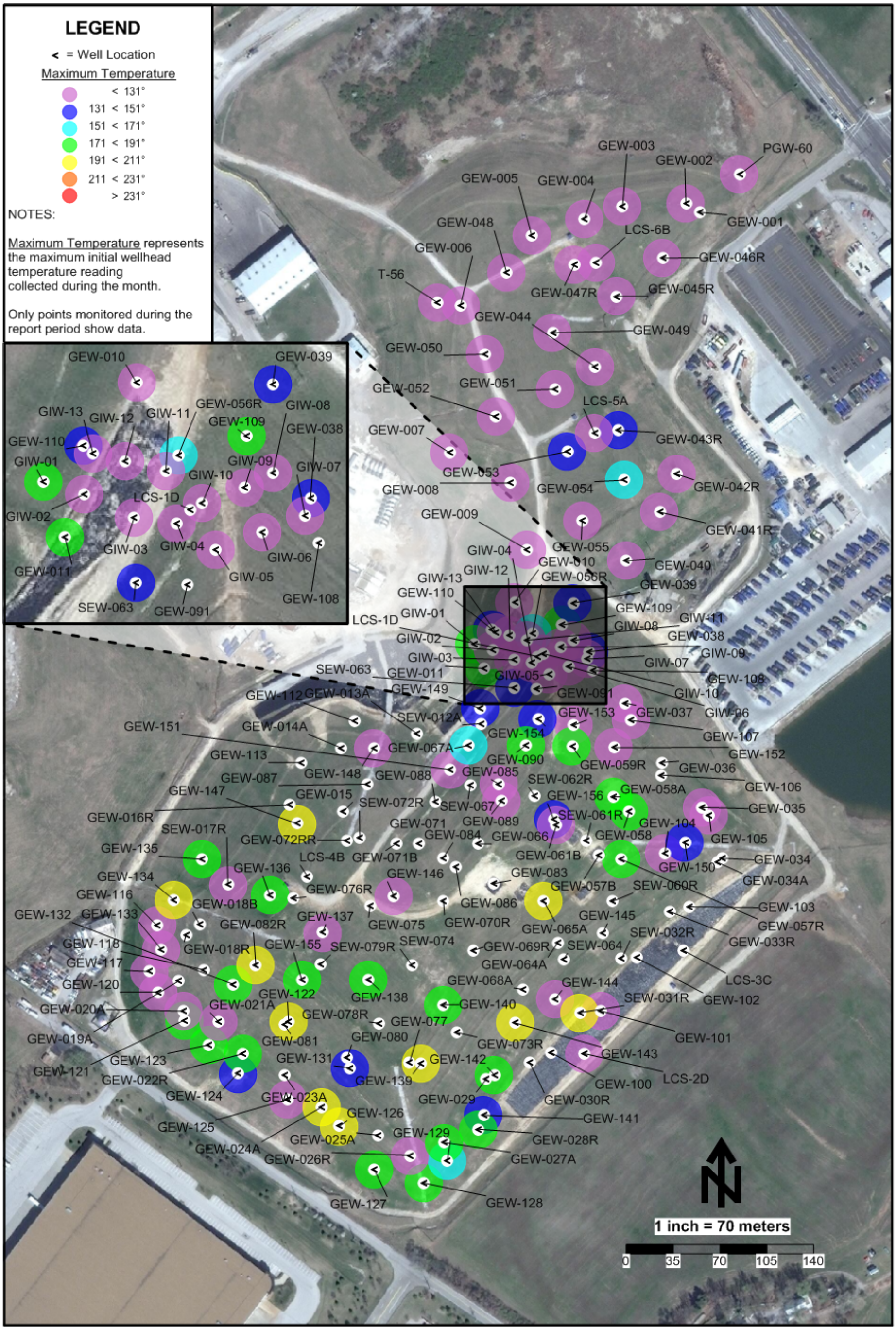
Maximum Temperature

- < 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.



Initial Temperature Maximums - July 2015 - Bridgeton Landfill

REPUBLIC SERVICES

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	Comments
		(%)					(ppm)	
North Quarry								
GEW-002	3/17/2015	55	39	ND	4.7	0.1	ND	
GEW-002	5/12/2015	57	40	ND	ND	ND	ND	
GEW-002	6/2/2015	55	39	ND	4.2	ND	ND	
GEW-002	7/9/2015	46	36	4.1	15	ND	ND	See Note 1
GEW-002	7/22/2015	56	41	ND	ND	ND	ND	See Note 2
GEW-003	3/17/2015	53	42	ND	3.7	ND	ND	
GEW-003	5/12/2015	53	38	ND	8.4	0.1	ND	
GEW-003	6/2/2015	53	38	ND	6.8	0.1	ND	
GEW-003	7/9/2015	51	39	ND	9.1	0.1	ND	
GEW-003	7/22/2015	54	40	ND	5.8	0.1	ND	See Note 2
GEW-004	3/17/2015	55	38	ND	5.4	0.1	ND	
GEW-004	5/12/2015	57	39	ND	ND	ND	ND	
GEW-004	6/2/2015	54	39	ND	5.3	ND	ND	
GEW-004	7/9/2015	53	40	ND	6.8	0.1	ND	
GEW-005	3/17/2015	55	37	ND	7.2	0.1	ND	
GEW-005	5/12/2015	56	36	ND	6.6	ND	ND	
GEW-005	6/3/2015	48	34	ND	16	ND	ND	
GEW-005	7/10/2015	24	21	9.5	46	ND	ND	See Note 1
GEW-006	3/18/2015	52	36	2.2	9.7	ND	ND	
GEW-006	5/12/2015	57	37	ND	4.9	ND	ND	
GEW-007	3/18/2015	55	39	ND	4.8	ND	ND	
GEW-007	5/13/2015	58	39	ND	ND	ND	ND	
GEW-007	7/9/2015	54	38	ND	6	ND	ND	
GEW-008	3/18/2015	50	42	ND	3.5	2.6	33	
GEW-008	4/10/2015	51	44	ND	ND	2.6	33	
GEW-008	5/13/2015	52	42	ND	3.4	2.2	ND	
GEW-008	6/4/2015	52	43	ND	ND	1.7	32	
GEW-008	7/9/2015	46	41	2.4	8.4	1.8	ND	
GEW-009	3/18/2015	50	41	ND	6.5	1.0	ND	
GEW-009	4/10/2015	49	40	ND	8.5	0.6	ND	
GEW-009	5/13/2015	53	40	ND	5.4	0.7	ND	
GEW-009	6/4/2015	53	40	ND	5	0.6	ND	
GEW-009	7/9/2015	50	41	ND	6.6	0.6	ND	
GEW-040	3/17/2015	50	39	2.4	8.5	ND	ND	
GEW-040	4/10/2015	54	43	ND	ND	ND	ND	
GEW-040	5/12/2015	57	40	ND	ND	ND	ND	
GEW-040	6/3/2015	48	34	3.8	14	ND	ND	
GEW-040	7/9/2015	56	40	ND	ND	ND	ND	
GEW-041R	3/17/2015	55	39	ND	5.2	ND	ND	
GEW-041R	5/12/2015	58	39	ND	ND	ND	ND	
GEW-041R	7/9/2015	48	34	3.7	14	ND	ND	See Note 1

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-042R	3/17/2015	55	39	ND	4.8	ND	ND	
GEW-042R	5/12/2015	52	34	3.0	11	ND	ND	
GEW-042R	6/3/2015	49	34	3.1	13	ND	ND	
GEW-042R	7/9/2015	49	35	3.3	12	ND	ND	
GEW-043R	3/18/2015	54	41	ND	3.4	0.6	ND	
GEW-043R	5/12/2015	57	41	ND	ND	0.0	ND	
GEW-043R	7/9/2015	56	42	ND	ND	0.2	ND	
GEW-044	5/12/2015	53	34	ND	12	ND	ND	
GEW-044	7/9/2015	43	31	4.0	22	ND	ND	See Note 1
GEW-045R	5/12/2015	60	37	ND	ND	ND	ND	
GEW-045R	6/4/2015	57	39	ND	ND	ND	ND	
GEW-045R	7/9/2015	57	38	ND	3	ND	ND	
GEW-046R	5/12/2015	56	38	ND	5.2	0.1	ND	
GEW-046R	6/4/2015	54	37	ND	6.9	ND	ND	
GEW-046R	7/9/2015	52	38	ND	8.2	0.1	ND	
GEW-047R	3/17/2015	52	37	ND	9.7	0.1	ND	
GEW-047R	5/12/2015	56	40	ND	3.7	ND	ND	
GEW-047R	7/9/2015	43	35	2.0	20	ND	ND	
GEW-048	3/17/2015	56	38	ND	4.8	ND	ND	
GEW-048	5/12/2015	57	38	ND	4.3	ND	ND	
GEW-048	6/3/2015	52	36	ND	11	ND	ND	
GEW-049	3/17/2015	49	34	ND	15	0.2	ND	
GEW-049	5/12/2015	54	37	ND	7.8	0.1	ND	
GEW-049	6/4/2015	43	32	2.0	22	ND	ND	
GEW-049	7/10/2015	33	27	6.0	34	ND	ND	See Note 1
GEW-050	3/17/2015	51	35	2.7	11	0.1	ND	
GEW-050	5/12/2015	58	39	ND	ND	0.1	ND	
GEW-051	3/17/2015	50	36	2.5	9.9	1.5	ND	
GEW-051	5/12/2015	57	39	ND	ND	1.3	ND	
GEW-051	7/10/2015	55	41	ND	ND	1	ND	
GEW-052	3/18/2015	52	37	ND	9.9	ND	ND	
GEW-052	5/12/2015	54	38	ND	7.7	ND	ND	
GEW-052	7/10/2015	49	39	ND	11	ND	ND	
GEW-053	3/17/2015	50	40	ND	3.7	4.9	52	
GEW-053	5/13/2015	51	40	ND	ND	5.2	ND	
GEW-053	6/4/2015	51	41	ND	ND	5.8	71	
GEW-053	7/10/2015	49	40	2.0	6	3.3	41	
GEW-054	3/17/2015	46	35	3.1	11	4.4	ND	
GEW-054	4/24/2015	51	41	ND	ND	4.6	ND	
GEW-054	5/13/2015	53	41	ND	ND	4.4	ND	
GEW-054	6/4/2015	53	41	ND	ND	2.9	35	
GEW-054	7/10/2015	50	43	ND	ND	4.2	ND	
GEW-055	3/17/2015	51	40	ND	5.8	2.4	34	
GEW-055	4/10/2015	52	41	ND	3.9	2	ND	
GEW-055	5/13/2015	55	41	ND	ND	1.5	ND	
GEW-055	6/3/2015	49	37	3.0	9	1.2	ND	
GEW-055	7/10/2015	51	40	1.8	6.4	1.5	39	

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	3/18/2015	42	44	2.3	9.1	2.0	130	
GEW-010	4/10/2015	54	39	ND	4.3	0.5	83	
GEW-010	5/7/2015	41	36	2.6	20	0.7	75	
GEW-010	6/1/2015	50	36	2.5	9.9	ND	32	
GEW-010	7/9/2015	52	43	ND	3.3	0.2	ND	
GEW-011	3/31/2015	3.3	58	ND	5.4	31	2,500	
GEW-011	5/13/2015	3.4	50	ND	21	23	2,200	
GEW-011	7/22/2015	3	61	ND	ND	32	2,300	See Note 2
GEW-016R	3/31/2015	0.5	53	ND	4.9	38	2,500	
GEW-016R	5/13/2015	0.6	55	ND	ND	41	2,500	
GEW-022R	3/31/2015	3.0	65	ND	ND	28	3,600	
GEW-022R	5/13/2015	1.9	62	ND	ND	32	4,000	
GEW-023A	3/31/2015	0.1	65	ND	3.7	28	4,000	
GEW-023A	5/13/2015	0.1	65	ND	ND	31	4,800	
GEW-025A	3/31/2015	0.1	65	ND	3.6	28	4,100	
GEW-025A	5/13/2015	0.2	64	ND	ND	30	6,000	
GEW-026R	3/31/2015	0.3	65	2.2	7.9	23	4,700	
GEW-028R	5/13/2015	1.9	50	3.6	13	30	3,400	
GEW-028R	7/9/2015	0.4	40	8.1	29	22	2,700	
GEW-028R	7/22/2015	19.0	45	6.4	23	23	2,700	See Note 2
GEW-029	3/31/2015	0.2	55	ND	ND	41	3,700	
GEW-029	5/13/2015	0.2	55	ND	ND	40	4,100	
GEW-034	3/31/2015	15	63	ND	3.5	16	1,100	
GEW-035	3/31/2015	3.0	53	2.8	12	28	2,900	
GEW-038	3/30/2015	0.1	30	11.0	38	20	1,800	
GEW-038	4/15/2015	0.2	41	6.5	24	28	2,600	
GEW-038	5/7/2015	0.1	25	12.0	44	17	1,900	
GEW-038	7/9/2015	0.4	45	5.8	21	27	2,400	
GEW-039	3/18/2015	32	57	ND	ND	7.6	390	
GEW-039	4/15/2015	32	57	ND	ND	8.2	450	
GEW-039	5/7/2015	36	52	ND	4.9	5.2	250	
GEW-039	6/1/2015	37	53	ND	4.3	5.3	240	
GEW-039	7/9/2015	36	51	ND	7.2	4.2	280	
GEW-039	7/22/2015	37	51	ND	6.9	3.4	280	See Note 2
GEW-056R	3/18/2015	16	41	2.4	30	11	650	
GEW-056R	4/10/2015	14	41	1.9	32	10	680	
GEW-056R	5/7/2015	12	51	ND	9.7	26	1,400	
GEW-056R	6/16/2015	17	44	ND	23	15	890	
GEW-056R	7/9/2015	7.1	31	5.6	44	12	1,100	
GEW-057R	3/31/2015	0.5	54	1.7	6	36	2,600	
GEW-057R	5/12/2015	0.5	55	ND	3.4	39	2,600	
GEW-057R	7/9/2015	0.5	55	ND	ND	40	2,500	
GEW-058	3/31/2015	0.8	56	ND	3.9	37	2,700	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-058	5/8/2015	0.9	54	1.7	7.3	35	2,600	
GEW-058	7/9/2015	4	55	ND	ND	37	2,200	
GEW-058A	3/31/2015	0.4	50	2.6	9.4	36	2,600	
GEW-058A	5/8/2015	0.4	46	4.3	16	33	2,300	
GEW-058A	7/9/2015	0.4	49	2.3	8.2	39	2,700	
GEW-059R	3/31/2015	0.8	51	1.8	6.3	39	1,700	
GEW-059R	5/8/2015	1.5	51	1.5	5.3	39	1,600	
GEW-059R	7/9/2015	0.4	52	ND	ND	43	1,900	
GEW-065A	3/31/2015	0.4	58	ND	3.7	35	3,300	
GEW-065A	5/12/2015	0.4	59	ND	ND	37	3,400	
GEW-065A	7/9/2015	0.4	45	5.5	20	28	2,800	
GEW-065A	7/22/2015	0.5	58	ND	ND	37	2,900	See Note 2
GEW-071	3/31/2015	0.5	54	ND	ND	41	2,500	
GEW-071	5/13/2015	0.5	53	ND	ND	43	2,500	
GEW-080	3/30/2015	0.3	64	ND	3	30	5,000	
GEW-080	5/13/2015	0.3	59	ND	3.3	35	4,000	
GEW-081	5/13/2015	0.3	61	ND	ND	35	3,900	
GEW-082R	3/30/2015	1.0	55	ND	3.3	38	2,500	
GEW-082R	5/13/2015	0.9	52	1.7	5.8	38	2,500	
GEW-082R	7/9/2015	1.0	55	ND	ND	40	2,100	
GEW-084	3/31/2015	1.9	65	ND	ND	29	3,000	
GEW-086	7/9/2015	13	46	3.2	17	20	1,200	
GEW-090	3/31/2015	1.7	51	1.9	6.6	37	2,400	
GEW-090	5/13/2015	6.3	50	ND	ND	39	2,400	
GEW-090	7/9/2015	4.1	50	ND	3.4	41	2,100	
GEW-102	3/31/2015	0.7	60	ND	ND	35	2,600	
GEW-107	3/31/2015	0.3	55	2.0	7.3	34	3,500	
GEW-107	5/13/2015	0.3	50	3.5	13	30	3,200	
GEW-109	3/18/2015	2.6	56	1.6	5.7	33	2,400	
GEW-109	4/15/2015	1.6	52	2.4	8.4	34	2,400	
GEW-109	5/7/2015	2.6	54	1.7	6	35	2,200	
GEW-109	6/1/2015	2.8	55	ND	ND	38	2,400	
GEW-109	7/9/2015	4	52	ND	10	32	1,700	
GEW-109	7/22/2015	4.2	52	ND	10	31	1,900	See Note 2
GEW-110	3/18/2015	1.3	53	2.5	8.9	33	2,500	
GEW-110	4/10/2015	15	40	3.6	27	14	1,200	
GEW-110	5/7/2015	11	32	5.4	41	10	970	
GEW-110	6/1/2015	12	37	4.7	32	14	1,200	
GEW-116	3/31/2015	20	63	ND	2.9	12	1,300	
GEW-117	7/9/2015	10	65	ND	ND	20	1,900	
GEW-120	7/15/2015	26	68	ND	ND	2.2	230	
GEW-121	7/14/2015	2.4	58	ND	3.3	17	2,200	
GEW-123	7/15/2015	5.6	61	ND	3.6	28	2,700	
GEW-123	7/22/2015	ND	64	ND	ND	25	2,800	See Note 2
GEW-124	7/13/2015	16	61	ND	4.2	17	1,400	
GEW-124	7/22/2015	19	63	ND	ND	14	1,600	See Note 2
GEW-127	7/14/2015	0.7	63	ND	ND	31	3,800	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-128	7/14/2015	1.3	62	ND	ND	30	3,200	
GEW-129	7/14/2015	1.3	52	3.0	11	31	2,700	
GEW-131	7/14/2015	16	51	ND	3.6	27	1,700	
GEW-132	7/15/2015	13	52	1.9	9.3	23	1,200	
GEW-134	7/14/2015	10	55	ND	9.7	22	1,700	
GEW-135	7/14/2015	3.9	57	ND	ND	33	1,900	
GEW-138	7/14/2015	4.9	42	3.0	28	20	2,000	
GEW-139	7/14/2015	0.5	60	ND	ND	35	4,200	
GEW-140	7/14/2015	10	57	ND	ND	29	2,500	
GEW-140	7/22/2015	10	56	ND	ND	28	2,400	See Note 2
GEW-141	7/15/2015	4.2	64	ND	3.5	26	2,900	
GEW-143	7/14/2015	0.2	53	ND	ND	40	3,300	
GEW-147	7/14/2015	3	53	ND	5	36	2,200	
GEW-152	7/15/2015	5.8	52	ND	ND	37	2,900	
GEW-153	7/15/2015	20	47	2.0	15	15	920	
GEW-155	7/15/2015	5.8	49	2.5	21	21	1,100	
GIW-01	3/18/2015	2.4	54	4.3	15	22	2,300	
GIW-01	4/10/2015	3	67	ND	ND	27	2,600	
GIW-01	5/6/2015	4	65	ND	ND	26	2,800	
GIW-01	6/5/2015	3.6	65	ND	ND	27	2,800	
GIW-01	7/15/2015	1.6	67	ND	ND	28	3,000	
GIW-02	3/18/2015	3.6	63	ND	ND	30	2,500	
GIW-02	4/10/2015	10	57	ND	6	25	1,600	
GIW-02	5/6/2015	9.4	41	3.6	26	19	1,300	
GIW-02	6/5/2015	4.9	50	3.3	14	27	1,900	
GIW-02	7/15/2015	0.6	65	ND	ND	31	3,400	
GIW-03	3/30/2015	0.3	39	8.4	31	21	2,200	
GIW-03	4/10/2015	0.5	62	ND	ND	34	3,300	
GIW-03	5/6/2015	0.4	51	3.4	12	31	2,800	
GIW-03	6/5/2015	0.4	49	4.2	15	30	2,800	
GIW-03	7/15/2015	0.3	37	9.5	34	19	2,200	
GIW-04	3/18/2015	0.4	55	1.9	6.8	35	3,400	
GIW-04	4/8/2015	0.4	52	3.4	12	31	3,000	
GIW-04	5/6/2015	0.4	49	3.4	12	34	2,800	
GIW-04	6/5/2015	0.5	51	ND	4.8	42	3,200	
GIW-04	7/15/2015	0.5	52	2.0	7.2	38	2,800	
GIW-05	3/18/2015	0.6	61	ND	3.1	34	3,200	
GIW-05	4/10/2015	0.7	60	ND	3.5	34	3,000	
GIW-05	5/6/2015	2.1	48	4.7	17	28	2,200	
GIW-05	6/5/2015	1.8	34	7.8	28	28	1,700	
GIW-05	7/15/2015	1.6	41	6.6	24	26	1,800	
GIW-06	3/18/2015	0.8	61	ND	4.3	32	2,300	
GIW-06	4/8/2015	0.8	63	ND	ND	32	1,900	
GIW-06	5/6/2015	0.8	64	ND	ND	32	2,300	
GIW-06	6/5/2015	0.6	40	7.0	25	27	1,600	
GIW-06	7/15/2015	0.8	63	ND	ND	33	1,800	
GIW-07	3/18/2015	26	58	ND	ND	12	1,100	
GIW-07	4/8/2015	29	58	ND	ND	9.6	800	
GIW-07	5/6/2015	28	58	ND	3.2	9.7	970	
GIW-07	6/5/2015	26	61	ND	ND	11	1,200	
GIW-07	7/15/2015	21	65	ND	ND	11	990	
GIW-08	3/18/2015	23	65	ND	2.9	7.3	1,300	
GIW-08	4/8/2015	23	65	ND	3.3	7.5	1,100	
GIW-08	5/6/2015	23	66	ND	ND	7	1,300	
GIW-08	6/5/2015	22	66	ND	ND	8.7	1,500	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-08	7/15/2015	17	53	5.5	23	2	460	
GIW-09	3/18/2015	0.8	67	ND	ND	26	3,400	
GIW-09	4/8/2015	0.8	64	ND	3.6	28	3,400	
GIW-09	5/6/2015	0.8	67	ND	3.5	26	3,400	
GIW-09	6/5/2015	0.8	64	1.6	5.7	26	3,200	
GIW-09	7/15/2015	12	44	3.3	30	10	850	
GIW-10	3/18/2015	0.3	54	ND	3	41	3,500	
GIW-10	4/8/2015	0.7	54	ND	ND	42	3,200	
GIW-10	5/6/2015	3.5	53	ND	ND	39	2,600	
GIW-10	6/5/2015	3.8	54	ND	ND	39	2,700	
GIW-10	7/15/2015	0.3	35	7.2	26	31	3,500	
GIW-11	3/18/2015	1.5	60	ND	ND	34	3,200	
GIW-11	4/10/2015	2.5	53	2.5	10	30	2,700	
GIW-11	5/6/2015	2.1	54	2.5	9.9	30	2,700	
GIW-11	6/5/2015	2.3	44	5.0	21	27	2,200	
GIW-11	7/15/2015	34	3.1	8.0	37	18	1,600	
GIW-12	3/30/2015	3.5	27	10.0	49	10	790	
GIW-12	4/10/2015	2.3	55	3.4	14	25	2,300	
GIW-12	5/6/2015	3.5	62	1.6	6.9	25	2,500	
GIW-12	6/5/2015	4.3	46	4.8	23	21	1,900	
GIW-12	7/15/2015	5.1	20	11.0	60	4.1	490	
GIW-13	3/18/2015	2.9	62	ND	3.4	30	2,300	
GIW-13	4/10/2015	4.6	58	ND	6.6	29	2,100	
GIW-13	5/6/2015	3.7	60	ND	3.7	30	2,400	
GIW-13	6/5/2015	6.1	56	1.5	7.3	28	2,300	
GIW-13	7/15/2015	1.4	60	ND	ND	34	2,800	
Flare Station[2]	3/12/2015	7.2	30	11.0	42	10	1,000	
Flare Station[2]	4/8/2015	6.8	28	12.0	44	9.1	960	
Flare Station[2]	5/5/2015	7.9	32	9.7	39	10	1,300	
Flare Station[2]	6/2/2015	8.3	31	9.9	40	11	1,100	
Flare Station[2]	7/1/2015	8.1	31	10	40	10	1,400	

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period

ND = Analyte not detected in sample.

[2] = Flare Station Inlet measured at EPA Method 2 flow port (blower outlet)

ATTACHMENT D-2

LAB ANALYSIS REPORTS

Air TECHNOLOGY Laboratories, Inc.

August 3, 2015

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G071303-01/36

Enclosed are results for sample(s) received 7/13/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Jim Getting, Mike Lambrich and Ryan Ayers on 7/30/15.

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

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					
G071303-01	GEW-82R	7/9/2015	814	C	LFG	NA	X					
-02	GEW-117	7/9/2015	839	C	LFG	NA	X					
-03	GEW-28R	7/9/2015	932	C	LFG	NA	X					
-04	GEW-59R	7/9/2015	1016	C	LFG	NA	X					
-05	GEW-58A	7/9/2015	1035	C	LFG	NA	X					
-06	GEW-58	7/9/2015	1047	C	LFG	NA	X					
-07	GEW-57R	7/9/2015	1110	C	LFG	NA	X					
-08	GEW-90	7/9/2015	926	C	LFG	NA	X					
-09	GEW-56R	7/9/2015	937	C	LFG	NA	X					
-10	GEW-86	7/9/2015	1022	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	7-10-15 1400		
FED EX		[illegible]	7/13/15 1438

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

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

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	☐		

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					
G071303-11	GEW-65A	7/9/2015	1049	C	LFG	NA	X					
-12	GEW-39	7/9/2015	1318	C	LFG	NA	X					
-13	GEW-38	7/9/2015	1329	C	LFG	NA	X					
-14	GEW-10	7/9/2015	1350	C	LFG	NA	X					
-15	GEW-109	7/9/2015	1402	C	LFG	NA	X					
-16	GEW-9	7/9/2015	1437	C	LFG	NA	X					
-17	GEW-8	7/9/2015	1447	C	LFG	NA	X					
-18	GEW-7	7/9/2015	1502	C	LFG	NA	X					
-19	GEW-40	7/9/2015	1336	C	LFG	NA	X					
-20	GEW-41R	7/9/2015	1345	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: Ryan Ayers	DATE/TIME: 7-10-15 1400	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE/TIME	RECEIVED BY	DATE/TIME: 7/13/15 1438
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*

CHAIN OF CUSTODY RECORD

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

TURNAROUND TIME				DELIVERABLES		PAGE: 3 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

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G071333-21	GEW-42R	7/9/2015	1353	C	LFG	NA	X					
-22	GEW-43R	7/9/2015	1400	C	LFG	NA	X					
-23	GEW-44	7/9/2015	1409	C	LFG	NA	X					
-24	GEW-45R	7/9/2015	1420	C	LFG	NA	X					
-25	GEW-46R	7/9/2015	1427	C	LFG	NA	X					
-26	GEW-2	7/9/2015	1435	C	LFG	NA	X					
-27	GEW-3	7/9/2015	1442	C	LFG	NA	X					
-28	GEW-4	7/9/2015	1449	C	LFG	NA	X					
-29	GEW-47R	7/10/2015	804	C	LFG	NA	X					
-30	GEW-5	7/10/2015	816	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]	7-10-15 1400		
FED EX	DATE/TIME	RECEIVED BY	DATE/TIME
		[signature]	7/13/15 1430
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*

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					
G071303-31	GEW-49	7/10/2015	830	C	LFG	NA	X					
-32	GEW-51	7/10/2015	851	C	LFG	NA	X					
-33	GEW-53	7/10/2015	900	C	LFG	NA	X					
-34	GEW-54	7/10/2015	909	C	LFG	NA	X					
-35	GEW-55	7/10/2015	935	C	LFG	NA	X					
-36	GEW-52	7/10/2015	944	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	7-10-15 1400		
FEDEX			7/13/15 1438

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-01		G071303-02		G071303-03		G071303-04	
Client Sample I.D.:	GEW-82R		GEW-117		GEW-28R		GEW-59R	
Date/Time Sampled:	7/9/15 8:14		7/9/15 8:39		7/9/15 9:32		7/9/15 10:16	
Date/Time Analyzed:	7/16/15 12:21		7/16/15 12:36		7/16/15 12:50		7/16/15 13:05	
QC Batch No.:	150716GC8A1		150716GC8A1		150716GC8A1		150716GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.5		3.0		2.5		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	40	2.5	20	3.0	22	2.5	43	3.4
Carbon Dioxide	55	0.025	65	0.030	40	0.025	52	0.034
Oxygen/Argon	ND	1.2	ND	1.5	8.1	1.3	ND	1.7
Nitrogen	ND	2.5	ND	3.0	29	2.5	ND	3.4
Methane	0.99	0.0025	10	0.0030	0.36	0.0025	0.36	0.0034
Carbon Monoxide	0.21	0.0025	0.19	0.0030	0.27	0.0025	0.19	0.0034

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

Reviewed/Approved By: _____ Date 7-31-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-05		G071303-06		G071303-07		G071303-08	
Client Sample I.D.:	GEW-58A		GEW-58		GEW-57R		GEW-90	
Date/Time Sampled:	7/9/15 10:35		7/9/15 10:47		7/9/15 11:10		7/9/15 9:26	
Date/Time Analyzed:	7/16/15 13:19		7/16/15 13:34		7/16/15 13:49		7/16/15 14:18	
QC Batch No.:	150716GC8A1		150716GC8A1		150716GC8A1		150716GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.2		3.2		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	39	3.4	37	3.2	40	3.2	41	3.4
Carbon Dioxide	49	0.034	55	0.032	55	0.032	50	0.034
Oxygen/Argon	2.3	1.7	ND	1.6	ND	1.6	ND	1.7
Nitrogen	8.2	3.4	ND	3.2	ND	3.2	3.4	3.4
Methane	0.35	0.0034	4.0	0.0032	0.53	0.0032	4.1	0.0034
Carbon Monoxide	0.27	0.0034	0.22	0.0032	0.25	0.0032	0.21	0.0034

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

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-09		G071303-10		G071303-11		G071303-12	
Client Sample I.D.:	GEW-56R		GEW-86		GEW-65A		GEW-39	
Date/Time Sampled:	7/9/15 9:37		7/9/15 10:22		7/9/15 10:49		7/9/15 13:18	
Date/Time Analyzed:	7/16/15 14:32		7/16/15 14:47		7/16/15 15:02		7/16/15 15:16	
QC Batch No.:	150716GC8A1		150716GC8A1		150716GC8A1		150716GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.5		3.2		2.5		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	12	2.5	20	3.2	28	2.5	4.2 d	0.032
Carbon Dioxide	31	0.025	46	0.032	45	0.025	51	0.032
Oxygen/Argon	5.6	1.3	3.2	1.6	5.5	1.3	ND	1.6
Nitrogen	44	2.5	17	3.2	20	2.5	7.2	3.2
Methane	7.1	0.0025	13	0.0032	0.42	0.0025	36	0.0032
Carbon Monoxide	0.11	0.0025	0.12	0.0032	0.28	0.0025	0.028	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1

Reviewed/Approved By: _____ Date 7-31-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-13		G071303-14		G071303-15		G071303-16	
Client Sample I.D.:	GEW-38		GEW-10		GEW-109		GEW-9	
Date/Time Sampled:	7/9/15 13:29		7/9/15 13:50		7/9/15 14:02		7/9/15 14:37	
Date/Time Analyzed:	7/20/15 10:28		7/20/15 10:43		7/20/15 10:58		7/20/15 11:12	
QC Batch No.:	150720GC8A1		150720GC8A1		150720GC8A1		150720GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.4		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	27	3.2	0.21 d	0.032	32	3.4	0.55 d	0.032
Carbon Dioxide	45	0.032	43	0.032	52	0.034	41	0.032
Oxygen/Argon	5.8	1.6	ND	1.6	ND	1.7	ND	1.6
Nitrogen	21	3.2	3.3	3.2	10	3.4	6.6	3.2
Methane	0.44	0.0032	52	0.0032	4.0	0.0034	50	0.0032
Carbon Monoxide	0.24	0.0032	ND	0.0032	0.17	0.0034	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-17		G071303-18		G071303-19		G071303-20	
Client Sample I.D.:	GEW-8		GEW-7		GEW-40		GEW-41R	
Date/Time Sampled:	7/9/15 14:47		7/9/15 15:02		7/9/15 13:36		7/9/15 13:45	
Date/Time Analyzed:	7/20/15 11:32		7/22/15 13:17		7/20/15 12:01		7/20/15 12:47	
QC Batch No.:	150720GC8A1		150722GC8A1		150720GC8A1		150720GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.5		3.4		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	1.8 d	0.034	ND d	0.035	ND d	0.034	ND d	0.034
Carbon Dioxide	41	0.034	38	0.035	40	0.034	34	0.034
Oxygen/Argon	2.4	1.7	ND	1.8	ND	1.7	3.7	1.7
Nitrogen	8.4	3.4	6.1	3.5	ND	3.4	14	3.4
Methane	46	0.0034	54	0.0035	56	0.0034	48	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0035	ND	0.0034	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: 150723GC8A1

Reviewed/Approved By: _____ Date 7-31-15
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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-21		G071303-22		G071303-23		G071303-24	
Client Sample I.D.:	GEW-42R		GEW-43R		GEW-44		GEW-45R	
Date/Time Sampled:	7/9/15 13:53		7/9/15 14:00		7/9/15 14:09		7/9/15 14:20	
Date/Time Analyzed:	7/20/15 13:02		7/20/15 13:16		7/20/15 13:31		7/20/15 13:45	
QC Batch No.:	150720GC8A1		150720GC8A1		150720GC8A1		150720GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.2		3.2		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	0.034	0.19 d	0.032	ND d	0.032	ND d	0.034
Carbon Dioxide	35	0.034	42	0.032	31	0.032	38	0.034
Oxygen/Argon	3.3	1.7	ND	1.6	3.8	1.6	ND	1.7
Nitrogen	12	3.4	ND	3.2	22	3.2	3.4	3.4
Methane	49	0.0034	56	0.0032	43	0.0032	57	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0032	ND	0.0032	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: 150723GC8A1

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-25		G071303-26		G071303-27		G071303-28	
Client Sample I.D.:	GEW-46R		GEW-2		GEW-3		GEW-4	
Date/Time Sampled:	7/9/15 14:27		7/9/15 14:35		7/9/15 14:42		7/9/15 14:49	
Date/Time Analyzed:	7/20/15 14:00		7/20/15 14:15		7/20/15 16:26		7/20/15 16:40	
QC Batch No.:	150720GC8A1		150720GC8A1		150720GC8A2		150720GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.11 d	0.032	ND d	0.032	0.085 d	0.032	0.054 d	0.032
Carbon Dioxide	38	0.032	36	0.032	39	0.032	40	0.032
Oxygen/Argon	ND	1.6	4.1	1.6	ND	1.6	ND	1.6
Nitrogen	8.2	3.2	15	3.2	9.1	3.2	6.8	3.2
Methane	52	0.0032	46	0.0032	51	0.0032	53	0.0032
Carbon Monoxide	ND	0.0032	ND	0.0032	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-29		G071303-30		G071303-31		G071303-32	
Client Sample I.D.:	GEW-47R		GEW-5		GEW-49		GEW-51	
Date/Time Sampled:	7/10/15 8:04		7/10/15 8:16		7/10/15 8:30		7/10/15 8:51	
Date/Time Analyzed:	7/22/15 13:51		7/22/15 14:05		7/20/15 17:24		7/20/15 17:39	
QC Batch No.:	150722GC8A1		150722GC8A1		150720GC8A2		150720GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.3		2.7		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.033	ND d	0.027	ND d	0.032	1.0 d	0.032
Carbon Dioxide	35	0.033	21	0.027	27	0.032	41	0.032
Oxygen/Argon	1.7	1.6	9.5	1.4	6.3	1.6	ND	1.6
Nitrogen	20	3.3	46	2.7	34	3.2	ND	3.2
Methane	43	0.0033	24	0.0027	33	0.0032	55	0.0032
Carbon Monoxide	ND	0.0033	ND	0.0027	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-29		G071303-30		G071303-31		G071303-32	
Client Sample I.D.:	GEW-47R		GEW-5		GEW-49		GEW-51	
Date/Time Sampled:	7/10/15 8:04		7/10/15 8:16		7/10/15 8:30		7/10/15 8:51	
Date/Time Analyzed:	7/22/15 13:51		7/22/15 14:05		7/20/15 17:24		7/20/15 17:39	
QC Batch No.:	150722GC8A1		150722GC8A1		150720GC8A2		150720GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.3		2.7		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND	3.3	ND d	0.027	ND d	0.032	1.0 d	0.032
Carbon Dioxide	35	0.033	21	0.027	27	0.032	41	0.032
Oxygen/Argon	1.7	1.6	9.5	1.4	6.3	1.6	ND	1.6
Nitrogen	20	3.3	46	2.7	34	3.2	ND	3.2
Methane	43	0.0033	24	0.0027	33	0.0032	55	0.0032
Carbon Monoxide	ND	0.0033	ND	0.0027	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1

Reviewed/Approved By: _____ Date 7-30-15

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: 07/13/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071303-33		G071303-34		G071303-35		G071303-36	
Client Sample I.D.:	GEW-53		GEW-54		GEW-55		GEW-52	
Date/Time Sampled:	7/10/15 9:00		7/10/15 9:09		7/10/15 9:35		7/10/15 9:44	
Date/Time Analyzed:	7/20/15 17:53		7/20/15 18:08		7/20/15 18:23		7/20/15 18:37	
QC Batch No.:	150720GC8A2		150720GC8A2		150720GC8A2		150720GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	3.3 d	0.034	4.2 d	0.032	1.5 d	0.032	ND d	0.032
Carbon Dioxide	40	0.034	43	0.032	40	0.032	39	0.032
Oxygen/Argon	1.7	1.7	ND	1.6	1.8	1.6	ND	1.6
Nitrogen	6.3	3.4	ND	3.2	6.4	3.2	11	3.2
Methane	49	0.0034	50	0.0032	51	0.0032	49	0.0032
Carbon Monoxide	0.0041	0.0034	ND	0.0032	0.0039	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150723GC8A1, 2

Reviewed/Approved By: _____ Date 7-30-15

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.: 150716GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/16/15 11:20		7/16/15 10:33		7/16/15 10:48			
Analyst Initials:	AS		AS		AS			
Datafile:	16jul006		16jul003		16jul004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	106	70-130%	105	70-130%	1.3	<30
Carbon Dioxide	ND	0.010	99	70-130%	98	70-130%	1.5	<30
Oxygen/Argon	ND	0.50	100	70-130%	99	70-130%	1.3	<30
Nitrogen	ND	1.0	101	70-130%	99	70-130%	1.2	<30
Methane	ND	0.0010	126	70-130%	124	70-130%	1.4	<30
Carbon Monoxide	ND	0.0010	107	70-130%	103	70-130%	3.0	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 7-30-15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150720GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/20/15 10:09		7/20/15 9:24		7/20/15 9:39			
Analyst Initials:	AS		AS		AS			
Datafile:	20jul008		20jul005		20jul006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	112	70-130%	109	70-130%	2.2	<30
Carbon Dioxide	ND	0.010	102	70-130%	100	70-130%	1.6	<30
Oxygen/Argon	ND	0.50	102	70-130%	100	70-130%	1.4	<30
Nitrogen	ND	1.0	102	70-130%	100	70-130%	1.3	<30
Methane	ND	0.0010	115	70-130%	114	70-130%	0.8	<30
Carbon Monoxide	ND	0.0010	102	70-130%	100	70-130%	1.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 7-30-15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150720GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/20/15 15:42		7/20/15 15:57		7/20/15 16:11			
Analyst Initials:	AS		AS		AS			
Datafile:	20jul030		20jul031		20jul032			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	107	70-130%	106	70-130%	1.3	<30
Carbon Dioxide	ND	0.010	99	70-130%	97	70-130%	1.9	<30
Oxygen/Argon	ND	0.50	100	70-130%	98	70-130%	1.6	<30
Nitrogen	ND	1.0	100	70-130%	98	70-130%	1.7	<30
Methane	ND	0.0010	128	70-130%	125	70-130%	2.3	<30
Carbon Monoxide	ND	0.0010	117	70-130%	111	70-130%	5.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 7-30-15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150722GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/22/15 10:51		7/22/15 10:06		7/22/15 10:21			
Analyst Initials:	AS		AS		AS			
Datafile:	22jul009		22jul006		22jul007			
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%	1.4	<30
Carbon Dioxide	ND	0.010	99	70-130%	99	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	100	70-130%	100	70-130%	0.1	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.1	<30
Methane	ND	0.0010	130	70-130%	127	70-130%	2.4	<30
Carbon Monoxide	ND	0.0010	107	70-130%	104	70-130%	2.8	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** _____

Mark J. Johnson
Operations Manager

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

QC Batch # 150723GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	7/23/2015 11:49		7/23/2015 11:39		7/23/2015 11:44			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	97	70-130	96	70-130	0.3	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 7-30-15

Mark Johnson
Operations Manager

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

QC Batch # 150723GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	7/23/2015 13:44		7/23/2015 13:34		7/23/2015 13:39			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	97	70-130	96	70-130	1.8	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 7-30-15

Mark Johnson
Operations Manager

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

Air TECHNOLOGY Laboratories, Inc.

August 5, 2015

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G071705-01/034

Enclosed are results for sample(s) received 7/17/15 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).

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

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 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: Jim Getting
	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					
G071709-01	GEW-124	7/13/2015	1640	C	LFG	NA	X					
-02	GEW-121	7/14/2015	845	C	LFG	NA	X					
-03	GEW-126	7/14/2015	935	C	LFG	NA	X					
-04	GEW-131	7/14/2015	957	C	LFG	NA	X					
-05	GEW-127	7/14/2015	1045	C	LFG	NA	X					
-06	GEW-128	7/14/2015	1105	C	LFG	NA	X					
-07	GEW-129	7/14/2015	1145	C	LFG	NA	X					
-08	GEW-147	7/14/2015	1227	C	LFG	NA	X					
-09	GEW-134	7/14/2015	1425	C	LFG	NA	X					
-10	GEW-135	7/14/2015	1440	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	7-15-15 730	[illegible]	7/16/15 1320
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

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*

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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	☐		

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: Jim Getting
	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					
G071705-11	GEW-138	7/14/2015	1525	C	LFG	NA	X					
-12	GEW-143	7/14/2015	1603	C	LFG	NA	X					
-13	GEW-140	7/14/2015	1620	C	LFG	NA	X					
-14	GEW-139	7/14/2015	1637	C	LFG	NA	X					
-15	GEW-152	7/15/2015	830	C	LFG	NA	X					
-16	GEW-153	7/15/2015	847	C	LFG	NA	X					
-17	GEW-155	7/15/2015	1018	C	LFG	NA	X					
-18	GEW-132	7/15/2015	1036	C	LFG	NA	X					
-19	GEW-120	7/15/2015	1050	C	LFG	NA	X					
-20	GEW-141	7/15/2015	1107	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	7-15-15 730	[illegible]	7/16/15 8:20
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

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	
Standard	■	48 hours	☐	EDD	☐
Same Day	☐	72 hours	☐	EDF	☐
24 hours	☐	96 hours	☐	Level 3	☐
Other:				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: Jim Getting
	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					
G071705-21	GEW-123	7/15/2015	1150	C	LFG	NA	X					
-22	GIW-10	7/15/2015	830	C	LFG	NA	X					
-23	GIW-4	7/15/2015	839	C	LFG	NA	X					
-24	GIW-3	7/15/2015	847	C	LFG	NA	X					
-25	GIW-2	7/15/2015	855	C	LFG	NA	X					
-26	GIW-6	7/15/2015	904	C	LFG	NA	X					
-27	GIW-7	7/15/2015	912	C	LFG	NA	X					
-28	GIW-9	7/15/2015	920	C	LFG	NA	X					
-29	GIW-8	7/15/2015	931	C	LFG	NA	X					
-30	GIW-11	7/15/2015	940	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: Ryan Ayers	DATE/TIME: 7-15-15 730	RECEIVED BY:	DATE/TIME: 7/15/15 1320
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

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

Air TECHNOLOGY 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: Jim Getting
	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					
G071705-31	GIW-12	7/15/2015	1008	C	LFG	NA	X					
-32	GIW-13	7/15/2015	1015	C	LFG	NA	X					
-33	GIW-1	7/15/2015	1024	C	LFG	NA	X					
-34	GIW-5	7/15/2015	1032	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 7-15-15 7:30	RECEIVED BY	DATE/TIME 7/15/15 1320	
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	

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

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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-01		G071705-02		G071705-03		G071705-04	
Client Sample I.D.:	GEW-124		GEW-121		GEW-126		GEW-131	
Date/Time Sampled:	7/13/15 16:40		7/14/15 8:45		7/14/15 9:35		7/14/15 9:57	
Date/Time Analyzed:	7/27/15 15:57		7/27/15 16:12		7/27/15 16:26		7/27/15 16:41	
QC Batch No.:	150727GC8A3		150727GC8A3		150727GC8A3		150727GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.6		3.2		3.4		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	17	3.6	33	3.2	35	3.4	27	3.4
Carbon Dioxide	61	0.036	58	0.032	54	0.034	51	0.034
Oxygen/Argon	ND	1.8	ND	1.6	1.8	1.7	ND	1.7
Nitrogen	4.2	3.6	3.3	3.2	6.2	3.4	3.6	3.4
Methane	16	0.0036	2.4	0.0032	0.97	0.0034	16	0.0034
Carbon Monoxide	0.14	0.0036	0.22	0.0032	0.38	0.0034	0.17	0.0034

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

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-05		G071705-06		G071705-07		G071705-08	
Client Sample I.D.:	GEW-127		GEW-128		GEW-129		GEW-147	
Date/Time Sampled:	7/14/15 10:45		7/14/15 11:05		7/14/15 11:45		7/14/15 12:27	
Date/Time Analyzed:	7/27/15 16:55		7/27/15 17:10		7/27/15 17:25		7/27/15 17:39	
QC Batch No.:	150727GC8A3		150727GC8A3		150727GC8A3		150727GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.5		3.6		3.4		3.6	
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	31	3.5	30	3.6	31	3.4	36	3.6
Carbon Dioxide	63	0.035	62	0.036	52	0.034	53	0.036
Oxygen/Argon	ND	1.7	ND	1.8	3.0	1.7	ND	1.8
Nitrogen	ND	3.5	ND	3.6	11	3.4	4.7	3.6
Methane	0.74	0.0035	1.3	0.0036	1.3	0.0034	3.0	0.0036
Carbon Monoxide	0.38	0.0035	0.32	0.0036	0.27	0.0034	0.22	0.0036

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

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-09		G071705-10		G071705-11		G071705-12	
Client Sample I.D.:	GEW-134		GEW-135		GEW-138		GEW-143	
Date/Time Sampled:	7/14/15 14:25		7/14/15 14:40		7/14/15 15:25		7/14/15 16:03	
Date/Time Analyzed:	7/27/15 17:54		7/27/15 18:08		7/27/15 18:23		7/27/15 18:38	
QC Batch No.:	150727GC8A3		150727GC8A3		150727GC8A3		150727GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.6		3.6		3.6		3.6	
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	22	3.6	33	3.6	20	3.6	40	3.6
Carbon Dioxide	55	0.036	57	0.036	42	0.036	53	0.036
Oxygen/Argon	ND	1.8	ND	1.8	3.3	1.8	ND	1.8
Nitrogen	9.7	3.6	ND	3.6	28	3.6	ND	3.6
Methane	10	0.0036	3.9	0.0036	4.9	0.0036	0.22	0.0036
Carbon Monoxide	0.17	0.0036	0.19	0.0036	0.20	0.0036	0.33	0.0036

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

Reviewed/Approved By: MKJ for
Mark Johnson
Operations Manager

Date 8/5/15

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-13		G071705-14		G071705-15		G071705-16	
Client Sample I.D.:	GEW-140		GEW-139		GEW-152		GEW-153	
Date/Time Sampled:	7/14/15 16:20		7/14/15 16:37		7/15/15 8:30		7/15/15 8:47	
Date/Time Analyzed:	7/27/15 18:52		7/27/15 19:07		7/28/15 9:19		7/27/15 19:36	
QC Batch No.:	150727GC8A3		150727GC8A3		150727GC8A3		150727GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.6		3.6		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	29	3.6	35	3.6	37	3.2	15	3.2
Carbon Dioxide	57	0.036	60	0.036	52	0.032	47	0.032
Oxygen/Argon	ND	1.8	ND	1.8	ND	1.6	1.9	1.6
Nitrogen	ND	3.6	ND	3.6	ND	3.2	15	3.2
Methane	10	0.0036	0.46	0.0036	5.8	0.0032	20	0.0032
Carbon Monoxide	0.25	0.0036	0.42	0.0036	0.29	0.0032	0.092	0.0032

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

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-17		G071705-18		G071705-19		G071705-20	
Client Sample I.D.:	GEW-155		GEW-132		GEW-120		GEW-141	
Date/Time Sampled:	7/15/15 10:18		7/15/15 10:36		7/15/15 10:50		7/15/15 11:07	
Date/Time Analyzed:	7/28/15 8:06		7/28/15 8:21		7/28/15 8:35		7/28/15 8:50	
QC Batch No.:	150727GC8A3		150727GC8A3		150727GC8A3		150727GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.2	
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**
Hydrogen	21	3.4	23	3.4	2.2 d	0.034	26	3.2
Carbon Dioxide	49	0.034	52	0.034	68	0.034	64	0.032
Oxygen/Argon	2.5	1.7	1.9	1.7	ND	1.7	ND	1.6
Nitrogen	21	3.4	9.3	3.4	ND	3.4	3.5	3.2
Methane	5.8	0.0034	13	0.0034	26	0.0034	4.2	0.0032
Carbon Monoxide	0.11	0.0034	0.12	0.0034	0.023	0.0034	0.29	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150804GC8A1

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-21		G071705-22		G071705-23		G071705-24	
Client Sample I.D.:	GEW-123		GIW-10		GIW-4		GIW-3	
Date/Time Sampled:	7/15/15 11:50		7/15/15 8:30		7/15/15 8:39		7/15/15 8:47	
Date/Time Analyzed:	7/28/15 12:23		7/28/15 12:03		7/28/15 12:38		7/28/15 12:52	
QC Batch No.:	150728GC8A1		150728GC8A1		150728GC8A1		150728GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	28	3.4	31	3.2	38	3.2	19	3.2
Carbon Dioxide	61	0.034	35	0.032	52	0.032	37	0.032
Oxygen/Argon	ND	1.7	7.2	1.6	2.0	1.6	9.5	1.6
Nitrogen	3.6	3.4	26	3.2	7.2	3.2	34	3.2
Methane	5.6	0.0034	0.32	0.0032	0.53	0.0032	0.30	0.0032
Carbon Monoxide	0.27	0.0034	0.35	0.0032	0.28	0.0032	0.22	0.0032

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

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-25		G071705-26		G071705-27		G071705-28	
Client Sample I.D.:	GIW-2		GIW-6		GIW-7		GIW-9	
Date/Time Sampled:	7/15/15 8:55		7/15/15 9:04		7/15/15 9:12		7/15/15 9:20	
Date/Time Analyzed:	7/28/15 13:07		7/28/15 13:21		7/28/15 13:36		7/28/15 13:51	
QC Batch No.:	150728GC8A1		150728GC8A1		150728GC8A1		150728GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	31	3.2	33	3.2	11	3.2	10	3.2
Carbon Dioxide	65	0.032	63	0.032	65	0.032	44	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	3.3	1.6
Nitrogen	ND	3.2	ND	3.2	ND	3.2	30	3.2
Methane	0.55	0.0032	0.81	0.0032	21	0.0032	12	0.0032
Carbon Monoxide	0.34	0.0032	0.18	0.0032	0.099	0.0032	0.085	0.0032

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

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-29		G071705-30		G071705-31		G071705-32	
Client Sample I.D.:	GIW-8		GIW-11		GIW-12		GIW-13	
Date/Time Sampled:	7/15/15 9:31		7/15/15 9:40		7/15/15 10:08		7/15/15 10:15	
Date/Time Analyzed:	7/28/15 14:05		7/28/15 14:50		7/28/15 15:04		7/28/15 15:19	
QC Batch No.:	150728GC8A1		150728GC8A1		150728GC8A1		150728GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.3		3.3		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	2.0 d	0.032	18	3.3	4.1	3.3	34	3.3
Carbon Dioxide	53	0.032	34	0.033	20	0.033	60	0.033
Oxygen/Argon	5.5	1.6	8.0	1.6	11	1.6	ND	1.6
Nitrogen	23	3.2	37	3.3	60	3.3	ND	3.3
Methane	17	0.0032	3.1	0.0033	5.1	0.0033	1.4	0.0033
Carbon Monoxide	0.046	0.0032	0.16	0.0033	0.049	0.0033	0.28	0.0033

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 150804GC8A1

Reviewed/Approved By: _____ Date 8/5/15
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: 07/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G071705-33		G071705-34					
Client Sample I.D.:	GIW-1		GIW-5					
Date/Time Sampled:	7/15/15 10:24		7/15/15 10:32					
Date/Time Analyzed:	7/28/15 15:34		7/28/15 15:49					
QC Batch No.:	150728GC8A1		150728GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.3		3.3					
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**				
Hydrogen	28	3.3	26	3.3				
Carbon Dioxide	67	0.033	41	0.033				
Oxygen/Argon	ND	1.6	6.6	1.6				
Nitrogen	ND	3.3	24	3.3				
Methane	1.6	0.0033	1.6	0.0033				
Carbon Monoxide	0.30	0.0033	0.18	0.0033				

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

Reviewed/Approved By: _____ Date 8/5/15
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.: 150727GC8A3
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/27/15 15:35		7/27/15 14:50		7/27/15 15:05			
Analyst Initials:	AS		AS		AS			
Datafile:	27jul029		27jul026		27jul027			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	84	70-130%	83	70-130%	2.2	<30
Carbon Dioxide	ND	0.010	91	70-130%	89	70-130%	2.6	<30
Oxygen/Argon	ND	0.50	104	70-130%	102	70-130%	2.5	<30
Nitrogen	ND	1.0	103	70-130%	100	70-130%	2.5	<30
Methane	ND	0.0010	109	70-130%	108	70-130%	1.5	<30
Carbon Monoxide	ND	0.0010	102	70-130%	93	70-130%	9.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 8/5/15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 150728GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/28/15 11:33		7/28/15 10:50		7/28/15 11:04			
Analyst Initials:	AS		AS		AS			
Datafile:	28jul007		28jul004		28jul005			
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%	1.4	<30
Carbon Dioxide	ND	0.010	97	70-130%	99	70-130%	1.8	<30
Oxygen/Argon	ND	0.50	98	70-130%	100	70-130%	1.8	<30
Nitrogen	ND	1.0	98	70-130%	100	70-130%	1.8	<30
Methane	ND	0.0010	112	70-130%	109	70-130%	3.2	<30
Carbon Monoxide	ND	0.0010	127	70-130%	119	70-130%	6.5	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 8/5/15

Mark J. Johnson
Operations Manager

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

QC Batch # 150804GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	8/4/2015 8:40		8/4/2015 8:28		8/4/2015 8:34			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	106	70-130	106	70-130	0.1	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 8/5/15

Mark Johnson
Operations Manager

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

AirTECHNOLOGY
Laboratories, Inc.

July 24, 2015

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: G072401-01/034

Enclosed are results for sample(s) received 7/24/15 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 on 7/24/15.

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

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

G072401-01/10

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.:	
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: Jim Getting
	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					
G072401-01	GEW-3	7/22/2015	10:07	C	LFG	NA	X					
-02	GEW-2	7/22/2015	10:38	C	LFG	NA	X					
-03	GEW-28R	7/22/2015	11:51	C	LFG	NA	X					
-04	GEW-124	7/22/2015	14:25	C	LFG	NA	X					
-05	GEW-123	7/22/2015	15:13	C	LFG	NA	X					
-06	GEW-140	7/22/2015	16:04	C	LFG	NA	X					
-07	GEW-11	7/22/2015	17:12	C	LFG	NA	X					
-08	GEW-65A	7/22/2015	18:16	C	LFG	NA	X					
-09	GEW-39	7/22/2015	18:49	C	LFG	NA	X					
-10	GEW-109	7/22/2015	19:08	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Mike Lambrich COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
FedEx	7-24-15 08:52		

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: 07/24/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G072401-01		G072401-02		G072401-03		G072401-04	
Client Sample I.D.:	GEW-3		GEW-2		GEW-28R		GEW-124	
Date/Time Sampled:	7/22/15 10:07		7/22/15 10:08		7/22/15 11:51		7/22/15 14:25	
Date/Time Analyzed:	7/24/15 10:01		7/24/15 10:16		7/24/15 10:30		7/24/15 10:45	
QC Batch No.:	150724GC8A1		150724GC8A1		150724GC8A1		150724GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.5		3.5		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	0.066 d	0.035	ND d	0.035	23	3.3	14	3.4
Carbon Dioxide	40	0.035	41	0.035	45	0.033	63	0.034
Oxygen/Argon	ND	1.7	ND	1.7	6.4	1.6	ND	1.7
Nitrogen	5.8	3.5	ND	3.5	23	3.3	ND	3.4
Methane	54	0.0035	56	0.0035	0.24	0.0033	19	0.0034
Carbon Monoxide	ND	0.0035	ND	0.0035	0.27	0.0033	0.16	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis QC Batch 150727GC8A1

Reviewed/Approved By: _____ Date 7-27-15

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: 07/24/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G072401-05		G072401-06		G072401-07		G072401-08	
Client Sample I.D.:	GEW-123		GEW-140		GEW-11		GEW-65A	
Date/Time Sampled:	7/22/15 15:13		7/22/15 16:04		7/22/15 17:12		7/22/15 18:16	
Date/Time Analyzed:	7/24/15 11:00		7/24/15 11:14		7/24/15 11:29		7/24/15 11:43	
QC Batch No.:	150724GC8A1		150724GC8A1		150724GC8A1		150724GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.9		3.5		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	25	2.9	28	3.5	32	3.3	37	3.4
Carbon Dioxide	64	0.029	56	0.035	61	0.033	58	0.034
Oxygen/Argon	ND	1.4	ND	1.7	ND	1.6	ND	1.7
Nitrogen	ND	2.9	ND	3.5	ND	3.3	ND	3.4
Methane	7.0	0.0029	10	0.0035	3.0	0.0033	0.45	0.0034
Carbon Monoxide	0.28	0.0029	0.24	0.0035	0.23	0.0033	0.29	0.0034

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

Reviewed/Approved By: _____ Date 7-24-15

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: 07/24/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G072401-09		G072401-10					
Client Sample I.D.:	GEW-39		GEW-109					
Date/Time Sampled:	7/22/15 18:49		7/22/15 19:08					
Date/Time Analyzed:	7/24/15 11:58		7/24/15 12:12					
QC Batch No.:	150724GC8A1		150724GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.4		3.4					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	3.4	3.4	31	3.4				
Carbon Dioxide	51	0.034	52	0.034				
Oxygen/Argon	ND	1.7	ND	1.7				
Nitrogen	6.9	3.4	10	3.4				
Methane	37	0.0034	4.2	0.0034				
Carbon Monoxide	0.028	0.0034	0.19	0.0034				

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

Reviewed/Approved By: _____ Date 7-24-15

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.: 150724GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/24/15 6:53		7/24/15 1:08		7/24/15 1:23			
Analyst Initials:	AS		AS		AS			
Datafile:	24jul.ru		23jul074		23jul075			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	105	70-130%	105	70-130%	0.0	<30
Carbon Dioxide	ND	0.010	99	70-130%	99	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	101	70-130%	100	70-130%	0.3	<30
Nitrogen	ND	1.0	101	70-130%	101	70-130%	0.3	<30
Methane	ND	0.0010	120	70-130%	119	70-130%	0.5	<30
Carbon Monoxide	ND	0.0010	110	70-130%	105	70-130%	4.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 7-24-15

Mark J. Johnson
Operations Manager

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

QC Batch # 150727GC11A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	7/27/2015 08:49		7/27/2015 08:39		7/27/2015 08:44			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	96	70-130	97	70-130	0.7	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 7-27-15

Mark 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

July 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	7/2/2015	56.8	41.8	0.0	1.4	83.3		5	4	0.58	0.58	0.73
GEW-002	7/7/2015	56.3	41.2	0.0	2.5	123.9		93	93	-2.54	-2.67	-23.52
GEW-002	7/9/2015	54.7	42.6	0.0	2.7	84.7		11	8	0.89	0.89	1.10
GEW-002	7/9/2015	54.9	40.9	0.0	4.2	86.1		9	10	0.87	0.89	0.98
GEW-002	7/15/2015	55.2	42.4	0.0	2.4	93.6		9	4	0.74	0.78	0.49
GEW-002	7/15/2015	54.7	42.5	0.0	2.8	93.4		10	6	0.80	0.81	0.49
GEW-002	7/17/2015	55.5	40.6	0.0	3.9	95.8		7	8	0.61	0.60	0.79
GEW-002	7/20/2015	56.7	39.8	0.0	3.5	124.5		14	21	-0.84	-0.88	-20.95
GEW-002	7/22/2015	56.0	41.3	0.1	2.6	123.2		9	9	-0.63	-0.63	-29.05
GEW-002	7/22/2015	55.9	41.5	0.1	2.5	123.4		23	19	-0.92	-0.90	-28.20
GEW-002	7/24/2015	59.4	40.1	0.0	0.5	124.8		15	14	-0.26	-0.26	-28.47
GEW-002	7/24/2015	58.6	40.3	0.0	1.1	126.0		29	27	-0.46	-0.45	-32.07
GEW-002	7/28/2015	54.3	39.4	0.0	6.3	125.6		15	17	-0.91	-0.92	-30.54
GEW-002	7/28/2015	54.3	40.4	0.0	5.3	125.3		14	17	-0.73	-0.70	-32.56
GEW-002	7/30/2015	54.8	39.5	0.0	5.7	124.7		13	13	-0.10	-0.10	-28.04
GEW-003	7/7/2015	53.6	39.3	0.0	7.1	121.8		25	19	-1.65	-1.66	-27.73
GEW-003	7/9/2015	52.8	40.0	0.0	7.2	122.1		22	25	-0.60	-0.62	-27.43
GEW-003	7/9/2015	52.6	39.8	0.0	7.6	122.3		30	30	-0.66	-0.63	-27.49
GEW-003	7/15/2015	54.5	38.9	0.0	6.6	124.2		17	16	0.08	0.06	-23.89
GEW-003	7/15/2015	54.0	39.8	0.0	6.2	124.9		39	41	-0.02	-0.02	-25.11
GEW-003	7/20/2015	55.3	39.5	0.0	5.2	118.0		17	12	-1.17	-1.15	-21.01
GEW-003	7/22/2015	56.7	37.5	0.0	5.8	118.8		19	19	-1.04	-1.05	-28.32
GEW-003	7/22/2015	54.5	39.5	0.0	6.0	119.6		15	21	-1.03	-1.06	-28.07
GEW-003	7/28/2015	50.5	38.8	0.0	10.7	118.6		23	24	-1.46	-1.44	-30.36
GEW-003	7/28/2015	51.5	38.9	0.0	9.6	117.1		18	20	-1.14	-1.15	-31.22
GEW-003	7/30/2015	50.5	39.2	0.0	10.3	117.3		13	13	-0.15	-0.15	-29.20
GEW-004	7/2/2015	53.3	38.6	0.0	8.1	122.7		22	23	-2.13	-2.11	-27.24
GEW-004	7/2/2015	53.0	39.7	0.0	7.3	119.2		9	14	-1.78	-1.79	-27.73
GEW-004	7/7/2015	50.8	38.4	0.0	10.8	119.6		12	13	-1.26	-1.26	-27.79
GEW-004	7/7/2015	50.7	38.7	0.0	10.6	114.5		0	0	-1.13	-1.13	-28.22
GEW-004	7/9/2015	52.2	40.2	0.0	7.6	108.2		8	8	0.03	0.03	-27.73
GEW-004	7/9/2015	53.0	38.8	0.0	8.2	113.4		36	36	0.00	0.00	-28.65
GEW-004	7/15/2015	54.4	39.9	0.0	5.7	119.4		0	0	0.30	0.29	-24.31
GEW-004	7/20/2015	52.0	38.5	0.0	9.5	122.6		18	16	-0.87	-0.87	-21.81
GEW-004	7/20/2015	52.5	38.9	0.0	8.6	121.0		29	30	-0.70	-0.68	-21.38
GEW-004	7/28/2015	49.2	37.9	0.0	12.9	122.4		14	17	-0.95	-0.94	-31.46
GEW-004	7/28/2015	49.6	38.2	0.0	12.2	119.4		7	5	-0.75	-0.74	-31.52
GEW-004	7/30/2015	52.1	40.2	0.0	7.7	116.3		9	6	0.13	0.13	-29.81
GEW-004	7/30/2015	51.8	40.2	0.0	8.0	117.5		9	12	0.07	0.07	-29.20
GEW-005	7/1/2015	55.5	38.9	0.0	5.6	91.9		10	8	0.38	0.38	-27.49
GEW-005	7/1/2015	54.7	39.7	0.0	5.6	98.2		30	34	-0.23	-0.29	-25.72
GEW-005	7/7/2015	34.6	33.3	0.0	32.1	94.6		40	40	-1.61	-1.56	-27.43
GEW-005	7/7/2015	34.6	33.2	0.0	32.2	94.3		26	26	-1.33	-1.35	-27.06
GEW-005	7/10/2015	41.8	35.5	0.0	22.7	95.3		26	23	-0.59	-0.54	-28.56
GEW-005	7/10/2015	42.7	34.1	0.0	23.2	95.4		23	24	-0.55	-0.59	-29.30
GEW-005	7/15/2015	53.8	38.5	0.0	7.7	95.5		8	9	0.33	0.33	-23.64
GEW-005	7/15/2015	53.5	38.9	0.0	7.6	95.3		10	11	0.32	0.32	-24.50
GEW-005	7/17/2015	56.3	39.1	0.1	4.5	92.1		11	9	0.06	0.06	-28.10
GEW-005	7/17/2015	54.9	38.7	0.0	6.4	96.2		15	15	-0.09	-0.09	-27.61
GEW-005	7/20/2015	48.0	36.1	0.0	15.9	97.4		28	27	-0.22	-0.21	-29.81

July 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-005	7/20/2015	47.9	36.2	0.0	15.9	97.4		31	31	-0.31	-0.29	-29.93
GEW-005	7/28/2015	35.8	32.4	0.0	31.8	96.4		30	35	-1.11	-1.10	-31.34
GEW-005	7/28/2015	35.6	33.2	0.0	31.2	97.1		16	14	-0.73	-0.72	-31.64
GEW-005	7/30/2015	40.4	36.6	0.0	23.0	98.1		14	14	0.04	0.04	-29.93
GEW-006	7/1/2015	56.3	38.9	0.0	4.8	93.1		11	9	0.68	0.68	-27.12
GEW-006	7/1/2015	57.2	38.2	0.0	4.6	87.3		36	36	-0.30	-0.29	-26.70
GEW-006	7/7/2015	48.2	36.9	0.0	14.9	87.5		36	40	-1.83	-1.81	-26.76
GEW-006	7/7/2015	48.0	37.0	0.0	15.0	85.6		0	0	-0.87	-0.87	-28.65
GEW-006	7/15/2015	57.7	37.8	0.0	4.5	91.7		9	9	0.53	0.52	-24.86
GEW-006	7/15/2015	57.1	39.1	0.0	3.8	91.8		8	8	0.54	0.53	-25.47
GEW-006	7/17/2015	56.9	38.3	0.0	4.8	88.6		9	8	0.36	0.35	-27.00
GEW-006	7/17/2015	56.9	38.7	0.0	4.4	88.7		23	27	-0.15	-0.16	-27.67
GEW-006	7/20/2015	56.3	38.2	0.0	5.5	89.6		17	17	-0.26	-0.26	-28.77
GEW-006	7/20/2015	56.3	38.2	0.0	5.5	89.4		27	33	-0.40	-0.41	-28.34
GEW-006	7/28/2015	44.5	35.4	0.0	20.1	89.3		27	31	-1.20	-1.21	-29.63
GEW-006	7/28/2015	45.9	36.5	0.0	17.6	89.8		8	7	-0.62	-0.61	-30.36
GEW-006	7/30/2015	52.4	39.4	0.0	8.2	92.2		9	9	0.32	0.32	-29.63
GEW-006	7/30/2015	52.6	39.3	0.0	8.1	92.2		13	13	0.21	0.22	-28.65
GEW-007	7/7/2015	57.4	40.3	0.0	2.3	99.8		10	10	-3.20	-3.19	-28.34
GEW-007	7/9/2015	56.6	42.0	0.2	1.2	101.9		10	9	-2.26	-2.25	-27.34
GEW-007	7/9/2015	57.4	40.7	0.2	1.7	102.1		13	15	-2.31	-2.31	-27.77
GEW-007	7/15/2015	56.4	42.0	0.0	1.6	103.3		11	10	-1.64	-1.65	-24.07
GEW-007	7/20/2015	57.6	39.6	0.0	2.8	100.6		10	11	-2.01	-2.01	-25.84
GEW-007	7/28/2015	56.7	39.1	0.0	4.2	106.7		0	0	-1.84	-1.85	-22.48
GEW-007	7/28/2015	56.4	39.7	0.0	3.9	107.6		0	0	-0.57	-0.58	-19.98
GEW-007	7/30/2015	54.5	42.8	0.0	2.7	103.3		9	7	-0.32	-0.32	-30.91
GEW-008	7/7/2015	51.5	44.6	0.0	3.9	117.0		19	21	-1.13	-1.13	-27.92
GEW-008	7/9/2015	50.8	44.8	0.3	4.1	116.5		22	19	-0.71	-0.71	-27.34
GEW-008	7/9/2015	50.9	43.2	0.2	5.7	116.8		19	21	-0.68	-0.69	-28.44
GEW-008	7/15/2015	51.3	42.9	0.0	5.8	118.9		18	18	-0.24	-0.23	-23.64
GEW-008	7/20/2015	50.7	44.1	0.0	5.2	117.7		19	19	-0.39	-0.37	-29.20
GEW-008	7/28/2015	50.1	42.9	0.0	7.0	117.5		0	0	-0.72	-0.73	-27.61
GEW-008	7/28/2015	49.8	43.4	0.0	6.8	117.5		0	0	-0.67	-0.65	-29.14
GEW-008	7/30/2015	49.9	44.0	0.0	6.1	119.4		20	18	-0.34	-0.32	-29.08
GEW-009	7/7/2015	52.9	41.3	0.0	5.8	125.0		10	10	-0.40	-0.39	-22.97
GEW-009	7/9/2015	53.0	41.6	0.3	5.1	123.2		27	27	-0.21	-0.21	-20.98
GEW-009	7/9/2015	53.0	41.3	0.2	5.5	123.5		37	37	-0.24	-0.19	-21.53
GEW-009	7/15/2015	53.7	41.2	0.0	5.1	126.3		13	14	-0.10	-0.09	-24.01
GEW-009	7/15/2015	53.2	42.0	0.0	4.8	126.4		14	15	-0.16	-0.17	-22.97
GEW-009	7/20/2015	53.6	42.4	0.0	4.0	125.3		31	26	-0.11	-0.09	-21.62
GEW-009	7/20/2015	53.4	42.3	0.0	4.3	126.1		19	18	-0.43	-0.43	-21.99
GEW-009	7/28/2015	45.9	41.4	0.0	12.7	120.1		0	0	-0.72	-0.77	-22.66
GEW-009	7/28/2015	45.9	41.1	0.0	13.0	120.1		0	0	-0.62	-0.62	-21.32
GEW-009	7/30/2015	46.3	41.1	0.0	12.6	122.3		22	18	-0.58	-0.59	-22.30
GEW-009	7/30/2015	47.1	41.4	0.0	11.5	122.3		13	9	-0.30	-0.33	-22.66
GEW-010	7/7/2015	46.9	46.0	0.6	6.5	93.2				-10.00	-9.94	-22.97
GEW-010	7/7/2015	47.1	45.7	0.9	6.3	90.8				-7.87	-7.80	-21.44
GEW-010	7/9/2015	53.4	43.9	0.3	2.4	94.0				-1.92	-1.92	-20.80
GEW-010	7/9/2015	53.3	42.6	0.3	3.8	94.5				-1.88	-1.88	-22.20

July 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-010	7/16/2015	52.9	44.5	0.3	2.3	95.8				-4.70	-4.70	-24.74
GEW-010	7/16/2015	53.0	41.8	0.3	4.9	94.9				-3.78	-3.77	-24.92
GEW-010	7/21/2015	53.4	44.0	0.2	2.4	90.5				-2.72	-2.72	-24.19
GEW-010	7/28/2015	53.8	43.7	0.0	2.5	108.1				0.17	0.18	-21.38
GEW-010	7/28/2015	53.8	41.9	0.1	4.2	110.5				-0.46	-0.46	-20.46
GEW-011	7/9/2015	3.9	61.5	0.0	34.6	185.2				-3.05	-3.25	-14.43
GEW-011	7/22/2015	3.8	62.0	0.0	34.2	184.6				-4.90	-4.50	-19.94
GEW-011	7/22/2015	3.5	61.8	0.0	34.7	184.6				-4.96	-4.89	-20.49
GEW-020A	7/9/2015	2.4	51.6	4.2	41.8	70.9				-14.39	-13.96	-14.11
GEW-021A	7/9/2015	3.2	14.8	17.2	64.8	115.8				-13.60	-13.41	-13.62
GEW-021A	7/9/2015	2.6	12.0	18.1	67.3	97.9				-13.90	-14.15	-13.68
GEW-022R	7/21/2015	1.5	55.6	3.0	39.9	187.6				-13.17	-13.23	-13.56
GEW-022R	7/21/2015	1.4	54.9	2.9	40.8	187.6				-12.32	-12.87	-12.71
GEW-024A	7/21/2015	0.3	67.4	0.0	32.3	200.1				-0.63	-0.68	-13.68
GEW-024A	7/21/2015	0.2	68.2	0.0	31.6	200.1				-2.06	-2.22	-13.50
GEW-026R	7/9/2015	0.1	16.9	16.7	66.3	84.9				-13.11	-12.99	-13.19
GEW-026R	7/9/2015	0.2	14.3	16.9	68.6	84.7				-12.62	-12.68	-13.74
GEW-027A	7/9/2015	0.0	38.7	7.3	54.0	173.3				-11.46	-11.59	-15.27
GEW-027A	7/9/2015	0.1	49.5	3.8	46.6	175.8				-2.69	-2.86	-15.21
GEW-028R	7/9/2015	0.5	47.5	5.9	46.1	168.5				-11.04	-11.59	-16.55
GEW-028R	7/9/2015	0.3	51.8	5.9	42.0	181.0				-8.11	-8.11	-13.93
GEW-028R	7/22/2015	0.5	47.4	6.2	45.9	184.1				-15.20	-15.63	-15.78
GEW-028R	7/22/2015	0.1	45.3	7.1	47.5	184.6				-15.69	-15.63	-16.09
GEW-035	7/9/2015	1.9	32.9	9.5	55.7	87.0				-7.07	-7.62	-6.84
GEW-035	7/9/2015	2.0	33.0	9.1	55.9	87.7				-7.13	-7.13	-6.84
GEW-037	7/21/2015	0.0	1.9	20.7	77.4	93.9				-29.82	-28.41	-30.30
GEW-037	7/21/2015	0.0	1.2	20.7	78.1	94.6				-28.84	-30.85	-29.02
GEW-038	7/7/2015	0.3	37.0	8.9	53.8	125.3				-27.68	-27.32	-28.28
GEW-038	7/7/2015	0.2	36.6	8.7	54.5	125.6				-27.56	-26.52	-27.86
GEW-038	7/9/2015	0.4	47.5	5.3	46.8	133.5				-26.37	-26.31	-26.73
GEW-038	7/9/2015	0.2	46.3	5.4	48.1	134.3				-25.82	-25.40	-25.57
GEW-038	7/16/2015	0.3	46.4	5.0	48.3	131.6				-25.91	-26.34	-26.57
GEW-038	7/16/2015	0.2	48.0	4.6	47.2	132.0				-25.61	-26.22	-25.78
GEW-038	7/21/2015	0.2	46.7	5.2	47.9	133.0				-30.91	-31.71	-30.85
GEW-038	7/21/2015	0.2	46.9	5.1	47.8	131.4				-29.94	-30.49	-30.60
GEW-038	7/28/2015	0.2	37.0	8.2	54.6	148.5				-28.72	-28.66	-29.08
GEW-038	7/28/2015	0.4	36.5	7.9	55.2	149.3				-29.15	-28.84	-28.34
GEW-039	7/7/2015	35.9	49.6	0.1	14.4	134.1				-1.36	-1.32	-26.94
GEW-039	7/7/2015	36.1	49.6	0.0	14.3	133.8				-1.08	-1.10	-27.18
GEW-039	7/9/2015	39.0	49.5	0.0	11.5	133.7				-0.92	-0.92	-28.20
GEW-039	7/9/2015	38.7	48.7	0.0	12.6	134.0				-0.89	-0.91	-25.26
GEW-039	7/16/2015	38.8	50.9	0.0	10.3	134.1				-0.94	-0.95	-23.58
GEW-039	7/16/2015	38.7	49.9	0.0	11.4	134.3				-0.93	-0.94	-23.70
GEW-039	7/21/2015	37.2	51.9	0.1	10.8	134.1				-1.11	-1.11	-27.79
GEW-039	7/21/2015	37.5	50.7	0.0	11.8	134.4				-1.09	-1.10	-27.43
GEW-039	7/22/2015	38.4	55.7	0.0	5.9	133.7				-0.98	-0.95	-28.38
GEW-039	7/22/2015	40.6	48.3	0.0	11.1	134.0				-1.00	-0.98	-29.42
GEW-039	7/28/2015	37.8	48.7	0.1	13.4	135.7				-0.95	-0.97	-28.16
GEW-039	7/28/2015	37.7	48.7	0.0	13.6	135.6				-0.77	-0.76	-29.32

July 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-040	7/7/2015	57.3	41.4	0.0	1.3	93.5		14	14	-0.59	-0.59	-27.98
GEW-040	7/9/2015	57.9	40.9	0.0	1.2	94.3		13	14	-0.45	-0.46	-24.43
GEW-040	7/9/2015	57.1	41.9	0.0	1.0	94.3		46	45	-0.48	-0.47	-27.31
GEW-040	7/15/2015	57.3	40.3	0.0	2.4	95.3		15	15	-0.59	-0.59	-27.31
GEW-040	7/20/2015	57.6	41.2	0.0	1.2	94.3		0	0	-0.62	-0.63	-27.24
GEW-040	7/28/2015	55.5	40.7	0.0	3.8	95.7		12	12	-0.84	-0.83	-31.22
GEW-040	7/30/2015	56.7	40.7	0.0	2.6	97.4		10	9	-0.20	-0.20	-28.53
GEW-041R	7/7/2015	56.6	39.8	0.0	3.6	109.7		17	18	-0.50	-0.49	-28.22
GEW-041R	7/9/2015	56.8	40.7	0.0	2.5	108.7		17	16	-0.32	-0.32	-29.75
GEW-041R	7/9/2015	57.1	40.4	0.0	2.5	108.7		15	17	-0.29	-0.29	-27.12
GEW-041R	7/15/2015	57.9	40.0	0.0	2.1	110.4		19	18	-0.48	-0.48	-27.12
GEW-041R	7/20/2015	57.7	39.3	0.0	3.0	110.0		17	16	-0.54	-0.54	-28.34
GEW-041R	7/28/2015	56.4	38.6	0.0	5.0	110.5		19	17	-0.66	-0.68	-31.89
GEW-041R	7/30/2015	56.5	39.8	0.0	3.7	110.9		15	15	-0.33	-0.33	-29.63
GEW-042R	7/7/2015	56.5	39.9	0.0	3.6	95.5		41	42	-0.61	-0.61	-24.01
GEW-042R	7/9/2015	56.6	40.7	0.0	2.7	97.2		7	0	-0.28	-0.29	-25.47
GEW-042R	7/9/2015	56.6	41.7	0.0	1.7	97.7		11	10	-0.28	-0.29	-24.86
GEW-042R	7/15/2015	57.3	40.0	0.0	2.7	103.1		11	13	-0.55	-0.57	-22.30
GEW-042R	7/20/2015	57.5	39.3	0.0	3.2	101.1		8	8	-0.66	-0.66	-26.88
GEW-042R	7/28/2015	56.7	38.4	0.0	4.9	103.8		9	10	-0.90	-0.90	-27.79
GEW-042R	7/30/2015	56.8	40.0	0.0	3.2	104.5		9	9	-0.35	-0.35	-27.12
GEW-043R	7/7/2015	55.7	41.0	0.0	3.3	134.4		36	36	-1.03	-1.03	-27.49
GEW-043R	7/7/2015	55.7	41.3	0.0	3.0	134.4		28	28	-0.86	-0.85	-27.61
GEW-043R	7/9/2015	56.0	41.1	0.0	2.9	132.3		26	25	-0.33	-0.34	-27.18
GEW-043R	7/9/2015	55.7	39.4	0.0	4.9	133.0		42	42	-0.44	-0.46	-27.92
GEW-043R	7/15/2015	55.7	41.8	0.0	2.5	131.2		19	19	-0.19	-0.18	-25.11
GEW-043R	7/15/2015	55.9	41.7	0.0	2.4	131.2		18	18	-0.18	-0.20	-24.74
GEW-043R	7/20/2015	55.9	41.0	0.0	3.1	132.6		40	38	-0.90	-0.88	-28.83
GEW-043R	7/20/2015	56.2	40.9	0.0	2.9	132.6		19	19	-0.63	-0.66	-27.43
GEW-043R	7/28/2015	55.4	40.6	0.0	4.0	135.0		35	38	-1.21	-1.24	-30.54
GEW-043R	7/28/2015	55.9	40.6	0.0	3.5	133.5		44	41	-0.80	-0.75	-31.22
GEW-043R	7/30/2015	55.7	41.6	0.0	2.7	133.8		13	14	0.51	0.51	-28.47
GEW-043R	7/30/2015	55.2	42.1	0.0	2.7	134.7		19	20	0.26	0.23	-28.71
GEW-044	7/9/2015	49.8	38.4	0.0	11.8	94.1		6	8	-0.53	-0.54	-24.56
GEW-044	7/9/2015	51.4	36.3	0.0	12.3	94.6		9	9	-0.60	-0.59	-25.35
GEW-044	7/15/2015	52.5	38.0	0.0	9.5	95.5		7	7	-0.67	-0.66	-23.64
GEW-044	7/20/2015	53.2	37.1	0.0	9.7	94.4		6	5	-0.83	-0.83	-26.76
GEW-044	7/20/2015	54.0	36.6	0.0	9.4	90.8		8	8	-0.48	-0.47	-19.00
GEW-044	7/28/2015	45.2	35.2	0.0	19.6	94.7		5	4	-1.00	-1.00	-31.34
GEW-044	7/28/2015	45.3	35.1	0.0	19.6	94.7		8	7	-1.00	-1.00	-31.28
GEW-044	7/30/2015	50.8	37.9	0.0	11.3	96.1		5	6	-0.25	-0.25	-26.33
GEW-045R	7/7/2015	58.6	39.7	0.0	1.7	91.9		5	6	-4.54	-4.53	-27.67
GEW-045R	7/9/2015	57.3	39.7	0.0	3.0	94.6		3	4	-3.60	-3.61	-27.31
GEW-045R	7/9/2015	57.4	39.1	0.0	3.5	96.3		8	0	-3.67	-3.66	-27.37
GEW-045R	7/15/2015	57.6	39.5	0.0	2.9	98.4		6	6	-3.78	-3.78	-25.90
GEW-045R	7/20/2015	58.1	38.4	0.0	3.5	93.8		8	6	-3.76	-3.76	-21.93
GEW-045R	7/28/2015	57.7	38.1	0.0	4.2	99.7		8	11	-4.75	-4.74	-31.34
GEW-045R	7/30/2015	56.6	39.8	0.0	3.6	101.4		7	6	-3.88	-3.88	-30.91
GEW-046R	7/7/2015	51.1	38.8	0.0	10.1	96.2		11	11	-0.87	-0.86	-28.83

July 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-046R	7/7/2015	51.6	38.4	0.0	10.0	95.5		11	10	-0.78	-0.78	-28.04
GEW-046R	7/9/2015	53.5	39.0	0.0	7.5	99.1		11	11	-0.03	-0.03	-27.37
GEW-046R	7/9/2015	53.2	37.8	0.0	9.0	99.1		11	11	-0.09	-0.09	-28.65
GEW-046R	7/15/2015	53.5	39.9	0.0	6.6	101.5		14	13	-0.11	-0.11	-25.41
GEW-046R	7/20/2015	52.9	38.8	0.0	8.3	96.0		10	10	-0.39	-0.39	-22.48
GEW-046R	7/28/2015	51.8	39.2	0.0	9.0	98.2		30	30	-0.57	-0.57	-31.77
GEW-046R	7/28/2015	51.7	39.1	0.0	9.2	98.2		29	29	-0.57	-0.57	-31.22
GEW-046R	7/30/2015	52.6	38.6	0.0	8.8	101.3		9	9	-0.20	-0.20	-29.08
GEW-047R	7/1/2015	56.9	39.8	0.0	3.3	90.3		0	0	0.29	0.29	-26.57
GEW-047R	7/1/2015	55.7	41.5	0.0	2.8	112.7		31	29	-0.15	-0.13	-26.94
GEW-047R	7/7/2015	36.2	34.0	0.5	29.3	116.6		16	19	-1.34	-1.32	-27.98
GEW-047R	7/7/2015	38.1	34.3	0.6	27.0	114.4		0	0	-1.12	-1.11	-28.59
GEW-047R	7/10/2015	45.4	36.5	0.0	18.1	111.6		27	29	-0.32	-0.30	-28.87
GEW-047R	7/10/2015	45.4	36.4	0.0	18.2	111.8		31	32	-0.28	-0.28	-29.54
GEW-047R	7/15/2015	53.3	39.0	0.0	7.7	116.0		39	39	0.24	0.24	-24.19
GEW-047R	7/15/2015	52.9	39.5	0.0	7.6	115.6		20	20	-0.02	-0.03	-23.58
GEW-047R	7/20/2015	47.2	37.0	0.1	15.7	115.4		22	22	-0.99	-0.98	-27.49
GEW-047R	7/20/2015	48.4	37.0	0.1	14.5	114.1		0	0	-0.89	-0.89	-29.81
GEW-047R	7/28/2015	33.5	32.9	0.6	33.0	118.6		0	0	-0.74	-0.74	-31.34
GEW-047R	7/28/2015	34.9	33.7	0.7	30.7	117.9		10	10	-0.67	-0.67	-30.54
GEW-047R	7/30/2015	41.0	38.1	0.0	20.9	117.1		4	6	0.09	0.09	-31.52
GEW-048	7/1/2015	57.8	39.7	0.0	2.5	90.3		10	11	0.61	0.60	-26.63
GEW-048	7/1/2015	57.5	40.3	0.0	2.2	109.2		29	26	-0.20	-0.23	-21.93
GEW-048	7/7/2015	52.1	39.0	0.0	8.9	106.2		28	27	-1.63	-1.65	-26.21
GEW-048	7/7/2015	52.3	38.7	0.0	9.0	102.3		0	0	-0.98	-0.97	-28.65
GEW-048	7/15/2015	57.6	39.2	0.0	3.2	96.3		10	9	0.53	0.53	-24.01
GEW-048	7/15/2015	57.4	39.9	0.0	2.7	96.5		9	9	0.53	0.53	-23.89
GEW-048	7/17/2015	57.7	39.7	0.0	2.6	91.3		9	7	0.29	0.31	-29.51
GEW-048	7/17/2015	58.1	39.7	0.0	2.2	103.7		14	18	-0.09	-0.09	-26.57
GEW-048	7/20/2015	56.7	38.8	0.0	4.5	109.7		21	14	-0.24	-0.22	-28.71
GEW-048	7/20/2015	56.3	39.3	0.0	4.4	109.8		27	24	-0.41	-0.44	-26.88
GEW-048	7/28/2015	47.5	37.5	0.0	15.0	107.5		25	28	-1.35	-1.32	-32.19
GEW-048	7/28/2015	50.1	38.4	0.0	11.5	106.7		10	10	-0.67	-0.69	-30.85
GEW-048	7/30/2015	55.3	40.4	0.0	4.3	108.2		8	10	0.17	0.17	-28.96
GEW-048	7/30/2015	55.2	40.4	0.0	4.4	108.5		12	14	0.10	0.10	-28.65
GEW-049	7/1/2015	55.6	40.5	0.0	3.9	90.4		8	8	0.34	0.34	-23.40
GEW-049	7/1/2015	55.6	40.8	0.0	3.6	112.2		23	17	-0.24	-0.21	-26.51
GEW-049	7/7/2015	38.7	33.7	0.8	26.8	107.7		44	44	-1.48	-1.49	-26.51
GEW-049	7/7/2015	38.1	33.2	1.0	27.7	106.0		19	20	-1.09	-1.10	-25.11
GEW-049	7/10/2015	45.2	37.1	0.0	17.7	107.6		34	33	-0.49	-0.50	-25.69
GEW-049	7/10/2015	45.2	37.5	0.0	17.3	107.7		9	9	-0.41	-0.39	-23.18
GEW-049	7/15/2015	50.8	38.5	0.0	10.7	112.2		0	0	0.09	0.09	-25.41
GEW-049	7/15/2015	50.6	38.6	0.0	10.8	112.0		0	0	0.14	0.15	-24.80
GEW-049	7/17/2015	49.8	37.5	0.0	12.7	112.2		36	37	-0.29	-0.29	-24.92
GEW-049	7/20/2015	50.3	37.2	0.0	12.5	111.2		11	12	0.04	0.04	-26.94
GEW-049	7/28/2015	43.0	34.6	0.5	21.9	110.2		28	24	-1.12	-1.07	-30.91
GEW-049	7/28/2015	43.5	36.3	0.4	19.8	110.2		17	16	-0.67	-0.67	-31.95
GEW-049	7/30/2015	45.2	37.7	0.0	17.1	113.0		6	6	-0.02	-0.02	-29.08
GEW-050	7/2/2015	57.1	39.6	0.0	3.3	106.0		10	10	-0.99	-1.00	-21.69

July 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-050	7/2/2015	56.9	39.7	0.0	3.4	106.2		12	10	-0.99	-0.99	-22.11
GEW-050	7/7/2015	51.2	37.9	0.0	10.9	105.5		9	7	-0.78	-0.78	-24.86
GEW-050	7/7/2015	50.7	38.1	0.0	11.2	100.4		6	4	-0.59	-0.59	-23.76
GEW-050	7/15/2015	58.2	38.5	0.0	3.3	99.6		11	11	0.47	0.47	-21.81
GEW-050	7/15/2015	57.8	39.6	0.0	2.6	99.8		11	9	0.47	0.47	-19.55
GEW-050	7/17/2015	58.1	38.9	0.0	3.0	92.9		10	9	0.36	0.37	-24.07
GEW-050	7/17/2015	57.3	39.6	0.0	3.1	106.7		22	21	-0.18	-0.21	-23.82
GEW-050	7/20/2015	57.2	38.3	0.0	4.5	111.5		22	24	-0.49	-0.44	-31.09
GEW-050	7/28/2015	48.4	37.3	0.0	14.3	111.0		25	28	-1.18	-1.14	-30.12
GEW-050	7/28/2015	48.1	37.6	0.0	14.3	110.7		11	11	-0.67	-0.66	-27.73
GEW-050	7/30/2015	51.9	38.9	0.0	9.2	110.9		11	6	0.19	0.20	-26.94
GEW-050	7/30/2015	52.5	39.1	0.0	8.4	111.1		9	12	0.17	0.15	-25.84
GEW-051	7/7/2015	55.9	40.2	0.0	3.9	125.8		21	22	-1.70	-1.68	-28.34
GEW-051	7/10/2015	54.7	42.0	0.0	3.3	123.7		22	23	-1.18	-1.20	-28.56
GEW-051	7/10/2015	55.6	40.4	0.0	4.0	123.4		24	25	-1.23	-1.23	-28.50
GEW-051	7/15/2015	54.8	41.1	0.0	4.1	126.9		22	22	-0.35	-0.35	-24.43
GEW-051	7/20/2015	55.3	40.0	0.0	4.7	127.2		25	16	-0.33	-0.34	-28.28
GEW-051	7/20/2015	55.0	40.6	0.0	4.4	127.2		22	21	-0.33	-0.32	-28.47
GEW-051	7/28/2015	56.0	41.3	0.0	2.7	126.9		25	25	-1.14	-1.11	-29.81
GEW-051	7/28/2015	55.8	41.2	0.0	3.0	126.4		19	17	-0.81	-0.80	-31.15
GEW-051	7/30/2015	54.4	40.7	0.0	4.9	127.5		16	16	-0.15	-0.16	-28.22
GEW-052	7/7/2015	50.7	38.7	0.0	10.6	112.7		21	21	-0.74	-0.74	-28.47
GEW-052	7/7/2015	50.9	38.8	0.0	10.3	112.6		0	0	-0.71	-0.71	-28.77
GEW-052	7/10/2015	49.5	39.7	0.0	10.8	112.1		13	13	-0.47	-0.47	-27.40
GEW-052	7/10/2015	50.5	38.3	0.0	11.2	112.1		36	36	-0.49	-0.49	-27.58
GEW-052	7/15/2015	52.2	39.1	0.0	8.7	115.1		16	17	-0.25	-0.24	-24.74
GEW-052	7/15/2015	52.0	39.6	0.0	8.4	113.2		0	0	0.05	0.06	-24.62
GEW-052	7/17/2015	56.4	39.8	0.0	3.8	110.0		35	34	0.11	0.11	-28.22
GEW-052	7/17/2015	55.8	40.5	0.0	3.7	115.0		40	16	-0.13	-0.14	-27.67
GEW-052	7/20/2015	54.2	38.4	0.0	7.4	116.3		8	15	-0.14	-0.14	-29.02
GEW-052	7/20/2015	53.8	39.1	0.0	7.1	116.6		20	18	-0.31	-0.32	-28.71
GEW-052	7/28/2015	44.9	38.1	0.0	17.0	113.5		8	12	-0.65	-0.58	-22.91
GEW-052	7/30/2015	46.7	38.4	0.0	14.9	115.0		34	34	-0.04	-0.04	-30.30
GEW-053	7/2/2015	52.7	41.8	0.1	5.4	138.7		14	18	-1.03	-1.04	-26.94
GEW-053	7/2/2015	52.2	42.2	0.0	5.6	138.7		19	19	-1.02	-1.01	-27.43
GEW-053	7/7/2015	51.7	41.7	0.0	6.6	139.6		17	17	-1.11	-1.13	-28.89
GEW-053	7/7/2015	51.8	41.5	0.0	6.7	139.0		10	19	-1.09	-1.07	-27.79
GEW-053	7/10/2015	51.5	43.0	0.0	5.5	138.3		18	13	-0.75	-0.75	-28.69
GEW-053	7/10/2015	52.0	42.2	0.0	5.8	138.6		11	13	-0.76	-0.75	-28.93
GEW-053	7/15/2015	51.7	41.4	0.0	6.9	140.6		12	19	-0.09	-0.10	-24.68
GEW-053	7/15/2015	51.3	42.3	0.0	6.4	140.5		13	21	-0.13	-0.11	-24.62
GEW-053	7/20/2015	51.8	40.8	0.0	7.4	140.6		18	16	0.12	0.11	-27.55
GEW-053	7/20/2015	51.8	41.3	0.0	6.9	141.5		20	19	-0.19	-0.20	-29.32
GEW-053	7/28/2015	52.6	41.9	0.0	5.5	140.6		22	26	-1.14	-1.12	-31.83
GEW-053	7/28/2015	52.5	42.0	0.0	5.5	140.6		16	18	-0.79	-0.79	-30.97
GEW-053	7/30/2015	50.6	40.3	0.0	9.1	140.6		15	16	-0.15	-0.15	-28.71
GEW-054	7/7/2015	51.4	41.8	0.0	6.8	151.0		28	28	-0.80	-0.75	-28.10
GEW-054	7/7/2015	51.1	42.3	0.0	6.6	151.0		21	29	-0.65	-0.66	-29.57
GEW-054	7/10/2015	50.0	43.8	0.0	6.2	152.9		23	26	-0.22	-0.20	-28.44

July 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-054	7/10/2015	50.1	43.1	0.0	6.8	152.9		24	24	-0.25	-0.25	-28.75
GEW-054	7/15/2015	52.4	41.7	0.0	5.9	145.2		30	26	-0.45	-0.45	-25.66
GEW-054	7/15/2015	51.9	42.1	0.0	6.0	145.2		19	26	-0.48	-0.47	-26.45
GEW-054	7/20/2015	51.7	41.0	0.0	7.3	150.6		28	31	0.22	0.23	-30.48
GEW-054	7/20/2015	51.6	41.5	0.0	6.9	150.6		37	35	-0.24	-0.25	-31.15
GEW-054	7/28/2015	52.6	42.0	0.0	5.4	148.0		25	41	-1.31	-1.28	-32.38
GEW-054	7/28/2015	52.0	42.3	0.0	5.7	148.2		35	32	-0.75	-0.72	-30.54
GEW-054	7/30/2015	49.7	41.6	0.0	8.7	149.9		28	30	-0.11	-0.11	-29.44
GEW-055	7/7/2015	53.6	41.6	0.0	4.8	125.8		10	7	-0.70	-0.69	-27.61
GEW-055	7/10/2015	54.0	42.5	0.0	3.5	125.1		28	27	-0.54	-0.54	-28.75
GEW-055	7/10/2015	54.4	41.3	0.0	4.3	124.5		27	27	-0.53	-0.54	-26.67
GEW-055	7/15/2015	53.5	42.2	0.0	4.3	126.9		0	0	0.00	0.01	-26.88
GEW-055	7/15/2015	53.9	42.0	0.0	4.1	128.7		0	0	-0.05	-0.06	-27.06
GEW-055	7/20/2015	54.1	41.0	0.0	4.9	127.8		13	12	-0.11	-0.10	-27.61
GEW-055	7/20/2015	54.3	41.4	0.0	4.3	128.7		0	0	-0.26	-0.27	-26.27
GEW-055	7/28/2015	54.6	41.2	0.0	4.2	127.2		17	16	-1.04	-1.04	-30.79
GEW-055	7/28/2015	54.4	42.0	0.0	3.6	126.9		28	28	-0.85	-0.84	-30.73
GEW-055	7/30/2015	53.7	42.1	0.0	4.2	127.2		0	0	-0.47	-0.46	-29.14
GEW-056R	7/7/2015	10.2	40.6	0.7	48.5	160.2				-4.06	-4.08	-11.67
GEW-056R	7/7/2015	10.9	39.9	0.5	48.7	160.2				-3.89	-3.84	-15.46
GEW-056R	7/9/2015	9.9	40.1	0.6	49.4	161.0				-3.47	-2.91	-14.07
GEW-056R	7/9/2015	9.7	38.1	0.4	51.8	159.2				-2.56	-2.48	-11.62
GEW-056R	7/16/2015	9.3	41.0	0.7	49.0	164.7				-2.54	-2.53	-19.00
GEW-056R	7/16/2015	8.8	40.6	0.6	50.0	163.8				-2.30	-2.30	-17.90
GEW-056R	7/21/2015	5.7	45.5	0.4	48.4	168.1				-1.61	-1.62	-17.10
GEW-056R	7/21/2015	5.4	44.3	0.3	50.0	164.3				-1.20	-1.20	-17.17
GEW-056R	7/28/2015	1.0	54.6	0.1	44.3	148.1				0.18	0.18	-11.55
GEW-056R	7/28/2015	1.2	55.6	0.0	43.2	160.2				-0.50	-0.50	-12.16
GEW-057R	7/9/2015	4.2	56.5	0.0	39.3	177.5				25.49	25.06	25.66
GEW-057R	7/9/2015	16.8	54.3	0.0	28.9	178.0				22.87	22.62	23.03
GEW-058	7/9/2015	5.8	54.0	0.0	40.2	189.6				-21.22	-21.77	-26.39
GEW-058	7/9/2015	5.9	52.7	0.0	41.4	189.8				-21.71	-21.40	-24.62
GEW-058A	7/9/2015	1.2	48.6	1.6	48.6	179.7				-14.02	-14.02	-28.10
GEW-058A	7/9/2015	0.3	51.9	2.4	45.4	178.1				-12.07	-12.26	-26.21
GEW-059R	7/9/2015	0.4	55.2	0.0	44.4	187.2				14.33	14.33	12.10
GEW-059R	7/9/2015	0.5	54.1	0.0	45.4	187.2				13.84	13.90	12.10
GEW-061B	7/22/2015	0.0	2.0	20.7	77.3	91.4				-13.17	-13.23	-13.56
GEW-061B	7/22/2015	0.0	1.3	20.8	77.9	92.1				-13.66	-13.66	-14.05
GEW-065A	7/9/2015	0.9	55.9	0.2	43.0	196.0				-1.96	-6.29	-8.20
GEW-065A	7/9/2015	0.9	57.8	0.1	41.2	196.0				-3.98	-2.51	-7.28
GEW-065A	7/22/2015	0.6	58.6	0.0	40.8	196.0				-1.73	-1.52	-4.83
GEW-065A	7/22/2015	0.7	58.9	0.0	40.4	196.0				-1.27	-1.87	-5.20
GEW-067A	7/22/2015	0.4	11.2	18.7	69.7	159.4				-13.90	-13.90	-17.84
GEW-067A	7/22/2015	0.5	22.7	13.7	63.1	165.7				-1.96	-1.75	-20.04
GEW-082R	7/9/2015	1.4	55.2	0.0	43.4	194.9				-13.48	-13.96	-13.93
GEW-082R	7/9/2015	0.9	55.8	0.0	43.3	195.0				-14.45	-13.48	-15.09
GEW-085	7/21/2015	0.0	4.0	20.3	75.7	106.5				-18.23	-18.29	-18.57
GEW-085	7/21/2015	0.0	2.1	20.4	77.5	107.0				-17.74	-17.80	-18.08
GEW-086	7/9/2015	13.5	46.6	3.4	36.5	167.3				-23.38	-21.00	-23.91

July 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-086	7/9/2015	13.8	44.4	2.7	39.1	169.8				-20.51	-22.83	-20.92
GEW-089	7/21/2015	0.0	0.9	19.8	79.3	91.9				-18.72	-18.72	-19.12
GEW-089	7/21/2015	0.0	1.8	19.4	78.8	93.1				-19.21	-18.66	-19.55
GEW-090	7/9/2015	4.9	52.5	0.0	42.6	189.1				-17.89	-16.61	-18.78
GEW-090	7/9/2015	4.8	53.4	0.0	41.8	189.1				-15.14	-15.26	-14.43
GEW-101	7/21/2015	3.0	67.6	0.1	29.3	130.6				-13.35	-14.21	-13.07
GEW-101	7/21/2015	3.0	67.0	0.1	29.9	128.9				-15.06	-15.18	-19.00
GEW-104	7/9/2015	2.2	59.0	0.0	38.8	87.1				30.37	29.94	30.30
GEW-104	7/9/2015	2.8	59.2	0.0	38.0	88.1				24.51	24.51	24.62
GEW-105	7/21/2015	10.8	51.8	3.7	33.7	98.4				-21.52	-21.52	-26.08
GEW-105	7/21/2015	12.1	54.9	2.6	30.4	98.9				-22.50	-22.50	-25.47
GEW-107	7/9/2015	0.4	57.4	0.0	42.2	70.0				11.40	11.40	11.67
GEW-107	7/9/2015	0.4	59.4	0.0	40.2	70.2				11.83	11.83	11.85
GEW-109	7/7/2015	4.3	51.7	0.0	44.0	171.6				-26.95	-26.95	-26.88
GEW-109	7/7/2015	3.6	52.7	0.0	43.7	172.7				-27.32	-28.29	-29.20
GEW-109	7/9/2015	6.3	53.3	0.2	40.2	177.2				-25.82	-25.40	-26.30
GEW-109	7/9/2015	4.0	54.6	0.3	41.1	177.2				-26.50	-25.40	-26.30
GEW-109	7/16/2015	5.1	51.0	0.0	43.9	170.1				-23.96	-23.84	-23.95
GEW-109	7/16/2015	5.1	52.3	0.0	42.6	169.5				-25.00	-25.37	-25.90
GEW-109	7/21/2015	4.9	51.6	0.0	43.5	172.1				-29.70	-28.78	-29.69
GEW-109	7/21/2015	5.2	51.5	0.0	43.3	172.7				-27.99	-27.99	-27.79
GEW-109	7/22/2015	7.0	52.9	0.0	40.1	175.2				-26.92	-27.47	-29.11
GEW-109	7/28/2015	4.7	50.5	0.0	44.8	178.7				-28.72	-28.66	-28.77
GEW-109	7/28/2015	5.0	51.5	0.1	43.4	177.7				-28.78	-29.15	-29.26
GEW-110	7/2/2015	7.9	26.3	12.1	53.7	129.3				-10.98	-8.78	-17.59
GEW-110	7/2/2015	7.9	25.8	12.2	54.1	131.6				-3.53	-3.64	-19.00
GEW-110	7/30/2015	3.8	16.3	16.0	63.9	118.6				-0.06	-0.06	-20.86
GEW-110	7/30/2015	6.0	20.7	12.4	60.9	117.3				-0.41	-0.43	-20.37
GEW-116	7/9/2015	1.9	10.1	19.0	69.0	65.6				-13.96	-13.96	-13.68
GEW-116	7/9/2015	3.5	13.4	17.2	65.9	65.6				-13.84	-13.90	-14.11
GEW-117	7/9/2015	10.2	60.9	0.1	28.8	68.2				-13.96	-14.02	
GEW-117	7/9/2015	11.0	59.4	0.2	29.4	64.1				-14.51	-14.94	
GEW-120	7/6/2015	34.0	60.3	0.2	5.5	113.3				-11.52	-11.59	-11.36
GEW-120	7/6/2015	34.4	59.0	0.0	6.6	113.0				-11.10	-11.16	-10.87
GEW-120	7/14/2015	33.2	53.9	0.6	12.3	102.8				-17.99	-17.87	-18.08
GEW-120	7/15/2015	27.5	62.1	0.0	10.4	128.7				-16.16	-16.22	-16.00
GEW-120	7/15/2015	27.7	61.6	0.0	10.7	129.7				-16.65	-16.52	-16.86
GEW-120	7/31/2015	38.1	59.4	0.5	2.0	98.7				-14.10	-14.04	-14.19
GEW-121	7/6/2015	3.3	57.4	0.1	39.2	193.7				2.42	2.36	-10.63
GEW-121	7/6/2015	5.1	58.3	0.0	36.6	193.7				-0.14	-0.14	-8.61
GEW-121	7/14/2015	3.1	57.2	0.0	39.7	192.9				-8.29	-8.29	-17.17
GEW-121	7/14/2015	2.4	59.5	0.0	38.1	192.9				-7.32	-7.44	-15.33
GEW-121	7/31/2015	7.6	60.4	0.3	31.7	189.6				-7.81	-7.63	-15.90
GEW-121	7/31/2015	8.2	60.8	0.3	30.7	189.6				-7.75	-7.75	-14.50
GEW-122	7/6/2015	1.5	54.0	0.1	44.4	88.7				18.78	18.84	0.24
GEW-122	7/6/2015	1.9	57.3	0.0	40.8	190.8				0.06	0.05	0.31
GEW-122	7/13/2015	0.2	57.5	0.0	42.3	109.0				17.50	17.50	3.42
GEW-122	7/31/2015	1.1	59.4	0.4	39.1	83.2				16.42	16.36	-15.11
GEW-122	7/31/2015	1.3	61.3	0.4	37.0	191.9				-3.25	-3.23	-14.68

July 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-123	7/6/2015	11.7	53.7	2.2	32.4	187.4				-10.61	-10.61	-11.12
GEW-123	7/6/2015	12.2	56.8	1.3	29.7	187.4				-6.95	-6.95	-11.18
GEW-123	7/15/2015	7.1	61.1	0.0	31.8	189.6				-12.56	-12.62	-16.68
GEW-123	7/15/2015	7.3	57.1	0.9	34.7	189.6				-13.11	-13.72	-17.04
GEW-123	7/22/2015	7.9	59.7	0.3	32.1	177.7				-14.29	-14.29	-14.74
GEW-123	7/22/2015	8.0	62.9	0.3	28.8	177.7				-14.22	-14.35	-14.19
GEW-123	7/31/2015	17.8	64.5	0.4	17.3	174.1				-15.08	-15.08	-15.11
GEW-123	7/31/2015	17.7	64.3	0.4	17.6	173.6				-12.21	-12.21	-13.27
GEW-124	7/6/2015	32.2	56.2	0.0	11.6	130.8				-11.22	-11.16	-11.24
GEW-124	7/6/2015	32.2	55.4	0.0	12.4	130.3				-9.63	-9.70	-11.18
GEW-124	7/13/2015	18.1	60.6	0.0	21.3	145.6				-13.72	-13.72	-14.66
GEW-124	7/13/2015	18.1	59.8	0.0	22.1	146.3				-14.15	-14.15	-15.09
GEW-124	7/22/2015	20.3	61.4	0.1	18.2	141.1				-13.31	-13.74	-14.19
GEW-124	7/22/2015	19.5	62.2	0.3	18.0	142.0				-13.37	-13.25	-14.01
GEW-124	7/31/2015	25.6	62.9	0.4	11.1	139.0				-13.61	-14.16	-14.19
GEW-124	7/31/2015	25.3	61.7	0.4	12.6	141.5				-14.65	-14.53	-15.78
GEW-125	7/6/2015	4.0	54.4	2.3	39.3	99.8				-10.12	-10.18	-10.20
GEW-125	7/6/2015	4.2	56.3	1.8	37.7	98.8				-9.82	-9.76	-10.02
GEW-126	7/6/2015	1.3	56.7	0.1	41.9	194.9				1.70	1.73	-6.84
GEW-126	7/6/2015	1.3	57.6	0.0	41.1	194.8				-0.64	-0.63	-6.48
GEW-126	7/14/2015	1.4	54.9	0.9	42.8	196.0				-4.61	-4.79	-11.85
GEW-126	7/14/2015	2.1	57.4	1.0	39.5	195.7				-5.30	-5.79	-13.74
GEW-127	7/6/2015	2.9	61.9	0.1	35.1	187.9				-7.44	-8.66	-7.76
GEW-127	7/6/2015	3.6	60.4	0.0	36.0	187.9				-4.82	-5.37	-8.12
GEW-127	7/14/2015	1.1	61.5	0.1	37.3	188.9				-8.23	-8.66	-11.30
GEW-127	7/14/2015	1.0	62.4	0.0	36.6	188.9				-9.76	-9.27	-11.12
GEW-128	7/6/2015	5.7	59.0	0.1	35.2	181.9				-10.12	-10.61	-10.20
GEW-128	7/6/2015	6.4	59.0	0.0	34.6	182.0				-7.80	-8.66	-9.65
GEW-128	7/14/2015	2.6	63.2	0.0	34.2	182.1				-13.60	-12.93	-14.60
GEW-128	7/14/2015	2.7	59.2	0.1	38.0	182.1				-13.17	-13.17	-14.29
GEW-129	7/6/2015	6.4	51.8	0.1	41.7	164.6				-12.26	-11.59	-12.16
GEW-129	7/6/2015	7.4	54.8	0.1	37.7	164.6				-11.16	-11.16	-12.10
GEW-129	7/14/2015	2.4	59.6	0.1	37.9	163.3				-14.94	-14.15	-15.15
GEW-129	7/14/2015	3.2	57.8	0.2	38.8	163.4				-14.63	-14.51	-15.15
GEW-131	7/14/2015	17.2	51.9	0.1	30.8	148.0				-10.12	-13.17	-9.84
GEW-131	7/14/2015	17.7	51.4	0.1	30.8	148.1				-11.65	-12.26	-11.73
GEW-132	7/6/2015	17.7	50.0	0.8	31.5	184.1				-9.70	-10.24	-9.90
GEW-132	7/6/2015	20.1	52.2	0.7	27.0	184.1				-7.50	-7.44	-10.69
GEW-132	7/15/2015	10.1	44.9	1.3	43.7	184.7				-10.24	-10.37	-16.00
GEW-132	7/15/2015	14.3	50.4	1.2	34.1	184.5				-11.59	-11.16	-16.92
GEW-132	7/31/2015	19.1	52.5	1.1	27.3	183.5				-9.71	-9.77	-15.78
GEW-132	7/31/2015	19.5	55.0	1.1	24.4	183.5				-9.52	-9.28	-13.15
GEW-133	7/6/2015	0.9	54.2	0.0	44.9	123.2				51.83	51.77	52.23
GEW-133	7/6/2015	1.7	56.4	0.0	41.9	121.9				51.77	51.77	52.54
GEW-133	7/14/2015	0.5	55.8	0.0	43.7	123.7				52.07	52.07	52.29
GEW-133	7/14/2015	3.5	57.0	0.0	39.5	123.7				52.13	52.13	52.29
GEW-134	7/6/2015	5.5	57.5	0.1	36.9	194.2				2.39	2.38	-11.73
GEW-134	7/6/2015	15.7	60.3	0.0	24.0	194.8				-3.96	-3.96	-11.30
GEW-134	7/14/2015	20.8	56.1	0.0	23.1	190.2				-11.28	-11.34	-15.52

July 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-134	7/14/2015	17.9	52.0	0.2	29.9	190.2				-11.65	-11.40	-15.64
GEW-134	7/31/2015	14.6	57.2	0.3	27.9	184.6				-13.31	-13.13	-15.60
GEW-134	7/31/2015	14.5	56.9	0.3	28.3	184.6				-13.31	-13.61	-15.96
GEW-135	7/6/2015	4.9	54.2	0.1	40.8	188.5				-10.12	-9.33	-9.84
GEW-135	7/14/2015	9.5	55.0	0.1	35.4	190.4				-12.74	-12.50	-14.84
GEW-135	7/14/2015	11.1	58.2	0.0	30.7	190.7				-13.29	-13.11	-16.13
GEW-135	7/31/2015	5.5	61.8	0.2	32.5	186.3				-11.90	-11.90	-11.68
GEW-135	7/31/2015	5.6	60.6	0.2	33.6	186.3				-14.29	-13.55	-15.66
GEW-136	7/6/2015	2.6	22.0	14.1	61.3	155.8				-1.35	-1.48	-12.28
GEW-136	7/6/2015	3.0	21.8	13.3	61.9	157.5				-0.78	-0.80	-11.30
GEW-136	7/14/2015	9.1	30.9	9.5	50.5	170.5				-0.75	-0.76	-11.73
GEW-136	7/14/2015	8.8	30.6	9.6	51.0	170.2				-0.76	-0.77	-10.81
GEW-136	7/31/2015	4.5	38.1	6.6	50.8	169.7				-0.65	-0.65	-13.70
GEW-136	7/31/2015	4.3	38.2	6.7	50.8	169.7				-0.68	-0.68	-16.88
GEW-136	7/31/2015	12.3	39.4	6.3	42.0	170.7				-0.53	-0.56	-10.58
GEW-136	7/31/2015	15.0	40.0	6.2	38.8	171.2				-0.52	-0.50	-11.07
GEW-137	7/6/2015	14.6	50.5	2.7	32.2	107.7				-6.04	-6.65	-5.80
GEW-137	7/6/2015	14.9	52.8	2.3	30.0	111.3				-8.17	-7.07	-8.12
GEW-137	7/14/2015	28.5	51.1	2.3	18.1	124.5				-8.66	-9.33	-8.74
GEW-137	7/14/2015	29.4	52.1	2.2	16.3	125.6				-9.88	-10.37	-12.52
GEW-137	7/31/2015	24.7	53.4	1.3	20.6	115.7				-6.90	-7.33	-6.85
GEW-138	7/6/2015	6.8	52.9	0.1	40.2	190.0				-3.05	-2.80	-7.76
GEW-138	7/6/2015	6.9	52.7	0.1	40.3	190.1				-3.11	-2.82	-5.86
GEW-138	7/14/2015	16.4	46.7	1.4	35.5	185.7				-4.39	-4.36	-9.71
GEW-138	7/14/2015	16.7	45.7	1.4	36.2	185.9				-3.79	-4.13	-10.51
GEW-139	7/6/2015	6.4	57.8	0.0	35.8	193.3				-2.17	-2.64	-7.27
GEW-139	7/6/2015	7.7	57.6	0.0	34.7	193.4				-2.57	-2.24	-7.57
GEW-139	7/14/2015	13.3	58.4	0.1	28.2	194.1				-5.49	-5.91	-13.13
GEW-139	7/14/2015	15.7	59.2	0.1	25.0	194.3				-5.49	-4.87	-12.77
GEW-140	7/6/2015	21.2	55.5	0.1	23.2	187.4				2.04	1.95	2.44
GEW-140	7/6/2015	22.3	55.6	0.0	22.1	187.4				2.79	2.76	2.99
GEW-140	7/14/2015	33.6	54.0	0.0	12.4	183.3				-1.05	-0.85	-1.34
GEW-140	7/14/2015	33.1	57.0	0.0	9.9	183.7				-0.79	-0.65	-0.98
GEW-140	7/22/2015	11.5	60.1	0.1	28.3	183.0				-1.92	-3.77	-1.96
GEW-140	7/22/2015	10.6	58.8	0.1	30.5	182.7				-8.85	-8.85	-8.69
GEW-140	7/31/2015	17.0	59.7	0.4	22.9	183.5				-0.26	-0.32	0.86
GEW-140	7/31/2015	19.6	59.2	0.4	20.8	183.8				-3.48	-3.41	-0.92
GEW-141	7/6/2015	12.1	58.0	0.1	29.8	125.5				-14.88	-14.76	-14.91
GEW-141	7/6/2015	12.0	60.2	0.1	27.7	122.6				-14.33	-14.63	-14.66
GEW-141	7/14/2015	15.4	61.4	0.1	23.1	132.3				-15.85	-15.85	-16.68
GEW-141	7/14/2015	15.6	62.5	0.1	21.8	129.7				-16.65	-16.65	-16.98
GEW-141	7/15/2015	5.3	60.2	0.0	34.5	134.9				-15.98	-15.98	-16.19
GEW-141	7/15/2015	5.0	62.7	0.0	32.3	135.6				-15.85	-15.98	-16.19
GEW-142	7/6/2015	2.8	56.6	0.0	40.6	183.0				1.97	1.97	2.14
GEW-142	7/6/2015	3.4	57.5	0.0	39.1	183.0				2.83	2.67	2.99
GEW-142	7/14/2015	5.1	57.1	0.1	37.7	186.5				4.91	4.91	4.83
GEW-142	7/14/2015	9.7	58.2	0.0	32.1	187.0				5.30	5.24	4.89
GEW-142	7/31/2015	5.2	57.8	1.5	35.5	173.6				-13.49	-13.61	-13.39
GEW-142	7/31/2015	9.3	61.5	0.5	28.7	174.6				-12.15	-12.03	-12.35

July 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-143	7/6/2015	3.9	55.1	0.0	41.0	192.5				-9.63	-10.18	-9.65
GEW-143	7/6/2015	5.1	54.6	0.0	40.3	192.5				-10.12	-10.06	-9.96
GEW-143	7/14/2015	14.6	56.7	0.0	28.7	194.3				-14.70	-14.39	-14.05
GEW-143	7/14/2015	15.2	53.3	0.1	31.4	194.3				-13.72	-13.90	-14.11
GEW-144	7/6/2015	7.8	49.7	2.7	39.8	113.5				-13.11	-13.60	-12.83
GEW-144	7/6/2015	7.2	52.5	1.9	38.4	113.8				-11.95	-13.23	-11.61
GEW-144	7/15/2015	1.0	55.6	1.6	41.8	112.2				-14.57	-14.02	-14.17
GEW-144	7/15/2015	0.9	55.8	1.2	42.1	113.6				-9.88	-15.85	-9.29
GEW-146	7/6/2015	10.1	6.6	17.3	66.0	101.9				-6.77	-6.83	-10.20
GEW-146	7/6/2015	9.5	6.0	17.6	66.9	102.3				-5.30	-5.55	-10.93
GEW-146	7/14/2015	3.1	4.6	18.0	74.3	105.6				-7.87	-8.23	-15.21
GEW-146	7/14/2015	3.3	4.6	18.0	74.1	106.2				-5.91	-5.91	-16.68
GEW-146	7/31/2015	23.0	33.2	7.0	36.8	104.3				-4.61	-4.48	-15.96
GEW-146	7/31/2015	20.4	34.5	6.3	38.8	105.1				-12.70	-12.21	-13.39
GEW-147	7/6/2015	14.6	51.8	0.4	33.2	192.5				-11.59	-11.59	-11.12
GEW-147	7/6/2015	15.1	50.9	0.5	33.5	192.5				-10.18	-10.18	-11.12
GEW-147	7/14/2015	10.7	56.4	0.3	32.6	194.3				-14.63	-14.63	-15.94
GEW-147	7/14/2015	8.8	54.3	0.4	36.5	194.3				-14.82	-14.88	-16.31
GEW-148	7/6/2015	19.8	23.9	10.8	45.5	102.2				-10.12	-11.59	-9.90
GEW-148	7/6/2015	20.7	24.4	10.2	44.7	104.1				-9.70	-10.73	-9.71
GEW-148	7/14/2015	0.6	2.1	20.5	76.8	109.2				-17.32	-17.56	-17.41
GEW-148	7/14/2015	0.7	2.4	20.3	76.6	109.9				-17.26	-17.26	-17.17
GEW-148	7/31/2015	2.4	2.8	20.3	74.5	101.7				-15.63	-15.14	-15.84
GEW-148	7/31/2015	2.4	2.8	20.3	74.5	103.6				-14.77	-16.06	-16.82
GEW-149	7/6/2015	36.9	47.7	1.4	14.0	142.2				-2.72	-2.87	-11.55
GEW-149	7/6/2015	36.8	48.3	1.4	13.5	144.4				-2.61	-2.67	-13.01
GEW-149	7/15/2015	16.9	47.3	1.9	33.9	143.2				-3.56	-3.51	-19.67
GEW-149	7/15/2015	16.9	48.2	1.8	33.1	144.2				-2.41	-2.42	-20.16
GEW-150	7/6/2015	2.3	63.2	0.0	34.5	131.4				31.83	31.71	32.13
GEW-150	7/6/2015	2.5	66.5	0.0	31.0	131.4				32.68	32.74	33.05
GEW-151	7/6/2015	6.3	38.2	2.5	53.0	102.8				28.84	28.78	-14.72
GEW-151	7/6/2015	7.8	39.2	2.4	50.6	103.9				-17.01	-17.01	-13.62
GEW-151	7/15/2015	0.8	50.2	0.0	49.0	93.6				24.57	24.57	-20.04
GEW-151	7/15/2015	0.7	49.7	0.2	49.4	96.0				-18.78	-18.72	-19.85
GEW-152	7/6/2015	7.4	52.7	0.0	39.9	112.8				-2.53	-1.90	-5.19
GEW-152	7/15/2015	6.8	53.0	0.0	40.2	126.7				-17.99	-17.87	-27.00
GEW-152	7/15/2015	6.1	54.2	0.0	39.7	127.2				-17.62	-17.87	-27.06
GEW-153	7/6/2015	0.5	55.6	0.0	43.9	101.5				9.76	9.70	9.84
GEW-153	7/6/2015	0.3	56.0	0.0	43.7	100.8				9.27	9.27	9.53
GEW-153	7/15/2015	21.9	53.5	0.0	24.6	109.6				-27.56	-26.46	-27.55
GEW-153	7/15/2015	21.4	49.3	0.0	29.3	109.7				-26.77	-25.30	-26.45
GEW-154	7/6/2015	36.9	57.8	0.0	5.3	110.4				1.42	1.43	-15.27
GEW-154	7/6/2015	37.2	56.9	0.0	5.9	134.3				-7.01	-6.34	-13.87
GEW-154	7/15/2015	16.7	26.5	12.2	44.6	132.0				-5.30	-5.55	-12.28
GEW-154	7/15/2015	17.0	24.6	12.3	46.1	130.3				-4.36	-4.36	-16.62
GEW-154	7/31/2015	46.9	52.7	0.4	0.0	119.1				-14.65	-16.06	-13.88
GEW-154	7/31/2015	46.8	52.9	0.4	0.0	118.8				-15.14	-15.63	-17.61
GEW-155	7/6/2015	5.2	57.3	0.0	37.5	187.9				-1.12	-1.18	-6.78
GEW-155	7/6/2015	5.3	58.8	0.0	35.9	187.9				-1.98	-1.98	-5.86

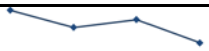
July 2015 Wellfield Monitoring Data - Bridgeton Landfill

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-155	7/15/2015	6.5	50.1	1.7	41.7	179.2				-2.21	-2.30	-6.41
GEW-155	7/15/2015	5.6	48.6	1.8	44.0	179.7				-1.81	-1.93	-8.86
GEW-155	7/31/2015	8.9	49.2	2.2	39.7	175.7				-1.07	-1.30	-4.83
GEW-155	7/31/2015	8.8	50.2	2.2	38.8	175.7				-1.46	-1.55	-6.42
GEW-156	7/6/2015	27.4	56.1	0.1	16.4	141.1				-18.72	-18.60	-19.18
GEW-156	7/6/2015	27.5	54.0	0.1	18.4	140.4				-16.77	-16.65	-18.81

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
	Apr 2015	May 2015	June 2015	July 2015		
GEW-001	--	--	--	--		
GEW-002	123.0	124.0	122.6	126.0		
GEW-003	124.5	126.0	125.6	124.9		
GEW-004	117.0	122.0	124.0	122.7		
GEW-005	95.4	95.0	100.6	98.2		
GEW-006	91.1	91.3	101.8	93.1		
GEW-007	99.0	99.4	100.0	107.6		
GEW-008	118.0	120.0	118.1	119.4		
GEW-009	126.0	125.0	125.3	126.4		
GEW-010	104.7	108.8	98.5	110.5		
GEW-011	190.2	189.4	187.0	185.2		
GEW-013A	--	--	--	--		
GEW-014A	83.2	118.7	91.1	--		
GEW-015	--	--	--	--		
GEW-016R	196.0	196.6	--	--		
GEW-018B	--	--	--	--		
GEW-018R	179.3	193.1	92.2	--		
GEW-019A	--	--	--	--		
GEW-020A	63.8	84.8	99.8	70.9		
GEW-021A	88.4	112.8	158.5	115.8		Flow Restricted
GEW-022R	191.9	191.9	191.6	187.6		
GEW-023A	165.0	186.9	--	--		
GEW-024A	--	--	201.6	200.1		
GEW-025A	189.6	193.7	117.5	--		
GEW-026R	150.5	115.5	131.4	84.9		Flow Restricted
GEW-027A	178.2	176.2	181.9	175.8		
GEW-028R	184.1	184.6	179.7	184.6		
GEW-029	193.1	193.7	89.1	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	79.5	102.6	--	--		
GEW-034A	--	--	--	--		
GEW-035	133.1	124.0	111.0	87.7		
GEW-036	--	--	--	--		
GEW-037	89.8	--	--	94.6		

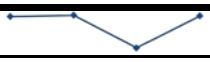
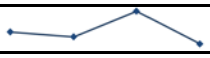
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Apr 2015	May 2015	June 2015	July 2015		
GEW-038	165.5	165.5	138.1	149.3		
GEW-039	136.5	139.0	136.0	135.7		
GEW-040	92.7	93.2	95.2	97.4		
GEW-041R	107.6	108.1	110.2	110.9		
GEW-042R	90.9	93.0	97.7	104.5		
GEW-043R	134.7	136.3	136.0	134.7		
GEW-044	99.2	99.0	100.0	96.1		
GEW-045R	87.0	87.6	98.2	101.4		
GEW-046R	88.8	90.9	100.9	101.5		
GEW-047R	115.0	117.0	117.3	118.6		
GEW-048	107.0	106.1	107.1	109.8		
GEW-049	110.0	110.0	114.5	112.2		
GEW-050	109.2	109.3	109.6	111.5		
GEW-051	123.7	125.0	127.0	127.5		
GEW-052	117.0	114.0	115.5	116.6		
GEW-053	138.0	139.7	141.5	140.6		
GEW-054	147.0	150.0	148.0	152.9		
GEW-055	124.9	127.0	127.2	128.7		
GEW-056R	166.0	175.0	169.0	168.1		
GEW-057B	187.9	179.3	178.4	--		
GEW-057R	190.2	186.3	185.7	178.0		
GEW-058	194.1	191.9	188.5	189.8		
GEW-058A	191.6	187.9	176.2	179.7		
GEW-059R	183.5	184.1	183.0	187.2		
GEW-061B	87.6	78.9	99.2	92.1		
GEW-064A	--	--	--	--		
GEW-065A	196.0	196.0	197.9	196.0		
GEW-066	196.7	196.7	195.0	--		
GEW-067A	191.9	194.2	195.4	165.7		
GEW-068A	--	--	--	--		
GEW-069R	113.2	102.1	97.7	--		
GEW-070R	104.5	85.1	102.8	--		
GEW-071	170.2	196.5	113.5	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Apr 2015	May 2015	June 2015	July 2015		
GEW-073R	--	--	--	--		
GEW-075	91.7	72.9	93.1	--		
GEW-076R	--	--	--	--		
GEW-077	--	--	--	--		
GEW-078R	--	--	--	--		
GEW-080	197.2	197.8	197.2	--		
GEW-081	--	198.4	129.7	--		
GEW-082R	191.3	192.5	195.0	195.0		
GEW-083	89.4	92.7	112.9	--		
GEW-084	79.5	85.5	96.2	--		
GEW-085	--	97.1	108.1	107.0		
GEW-086	102.0	73.3	--	--		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		
GEW-089	85.1	77.6	99.1	93.1		
GEW-090	192.5	192.5	191.6	189.1		
GEW-091	--	--	--	--		
GEW-100	--	--	--	--		
GEW-101	--	92.1	107.5	130.6		
GEW-102	--	--	--	--		
GEW-103	--	84.5	--	--		
GEW-104	122.1	105.6	90.3	88.1		
GEW-105	95.9	83.2	111.0	98.9		
GEW-106	--	--	--	--		
GEW-107	132.1	147.0	85.9	70.2		
GEW-108	--	--	--	--		
GEW-109	186.3	178.5	179.7	178.7		
GEW-110	168.3	170.0	170.0	131.6		Flow Restricted
GEW-112	--	--	100.3	--		
GEW-113	--	--	--	--		
GEW-116	63.3	87.4	--	65.6		
GEW-117	--	--	97.8	68.2		
GEW-118	--	--	--	--		
GEW-120	108.8	194.8	165.2	129.7		
GEW-121	194.8	194.8	200.1	189.6		

Wellfield Temperature - Bridgeton Landfill

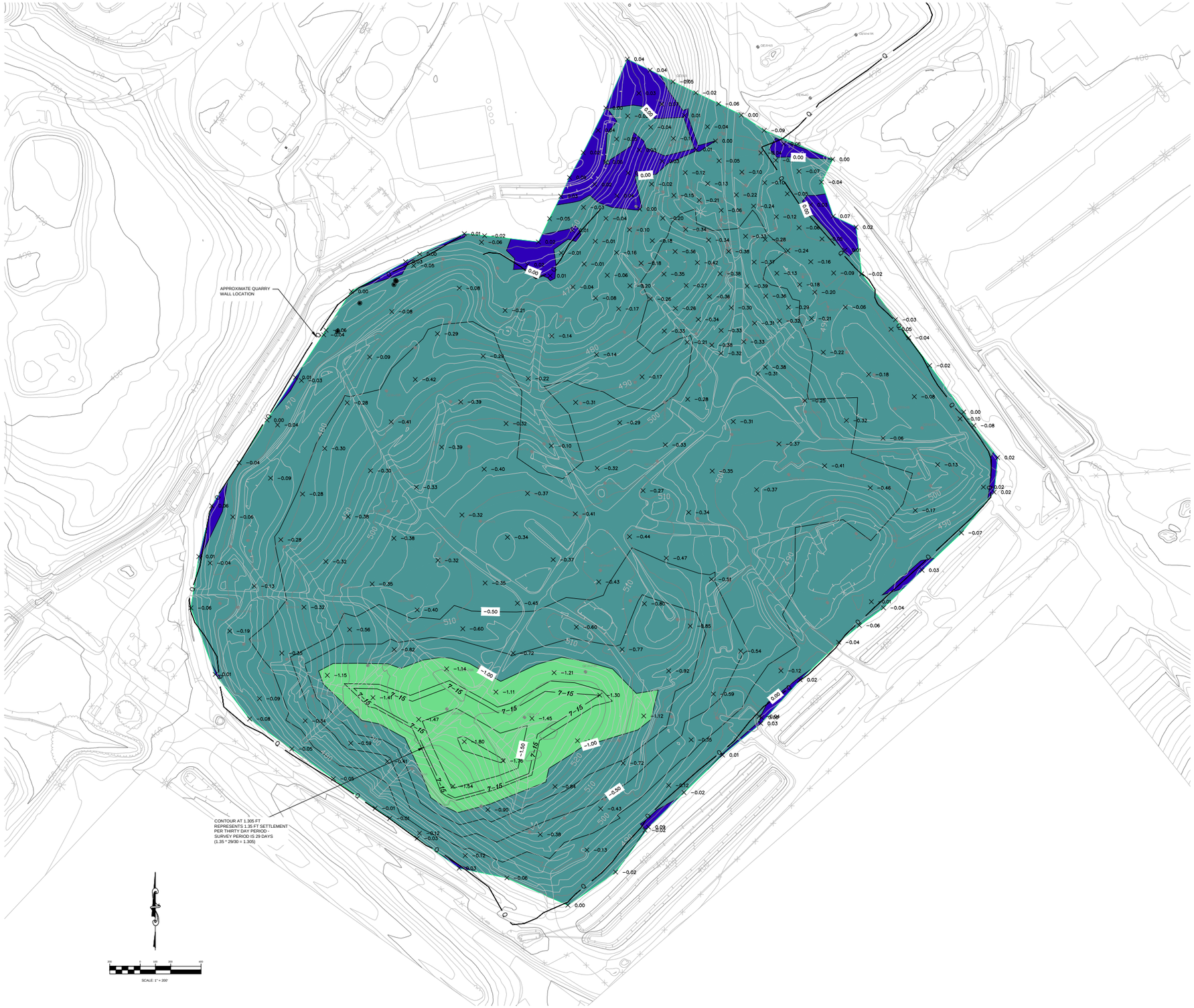
Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Apr 2015	May 2015	June 2015	July 2015		
GEW-122	190.2	194.8	87.2	191.9		Flow Restricted
GEW-123	190.3	190.2	189.8	189.6		
GEW-124	87.8	--	190.9	146.3		
GEW-125	189.1	190.9	194.3	99.8		Flow Restricted
GEW-126	195.4	194.2	197.9	196.0		
GEW-127	186.3	186.3	187.0	188.9		
GEW-128	183.0	182.4	181.5	182.1		
GEW-129	163.2	164.1	163.3	164.6		
GEW-130	--	--	--	--		
GEW-131	178.7	175.2	147.7	148.1		
GEW-132	193.1	188.5	185.1	184.7		
GEW-133	188.5	195.3	114.4	123.7		
GEW-134	105.6	182.8	190.6	194.8		
GEW-135	190.8	191.6	194.3	190.7		
GEW-136	179.1	197.2	147.0	171.2		
GEW-137	146.7	138.0	183.9	125.6		
GEW-138	186.5	178.2	183.3	190.1		
GEW-139	193.7	193.1	195.0	194.3		
GEW-140	186.8	187.4	188.9	187.4		
GEW-141	140.0	127.8	125.0	135.6		
GEW-142	192.5	191.6	184.5	187.0		
GEW-143	193.7	195.0	195.5	194.3		
GEW-144	107.2	143.9	145.2	113.8		
GEW-145	106.6	110.4	--	--		
GEW-146	99.3	136.1	99.2	106.2		
GEW-147	190.6	194.8	196.4	194.3		
GEW-148	189.1	194.5	187.0	109.9		
GEW-149	181.4	149.3	145.2	144.4		
GEW-150	191.9	191.8	149.7	131.4		
GEW-151	199.6	166.9	98.6	103.9		
GEW-152	187.9	188.5	107.0	127.2		
GEW-153	82.1	95.3	95.6	109.7		
GEW-154	161.4	200.2	127.8	134.3		
GEW-155	168.3	150.7	150.2	187.9		
GEW-156	164.1	168.8	186.4	141.1		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	Apr 2015	May 2015	June 2015	July 2015		
GIW-01	193.0	195.0	193.0	176.7		
GIW-02	86.1	92.5	100.4	103.9		
GIW-03	86.8	90.5	97.8	103.0		
GIW-04	84.2	88.2	97.7	105.1		
GIW-05	95.0	93.4	96.3	96.2		
GIW-06	87.2	86.8	98.2	101.8		
GIW-07	87.2	88.0	95.6	99.8		
GIW-08	100.8	115.1	113.1	98.7		
GIW-09	194.2	193.7	192.0	103.0		
GIW-10	87.6	90.9	97.7	100.6		
GIW-11	175.0	170.2	169.4	112.8		
GIW-12	180.2	181.0	166.9	116.1		
GIW-13	178.8	172.5	162.8	96.2		
LCS-1D	--	--	--	--		
LCS-2D	123.0	--	--	91.5		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	98.3	94.2	95.3	95.8		
LCS-6B	84.9	90.5	102.8	99.7		
PGW-60	92.3	83.8	90.8	91.7		
SEW-002	--	--	--	157.5		
SEW-012A	76.4	85.7	--	--		
SEW-017R	132.3	136.0	107.3	96.0		
SEW-031R	193.1	--	194.9	197.2		
SEW-032R	64.6	--	--	--		
SEW-060R	90.3	--	--	--		
SEW-061R	120.0	--	100.1	--		
SEW-062R	104.1	82.1	87.5	--		
SEW-063	155.4	185.0	190.9	144.9		
SEW-064	124.9	152.1	152.9	--		
SEW-067	--	89.6	115.0	--		
SEW-072R	103.0	66.0	96.4	--		
SEW-074	104.5	90.6	92.2	--		
SEW-079R	101.0	90.5	101.1	--		
T-56	59.1	69.5	82.2	92.2		

ATTACHMENT F

SETTLEMENT FRONT MAP



LEGEND

- TOPOGRAPHY (2' CONTOUR)
- 500 — TOPOGRAPHY (10' CONTOUR)
- ELEVATION CHANGE (0.25' CONTOUR)
- −1.50 — ELEVATION CHANGE (0.50' CONTOUR)
- *7−15* — JULY 15, 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 6/16/15 TO 7/15/15 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	0.00	
4	−2.00	−1.00	116718.25	
5	−1.00	0.00	1367668.54	
6	0.00	1.00	53453.81	

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

BRIDGETON LANDFILL
SETTLEMENT MONITORING

SETTLEMENT FROM 6-16-15 TO 7-15-15 (29 DAYS)

FEEZOR ENGINEERING, INC.
Engineering for a Better World

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

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

REVISION | DATE

DRAWING NO.:
001

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

July 1, 2015 – July 31, 2015 / MDNR ODOR COMPLAINTS

Name: Rebecca Tobar

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

Follow-up: The following odor concern has been investigated by Bridgeton Landfill staff. A faint garbage odor could be detected during the morning odor self-inspection performed within the hour cited in this concern. This odor was not consistent with Bridgeton Landfill odors and was during a period of persistent western winds, placing this location upwind of the Bridgeton Landfill at the time of this odor. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged July 3, 2015, at 12:16 am strength of 5

Follow-up: The following concern references a location of significant southwestern distance from the Bridgeton Landfill during a period of persistent western winds. This location is of greater distance than any confirmed Bridgeton Landfill odor observation. Bridgeton Landfill self-inspections performed the evening before and the morning following this concern observed no odor related to the Bridgeton Landfill.

Name: Michael Dailey

Message: Odor logged July 3, 2015, at 10:31 am strength of 5

Follow-up: The following concern cites a time shortly following a Bridgeton Landfill odor self-inspection observation round with multiple points in close proximity of the location given in this concern. No odor associated with the Bridgeton Landfill was observed at any point.

Name: Robbin Dailey

Message: Odor logged July 3, 2015, at 10:34 am strength of 5

Follow-up: The following concern cites a time shortly following a Bridgeton Landfill odor self-inspection observation round with multiple points in close proximity of the location given in this concern. No odor associated with the Bridgeton Landfill was observed at any point.

Name: Kathy Bell

Message: Odor logged July 3, 2015, at 4:18 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this date winds exhibited a consistent western vector placing this location generally

upwind of the Bridgeton Landfill. No technical disturbances with potential to cause odor occurred on the site during this period. There is no indication that the source of this alleged odor was the Bridgeton Landfill.

Name: Michael Dailey

Message: Odor logged July 3, 2015, at 2:36 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this date winds exhibited a consistent western vector placing this location generally upwind of the Bridgeton Landfill. No technical disturbances with potential to cause odor occurred on the site during this period. There is no indication that the source of this alleged odor was the Bridgeton Landfill.

Name: Michael Dailey

Message: Odor logged July 3, 2015, at 6:37 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this date winds exhibited a consistent western vector placing this location generally upwind of the Bridgeton Landfill. No technical disturbances with potential to cause odor occurred on the site during this period. There is no indication that the source of this alleged odor was the Bridgeton Landfill.

Name: Robbin Dailey

Message: Odor logged July 3, 2015, at 6:38 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Throughout this date winds exhibited a consistent western vector placing this location generally upwind of the Bridgeton Landfill. No technical disturbances with potential to cause odor occurred on the site during this period. There is no indication that the source of this alleged odor was the Bridgeton Landfill.

Name: NA

Message: Odor logged July 5, 2015, at 5:30 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This location is of significant distance from the Bridgeton Landfill and at the time of this concern winds were of a southern origin, placing this location well upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged July 5, 2015, at 6:00 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This location is of significant distance from the Bridgeton Landfill and at the time of this concern winds were of a southern origin, placing this location well upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Greg and Ellen Wotham

Message: Odor logged July 6, 2015, at 10:30 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was submitted during a period where Bridgeton Landfill staff had observed frequent distinct to strong odor described as fecal/septic. This is not consistent with descriptors of potential Bridgeton Landfill odor sources. Winds were of a persistent western origin, placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Kathy Bell

Message: Odor logged July 7, 2015, at 6:30 am strength of 7

Follow-up: The following concern was investigated by Bridgeton Landfill staff within the hour cited in the concern. The odor observed was a distinctly trash/garbage odor unassociated with the Bridgeton Landfill. Winds were of a generally western/southwestern origin. This odor could be observed at multiple points along I-70, in the Spanish Village neighborhood, and select points in between despite the ongoing precipitation. This was not a Bridgeton Landfill odor.

Name: Greg and Ellen Wortham

Message: Odor logged July 7, 2015, at 8:37 am strength of 8

Follow-up: The following concern was investigated as part of a Bridgeton Landfill odor self-inspection within the hour in which it was submitted. During this investigation a trash/garbage odor not associated with the Bridgeton Landfill was readily apparent in this neighborhood. Winds were of a persistent western origin. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged July 7, 2015, at 1:14 pm strength of 5

Follow-up: The following concern was investigated by Bridgeton Landfill staff immediately following receipt. A faint to distinct garbage/trash odor was detected in the vicinity of this concern and at points leading to another known odor source, not the Bridgeton Landfill. Winds

were of a due north vector, placing this other odor source directly upwind of the concern location. This was not a Bridgeton Landfill odor.

Name: Nicole Hayes

Message: Odor logged July 8, 2015, at 1:44 pm strength of 10

Follow-up: The following odor was investigated immediately following receipt. A strong odor (Nasal Ranger >7) was detected. This odor had a clear trash/garbage odor profile. Winds were of a southern origin, placing this location in very close proximity and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Debbie Neuman

Message: Odor logged July 8, 2015, at 3:53 pm strength of 8

Follow-up: The following concern was investigated within the hour in which it was submitted by Bridgeton Landfill staff. No odor was observed. Another member of the Bridgeton Landfill team was in close proximity of this concern during the time cited and no odor was observed. This was not a Bridgeton Landfill.

Name: Steve Commuso

Message: Odor logged July 9, 2015, at 11:30 pm strength of 3

Follow-up: The following odor concern cites a time nearly 12 hours in the future from the submittal time. It is assumed this concern meant to cite 7/8/15 as the date. Winds were of a persistent western wind, placing this location upwind of the Bridgeton Landfill. A faint to moderate garbage/trash odor has been observed in the vicinity of this concern. That odor does not fit the odor profile of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Martina Sandheinrich

Message: Odor logged July 9, 2015, at 7:02 am strength of 5

Follow-up: The following odor concern has been investigated by Bridgeton Landfill staff. Within the hour of the concern Bridgeton Landfill staff observed a faint to moderate garbage/trash odor at points in the vicinity of this concern. This is not an odor associated with Bridgeton Landfill.

Name: Kathy Bell

Message: Odor logged July 12, 2015, at 7:42 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern cites a date and time with persistent west southwest winds, placing this location directly upwind of the Bridgeton Landfill and downwind from another known odor source that has had frequent odor concerns attributed to it over the last several weeks. An odor from this other source was observed during a Bridgeton Landfill self-inspection performed on 7/13/15 during similar wind conditions. This was determined to have been a >4 Nasal Ranger odor, identified as garbage/trash in nature. This does not appear to be a Bridgeton Landfill related odor.

Name: NA

Message: Odor logged July 12, 2015, at 5:22am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern cites a date and time with persistent west southwest winds, placing this location directly upwind of the Bridgeton Landfill and downwind from another known odor source that has had frequent odor concerns attributed to it over the last several weeks. An odor from this other source was observed during a Bridgeton Landfill self-inspection performed on 7/13/15 during similar wind conditions. This was determined to have been a >4 Nasal Ranger odor, identified as garbage/trash in nature. This does not appear to be a Bridgeton Landfill related odor.

Name: NA

Message: Odor logged July 14, 2015, at 9:33 am strength of 4

Follow-up: The following concern references an observation time less than one hour after a Bridgeton Landfill self-inspection. During this self-inspection a garbage odor was observed at points located between this location and a known odor source upwind of this concern location at the time of the concern. No odor associated with the Bridgeton Landfill was observed during this odor self-inspection. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged July 14, 2015, at 7:30 am strength of 5

Follow-up: The following concern references an observation time less than one hour before a Bridgeton Landfill self-inspection. During this self-inspection a garbage odor was observed at points located between this location and a known odor source upwind of this concern location at the time of the concern. No odor associated with the Bridgeton Landfill was observed during this odor self-inspection. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged July 14, 2015, at 11:20 am strength of 8

Follow-up: The following concern cites a time approximately one hour before a Bridgeton Landfill self-inspection performed on this date. No odor related to the Bridgeton Landfill was observed at multiple locations near this location and between this location and the Bridgeton Landfill. A trash/garbage odor associated with another known odor source located to the west. Winds were of a western origin at this time. This was not a Bridgeton Landfill related odor.

Name: Kriss Avery

Message: Odor logged July 14, 2015, at 5:50 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. As this was not submitted within the hour of the concern this could not be investigated within a close enough time frame to provide useful observation data. Winds were of a northeast origin placing this location downwind of the Bridgeton Landfill. While no odor was observed from the Bridgeton Landfill during the previous odor self-inspection (conducted from approximately 13:00 to 14:00) the time gap between that self-inspection and this observation is significant. No distinct source of this odor was observed during morning site inspections. There is potential for this to have been a Bridgeton Landfill odor.

Name: Regina Engelken

Message: Odor logged July 16, 2015, at 11:40 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a due south origin. The Bridgeton Landfill was not upwind of this location at that time and no odor related to the Bridgeton Landfill has been observed on multiple self-inspections today and at this time during on-site inspections. This concern is located directly north (downwind) of another known odor source with frequent off-site odors observed.

Name: Donna Klocke

Message: Odor logged July 16, 2015, at 8:26 pm strength of 7

Follow-up: The following odor concern has been investigated by Bridgeton landfill staff. At the time of this concern winds were of a persistently southern origin. This location is to the south of the Bridgeton Landfill, i.e. upwind. Another known odor source is located to the southwest of this concern location. A Bridgeton Landfill odor self-inspection was performed within the hour cited in this concern and no odor originating from the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: MB

Message: Odor logged July 16, 2015, at 12:00 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to another known odor source. Multiple instances of odor at this location originating from this adjacent source have been documented over the last several weeks. At the time of this concern winds were of a southern and southwestern vector, placing it well upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: MB

Message: Odor logged July 16, 2015, at 6:18 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location of this concern is due south of the Bridgeton Landfill. Winds were of a persistent southern vector throughout this evening. Another known odor source is located to the south of this location. This was not a Bridgeton Landfill odor.

Name: David Blackwell

Message: Odor logged July 17, 2015, at 6:00 am strength of 6

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Rebecca Tobar

Message: Odor logged July 17, 2015, at 8:00 am strength of 8

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged July 17, 2015, at 9:35 am strength of 10

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date,

placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged July 17, 2015, at 11:00 am strength of 10

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged July 17, 2015, at 11:00 am strength of 10

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Kathryn Schlag

Message: Odor logged July 17, 2015, at 2:35 pm strength of 7

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged July 17, 2015, at 5:43 pm strength of 10

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged July 17, 2015, at 8:46 am strength of 8

Follow-up: The following concern was investigated following receipt by Bridgeton Landfill staff. Winds were of a persistent southwestern origin at this time and throughout this date, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged July 19, 2015, at 5:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern is directly adjacent to two other known odor sources, at a location that has not had confirmed Bridgeton Landfill odor to date. This was not a Bridgeton Landfill odor.

Name: MB

Message: Odor logged July 20, 2015, at 8:18 am strength of 6

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. A strong garbage odor was observed in close proximity to this concern location. This was not a Bridgeton Landfill odor.

Name: MB

Message: Odor logged July 19, 2015, at 7:00 pm strength of 6

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two other known odor sources and of substantial distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill has been confirmed in this location during any previous odor inspections. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged July 19, 2015, at 9:09 am strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff within the hour in which it was submitted. A garbage odor unassociated with the Bridgeton Landfill was observed. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged July 20, 2015, at 8:40 am strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. A garbage odor was present throughout much of the area on the date cited in this concern. No odor

related to the Bridgeton Landfill was observed at multiple points during multiple self-inspection rounds between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged July 21, 2015, at 8:40 am strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: Connie Usry

Message: Odor logged July 21, 2015, at 8:30 am strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: Connie Usry

Message: Odor logged July 21, 2015, at 8:25 am strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: Connie Usry

Message: Odor logged July 21, 2015, at 11:52 am strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: Lisa

Message: Odor logged July 21, 2015, at 1:15 pm strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: James Usry

Message: Odor logged July 21, 2015, at 12:38 pm strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. The location of this concern is directly adjacent to two known odor sources and of a significant distance from the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple points between this location and the Bridgeton Landfill.

Name: MB

Message: Odor logged July 22, 2015, at 7:56 am strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site, no odor related to the Bridgeton Landfill has ever been documented at this distance. Throughout the date cited in this concern winds were of a persistent eastern origin, placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Connie Usry

Message: Odor logged July 22, 2015, at 7:30 pm strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: James Usry

Message: Odor logged July 22, 2015, at 6:47 pm strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: Rhonda Steelman

Message: Odor logged July 22, 2015, at 10:37 pm strength of 8

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: Debi Disser

Message: Odor logged July 22, 2015, at 7:30 am strength of 5

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: Debi Disser

Message: Odor logged July 22, 2015, at 6:40 pm strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: Regina Engelken

Message: Odor logged July 22, 2015, at 6:15 pm strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff. This location is of substantial distance from the Bridgeton Landfill site and directly adjacent to another known odor source with frequent off-site odor observed in the last several weeks. No odor related to the Bridgeton Landfill has been observed at this location in recent history. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged July 20, 2015, at 9:40 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. On the date and time of this concern winds were of a persistent high velocity western origin, placing this location upwind of the Bridgeton Landfill and downwind of other known odor sources with frequent off-site emissions in the last several weeks. A garbage odor associated with this other known source was observed in odor self-inspections by Bridgeton Landfill staff several hours after this concern. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged July 23, 2015, at 9:27 am strength of 9

Follow-up: The following concern was investigated by Bridgeton Landfill staff. Winds were of a persistent eastern origin on this date, placing this location upwind of the Bridgeton Landfill. No odor related to the Bridgeton Landfill was observed at multiple observation points between this location and the Bridgeton Landfill during odor self-inspections.

Name: Pamela Barry

Message: Odor logged July 24, 2015, at 2:29 pm strength of 7

Follow-up: The following concern is from the Fenton, MO region. This is not associated with the Bridgeton Landfill.

Name: NA

Message: Odor logged July 26, 2015, at 10:30 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern winds were of a persistent south southwest wind, placing this location upwind of the Bridgeton Landfill and downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Katie Keeven

Message: Odor logged July 26, 2015, at 10:57 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location of this concern is due east of another known odor source during a period of southwestern and western winds. The location was well upwind of the Bridgeton Landfill at the time of this concern. This was not a Bridgeton Landfill odor.

Name: Martina Sandheinrich

Message: Odor logged July 27, 2015, at 11:46 am strength of 3

Follow-up: The following concern was investigated shortly after receipt. A faint garbage odor could be intermittently observed at this location. This odor was not associated with the Bridgeton Landfill.

Name: Christen Commuso

Message: Odor logged July 27, 2015, at 8:03 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern is of substantial distance from the Bridgeton Landfill and of far closer proximity to two other known odor sources. This location was directly downwind of these other sources at the time of this concern. This was not a Bridgeton Landfill odor.

Name: Steve Commuso

Message: Odor logged July 27, 2015, at 8:05 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern is of substantial distance from the Bridgeton Landfill and of far closer proximity to two other known odor sources. This location was directly downwind of these other sources at the time of this concern. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged July 28, 2015, at 12:25 pm strength of 5

Follow-up: The following concern was submitted during the execution of a Bridgeton Landfill odor self-inspection. No odor related to the Bridgeton Landfill was observed in close proximity of this concern or at any points between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Rachael Quigley

Message: Odor logged July 30, 2015, at 10:13 am strength of 10

Follow-up: The following concern cites a location within the confines of the Bridgeton Landfill. This is an invalid concern.

Name: NA

Message: Odor logged July 31, 2015, at 6:45 am strength of 10

Follow-up: The following concern was investigated by Bridgeton Landfill staff shortly after receipt as part of site odor self-inspection efforts. The location in question is of substantial distance from the Bridgeton Landfill and directly adjacent to two known sources of off-site odor emissions. No odor related to the Bridgeton Landfill was observed. This was not a Bridgeton Landfill odor concern.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

July 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 (gal)
7/1/15	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	142,500
7/2/15				142,500
7/3/15				172,500
7/4/15				0
7/5/15				210,000
7/6/15				330,000
7/7/15				142,500
7/8/15				142,500
7/9/15				142,500
7/10/15				262,500
7/11/15				330,000
7/12/15				330,000
7/13/15				330,000
7/14/15				330,000
7/15/15				142,500
7/16/15				142,500
7/17/15				142,500
7/18/15				0
7/19/15				0
7/20/15				142,500
7/21/15				142,500
7/22/15				247,500
7/23/15				247,500
7/24/15				247,500
7/25/15				0
7/26/15				0
7/27/15				247,500
7/28/15				247,500
7/29/15				247,500
7/30/15				142,500
7/31/15				127,500
			Total	**5,475,000**

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
7/1/2015	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	154,193
7/2/2015			295,101
7/3/2015			324,931
7/4/2015			311,952
7/5/2015			285,862
7/6/2015			275,107
7/7/2015			247,978
7/8/2015			247,032
7/9/2015			255,930
7/10/2015			256,735
7/11/2015			188,972
7/12/2015			264,390
7/13/2015			265,225
7/14/2015			296,300
7/15/2015			275,655
7/16/2015			285,109
7/17/2015			280,559
7/18/2015			273,791
7/19/2015			278,312
7/20/2015			268,661
7/21/2015			250,213
7/22/2015			249,772
7/23/2015			294,061
7/24/2015			281,548
7/25/2015			262,315
7/26/2015			249,214
7/27/2015			245,099
7/28/2015			238,397
7/29/2015			231,447
7/30/2015			223,400
7/31/2015			248,968
		Total	**8,106,229**