Bridgeton Landfill, LLC

Monthly Data Submittals

December, 2015

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

Contents:

Provided Separately:

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

January 20, 2016

Commentary on Data

January 20, 2016

The following observations and comments are offered during this time period:

Gas Volume

- As seen in Attachment B-1, gas collection volumetric rate in for this month averaged 3,042 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 as measured at the respective wellheads.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Twelve (12) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, three (3) vertical wells (excluding GIW wells) increased by 30°F or more. All remaining wells that exhibited changes greater than 30 degrees are all within the historical gas temperature norms for these wells or within the range of temperatures of nearby vertical wells.

- Attachment E-1 details vertical wells which had oxygen levels over 5% at one or more weekly monitoring events during this reporting period. These consisted of 8 older GEW wells (<#-120) that are experiencing low flows; 8 new GEW wells (>#-120) that are experiencing restricted flows; 8 GIW wells that have low gas flow due to the cooling loops that are installed within these wells. By the end of the month, the majority 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, maintenance and pump operation is being performed to manage the oxygen content. These 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. Maximum temperatures are consistent with previous months in each of the gas extraction wells in vicinity to the neck. Carbon monoxide (CO) results during this reporting period showed stable month-over-month based on historic levels within the Neck Area wells.

- All wells in the North Quarry during this reporting period exhibited a maximum wellhead temperature under 145° F with the exception of GEW-054 which had a maximum well head temperature of 147°F. The only North Quarry well that had detections of carbon monoxide during this reporting period was GEW-053 (51 ppm) and GEW-054 (39 ppm). Well GEW-002 did measure a carbon monoxide reading of 35 ppm but based on a review of methane, CO2 and oxygen readings to the field readings taken by the Envision meter it was determined there was either a sample leak or sample contamination at this well location. Due to the concerns over the test readings for GEW-002, a resample was conducted and carbon monoxide was non-detectable. Carbon monoxide (CO) results showed non-detect (ND) for all other North quarry wells.

- Review of weekly gas quality in Attachment E 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 **1.28 feet (see Attachment F)** for this reporting period; which is comparable to last month's rate. 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 this reporting period 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.

Low Fill Project Area

- Enclosed is the requested clean fill placement figure in accordance with the June 19, 2015 letter from the Missouri Department of Natural Resources (MDNR) granting modification approval to Permit number 0118912. This modification allows for the acceptance of clean fill and the use thereof as a method of re-establishing positive surface drainage and maintaining structural stability of landfill infrastructure. Condition four (4) of this approval is satisfied via the text below and the accompanying figure.

- Clean fill activities commenced in late December and have continued into early January on a region of differential settlement located in the northeastern portion of the South Quarry. The total cubic yardage of fill material used is still to be determined. The enclosed figure indicates this fill area as well as clean fill materials stockpile areas on the West Lake OU2 portion of the property and the Bridgeton Landfill North Quarry portion of the property in support of this fill project. Upon conclusion of the fill project the requested cubic yardage, drainage features (if applicable), and drawings showing the completed location area shall be provided within the following monthly report.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in December 2015

Gas Collection and Control System

- Continued operation and maintenance of GCCS System and GIW wells.
- Continued additional GCCS System enhancements.
- Installed additional GEWs in North and South Quarry.
- Installed replacement sumps CT-31, 32, 33, 81.
- Abandoned CT-1, 2, 3, 7B.
- Completed winterization processes.

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.
- Continued to optimize operation efficiency of pre-treatment facility.

Other Projects

- Continued North Quarry cap enhancements.
- Began low area fill project in South Quarry.
- Continued acceptance of clean fill.

Work Planned for January 2016

Gas Collection and Control System

- Continue operation and maintenance of GCCS system.
- Continue upgrades to GCCS system as required.
- Regrade header from CT-8 to GEW-148.

Alternative Heat Extraction System

- Continue operation and maintenance of the HES.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Ongoing operation of facility.
- Continue to optimize operation efficiency of pre-treatment facility.

Other Projects:

- Continue fill projects for north slope of south quarry and low area on east slope
- Continue acceptance of clean fill materials for future fill projects.
- Complete north quarry cap enhancement project (weather permitting).

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
December 2015

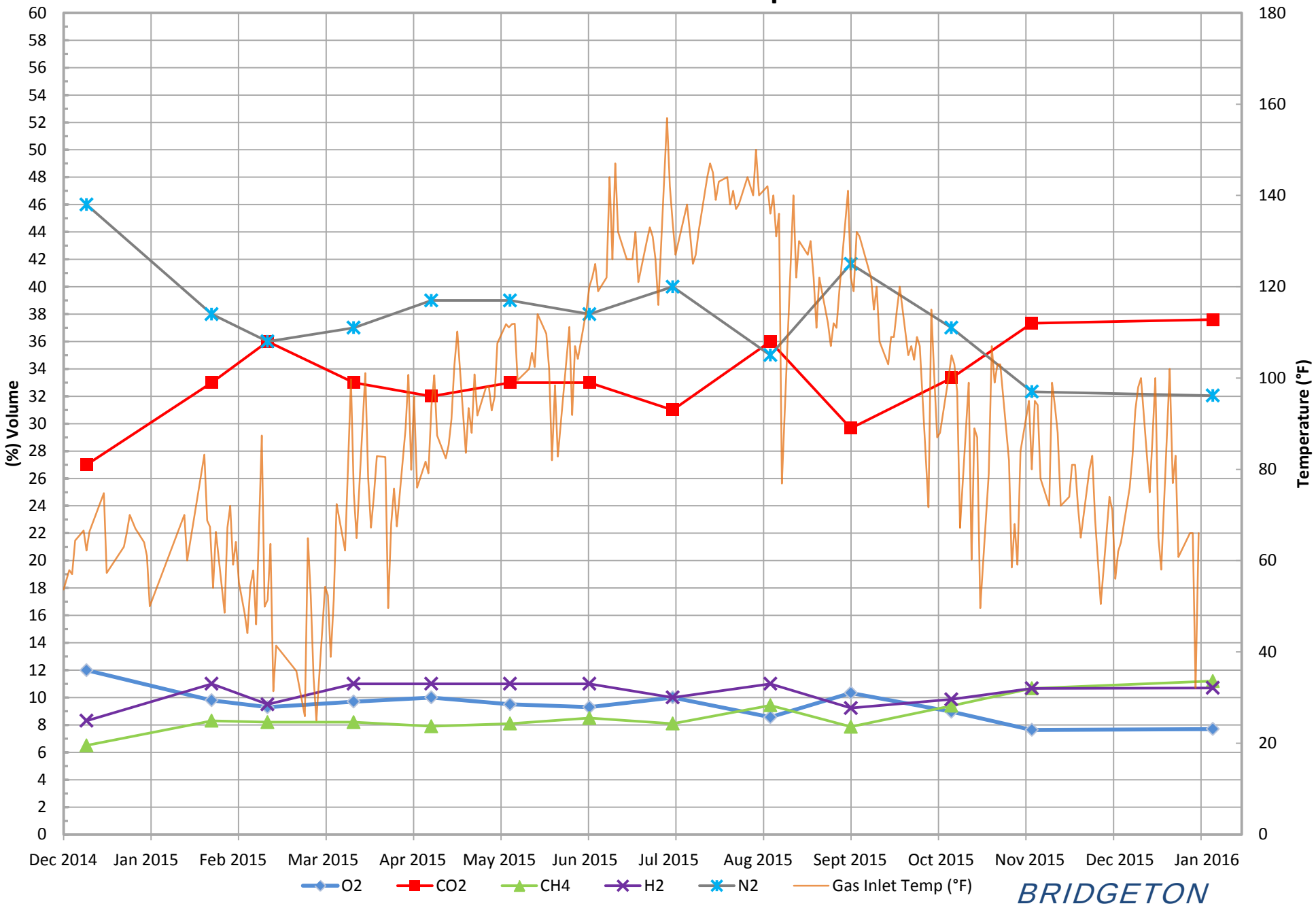
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	Aux. Utility Flare	
12/1/2015	0	0	3,009	22	3,031
12/2/2015	840	0	2,053		2,893
12/3/2015	1,217	0	1,605		2,822
12/4/2015	1,331	0	1,646		2,977
12/5/2015	1,334	0	1,668		3,001
12/6/2015	1,317	0	1,646		2,963
12/7/2015	1,344	0	1,629		2,973
12/8/2015	558	0	2,275		2,832
12/9/2015	0	0	3,067		3,067
12/10/2015	0	0	3,302		3,302
12/11/2015	0	0	3,323		3,323
12/12/2015	0	0	3,214		3,214
12/13/2015	0	0	3,145		3,145
12/14/2015	0	0	2,776	277	3,053
12/15/2015	0	0	2,850	372	3,222
12/16/2015	0	0	2,998		2,998
12/17/2015	0	0	3,025		3,025
12/18/2015	0	0	2,934		2,934
12/19/2015	0	0	3,046		3,046
12/20/2015	0	0	3,010		3,010
12/21/2015	0	0	2,760	342	3,101
12/22/2015	0	0	3,000	29	3,029
12/23/2015	0	0	3,091		3,091
12/24/2015	0	0	3,052		3,052
12/25/2015	0	0	3,067		3,067
12/26/2015	0	0	3,061		3,061
12/27/2015	0	0	2,923		2,923
12/28/2015	0	0	2,830	224	3,053
12/29/2015	0	0	3,013		3,013
12/30/2015	0	0	2,900		2,900
12/31/2015	0	0	3,185		3,185
				Average	**3,042**

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

ATTACHMENT B-2

FLOW DATA GRAPHS

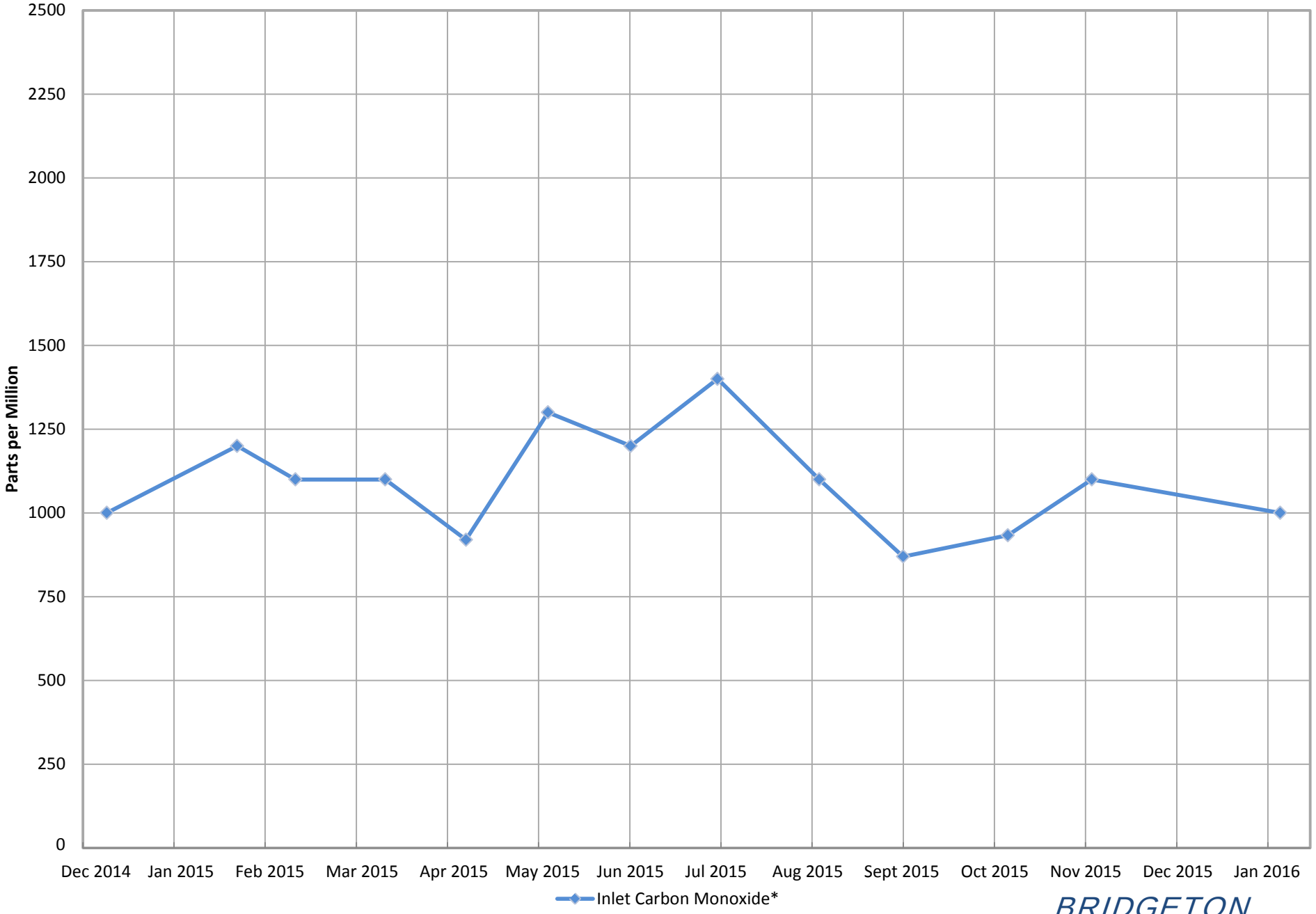
Inlet Gas and Temperature*



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

BRIDGETON LANDFILL

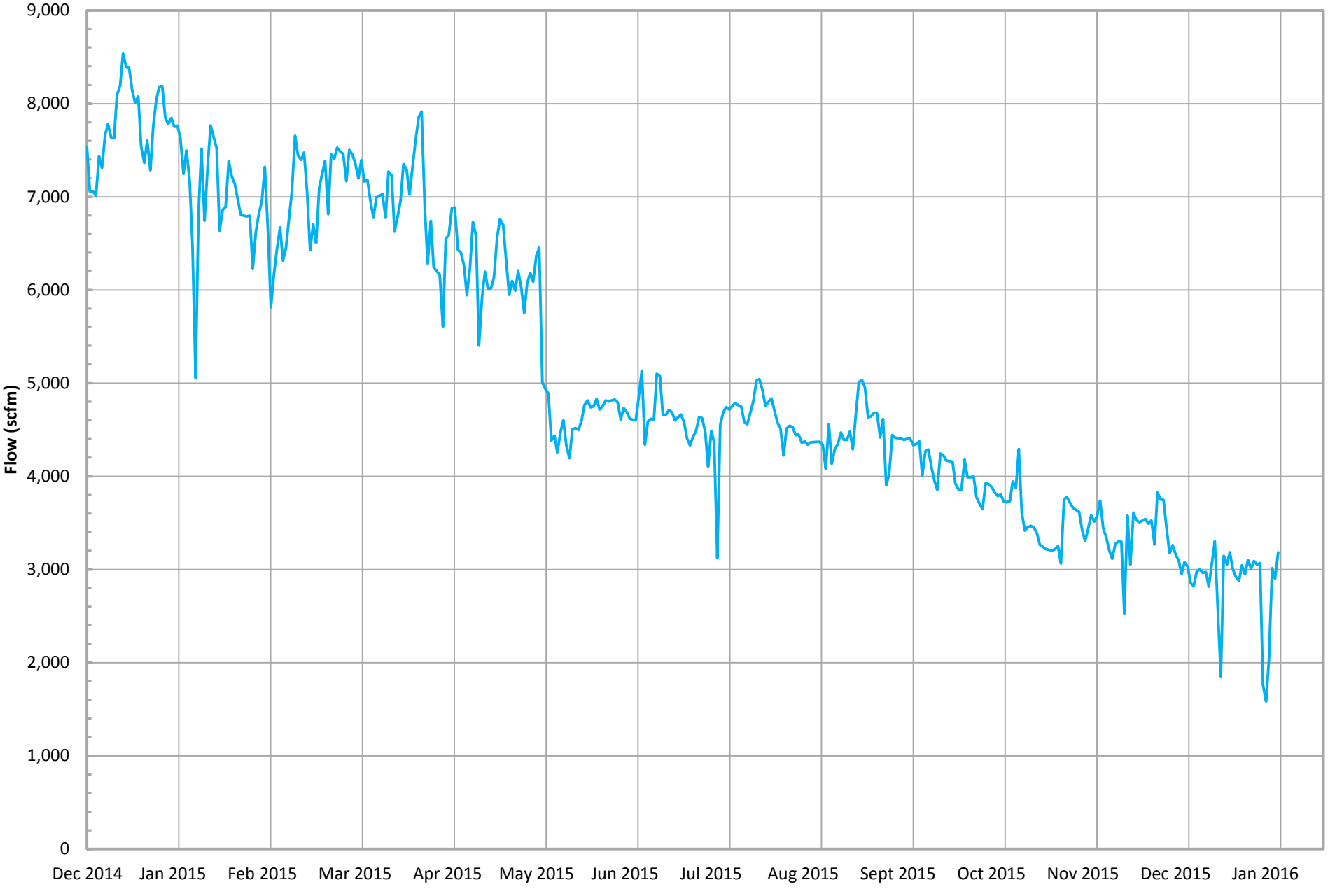
Inlet Carbon Monoxide*



*Data collected from Laboratory Reports.

BRIDGETON LANDFILL

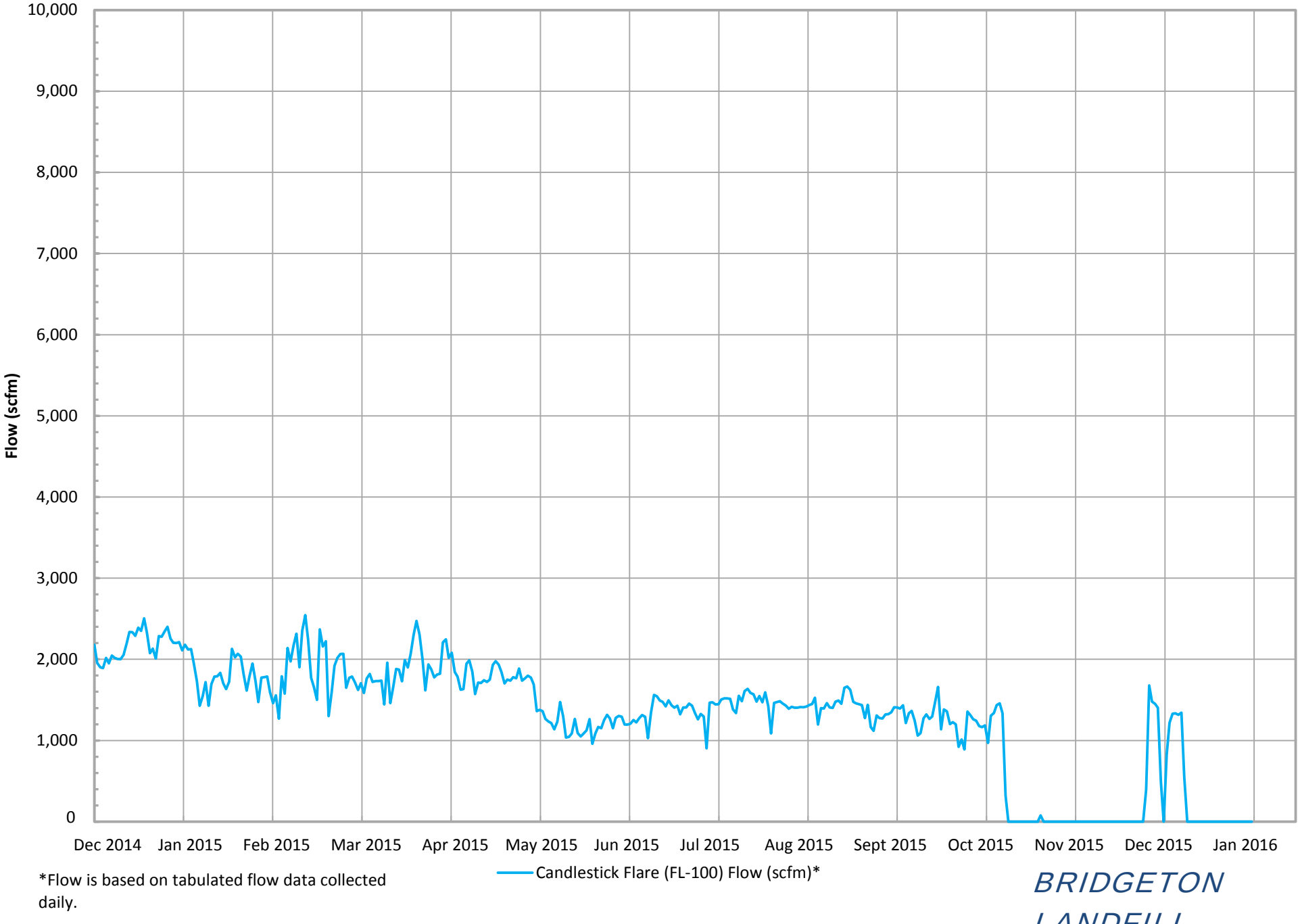
Total Combined Flow (scfm)*



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

BRIDGETON LANDFILL

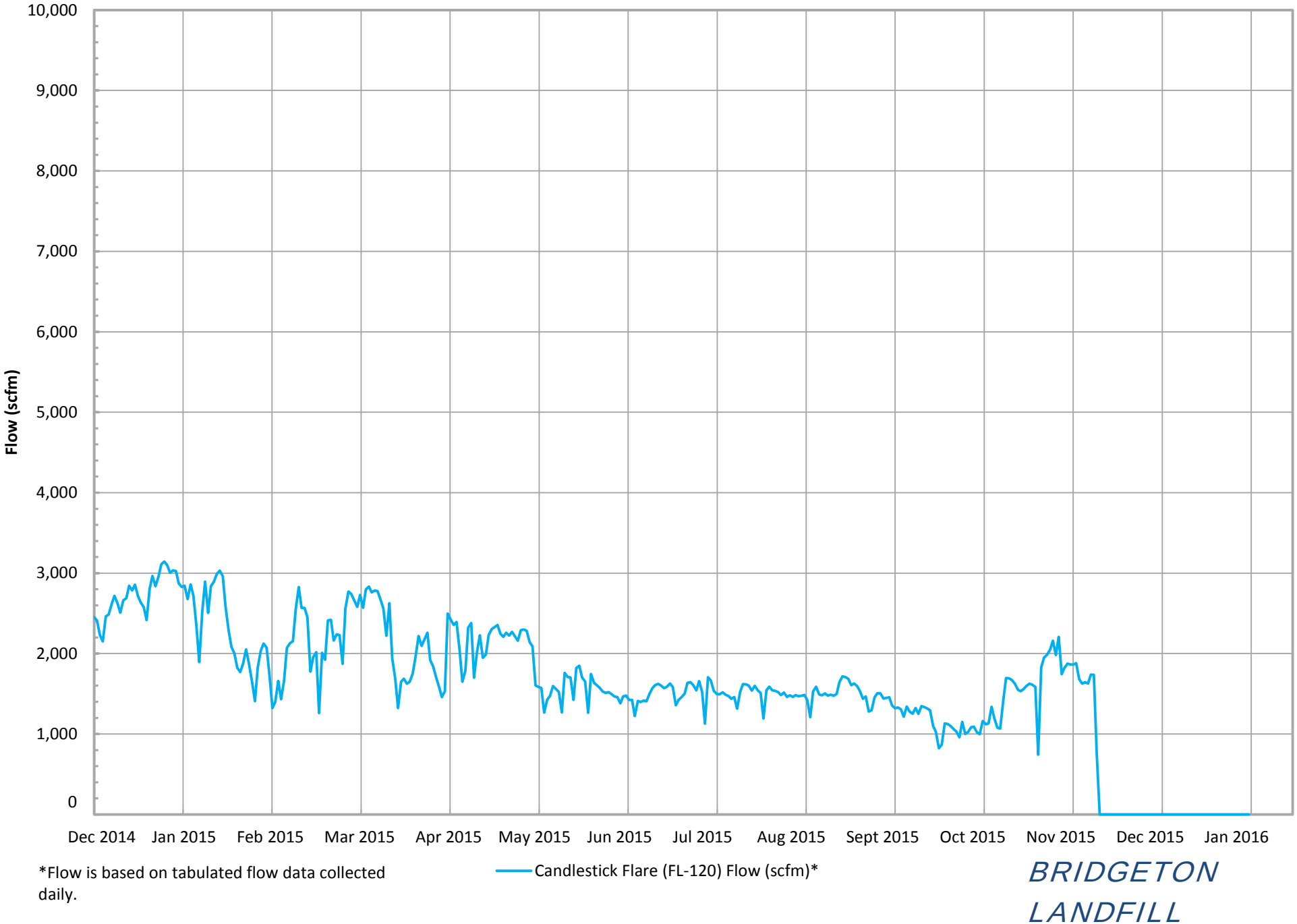
Candlestick Flare (FL-100) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

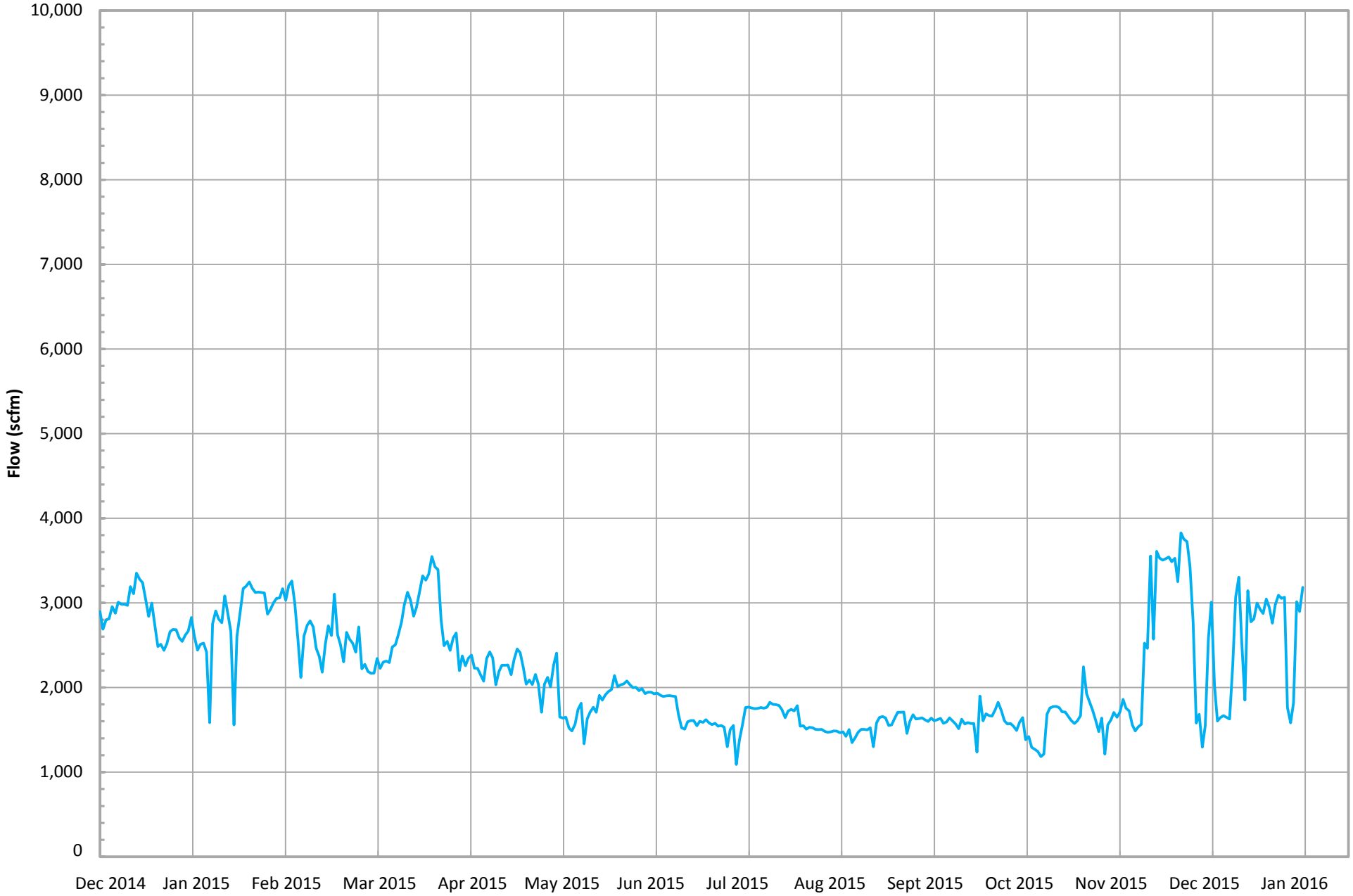
Candlestick Flare (FL-120) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

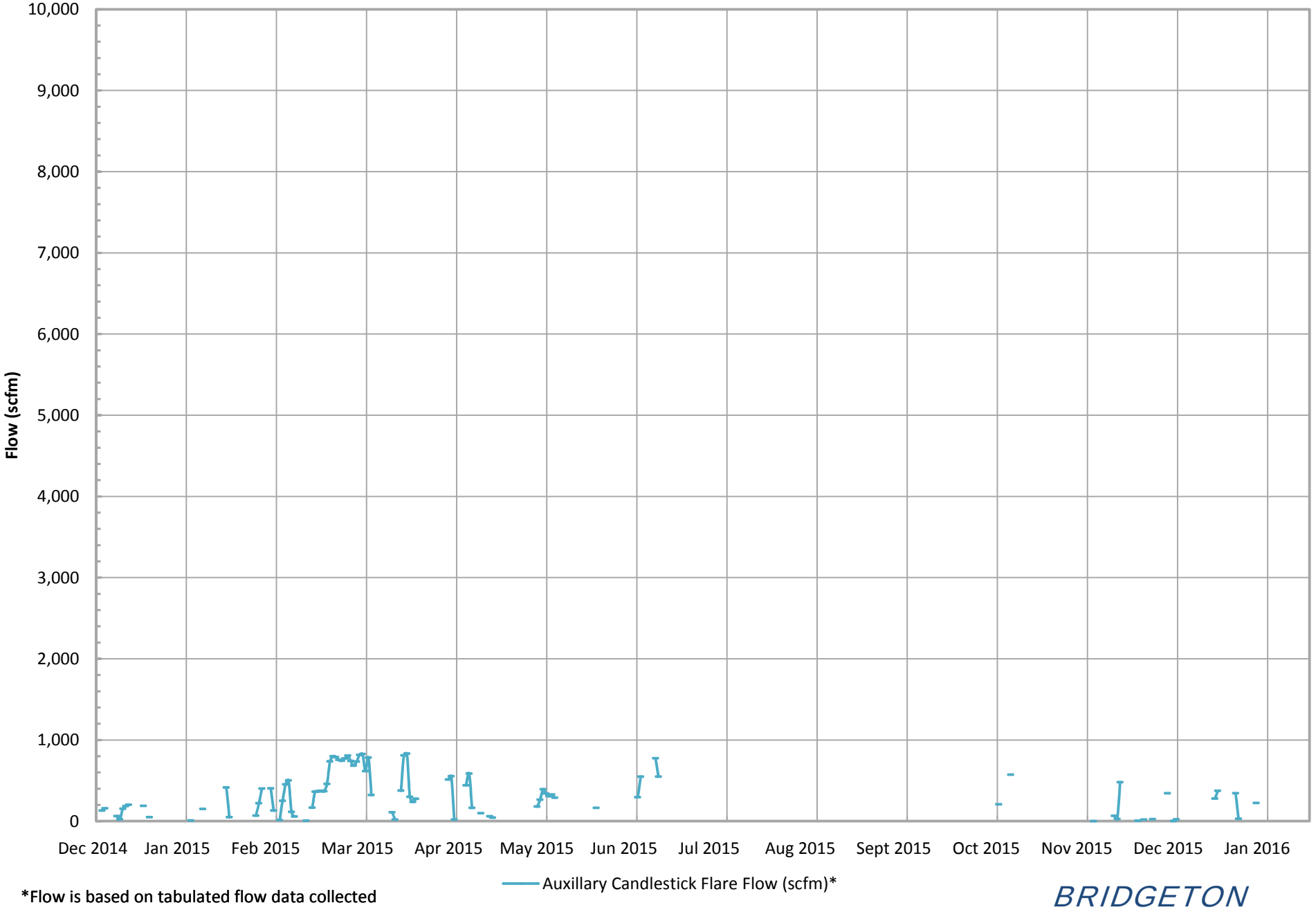
Candlestick Flare (FL-140) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

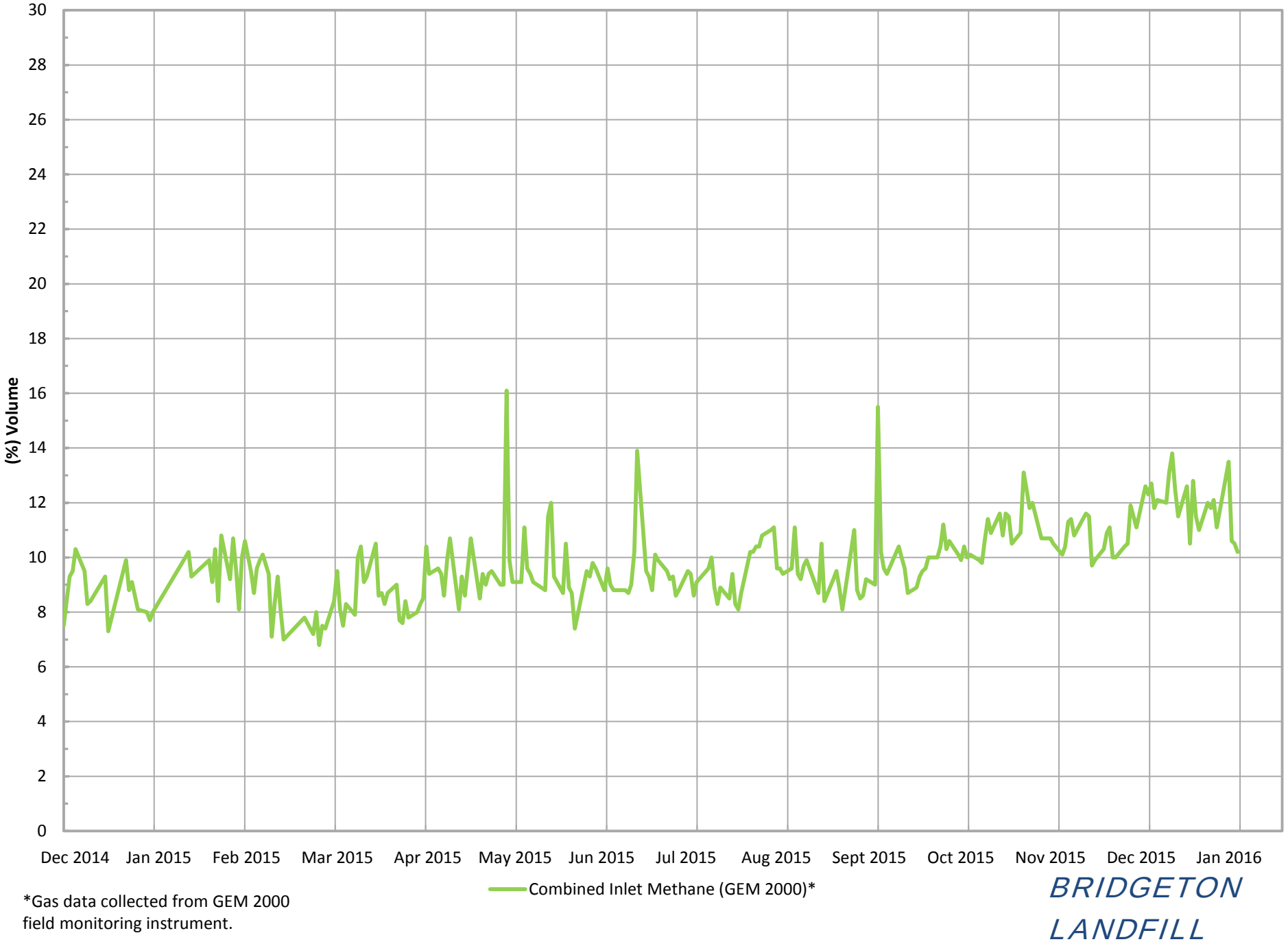
Auxillary Candlestick Flare Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

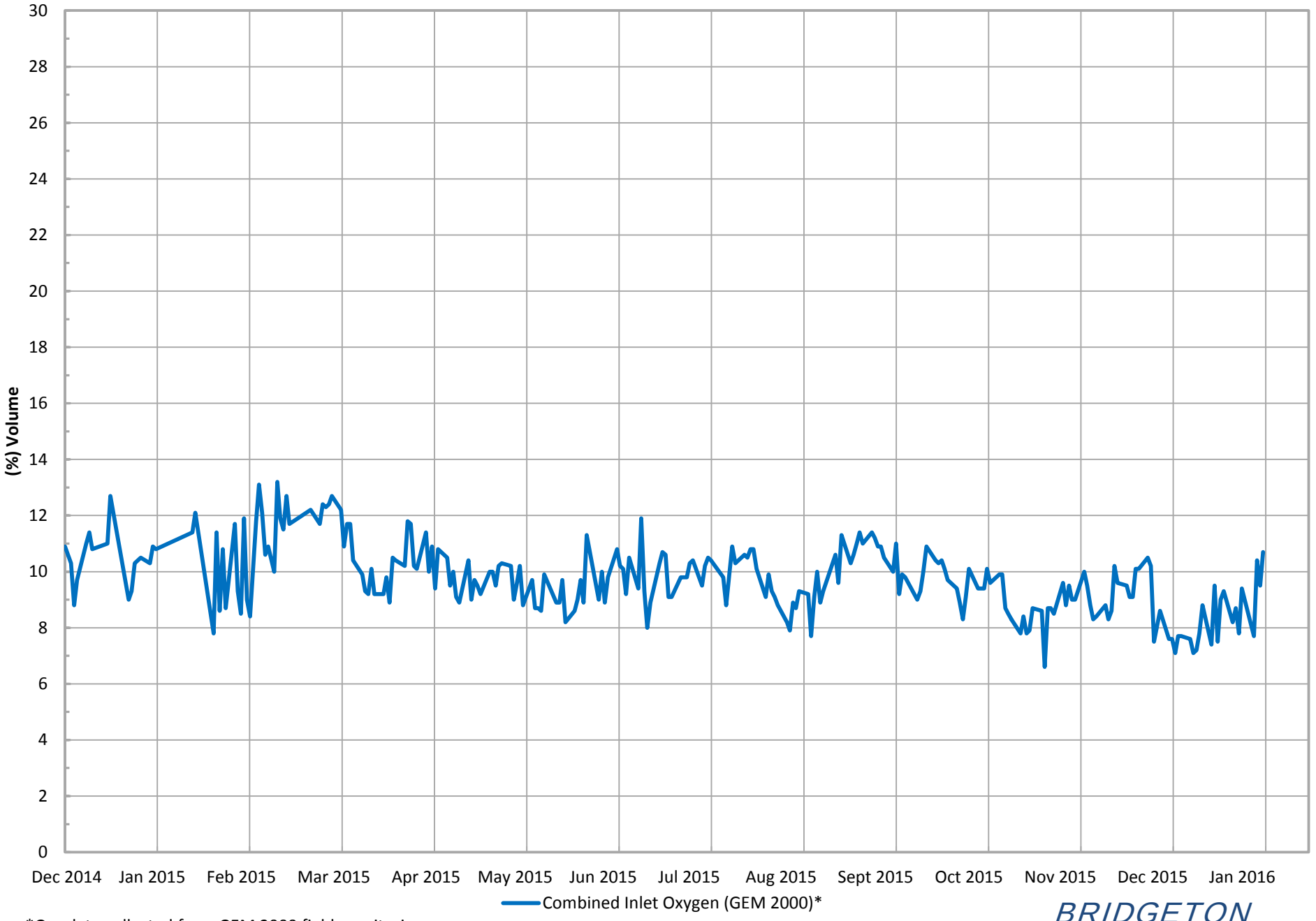
Combined Inlet Methane (GEM 2000)*



*Gas data collected from GEM 2000 field monitoring instrument.

BRIDGETON LANDFILL

Combined Inlet Oxygen (GEM 2000)*

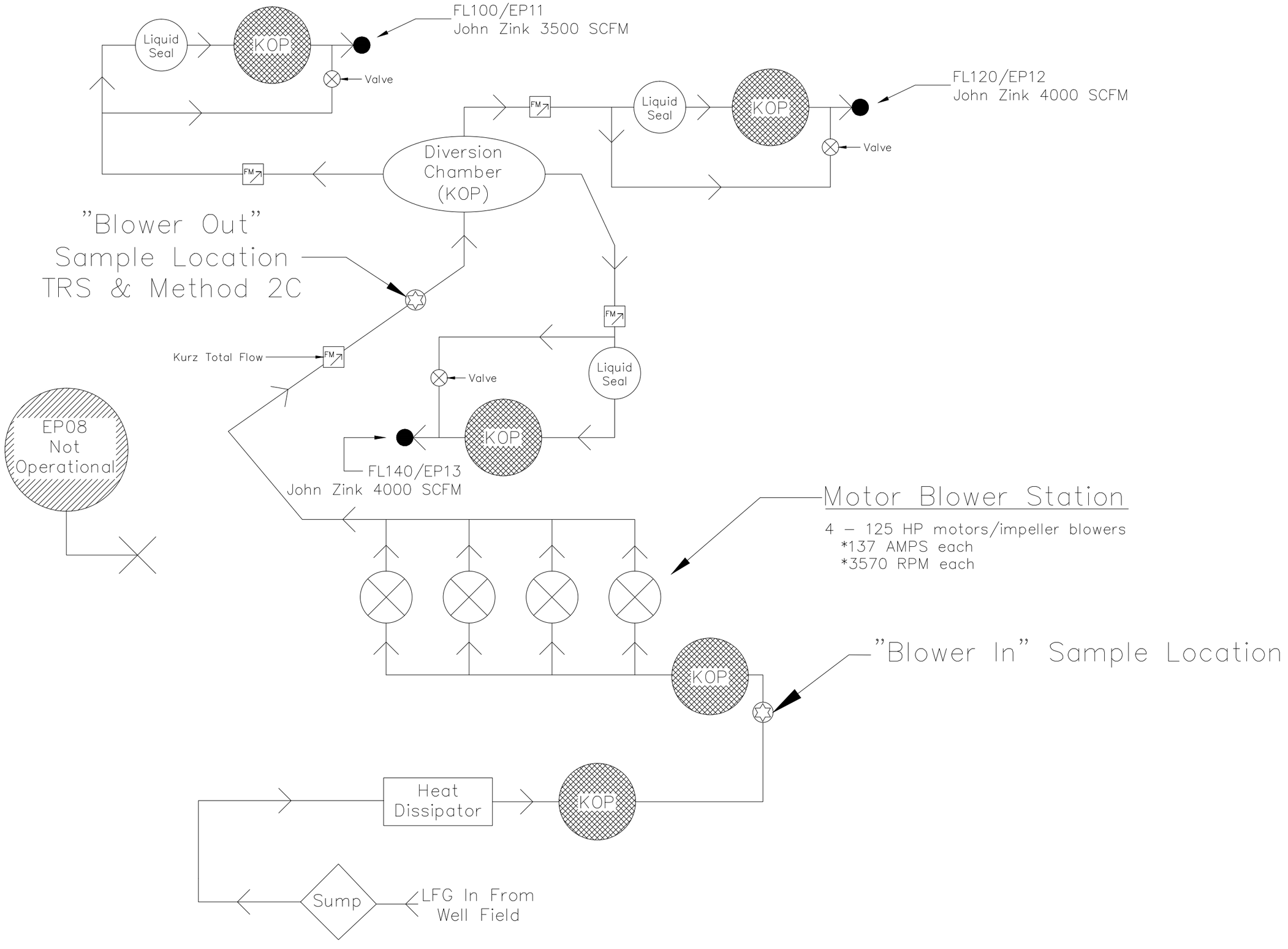


*Gas data collected from GEM 2000 field monitoring instrument.

BRIDGETON LANDFILL

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 **December 08, 2015 to January 05, 2016**

Flare Compound: *Blower Outlet*

SAMPLE	DATE	VELOCITY	FLOW	TRS[2]
EVENT #		ft/sec	dscfm	ppm_{vd}
44[1]	1/5/2016	34.30	2926	1400
				1300
43[3]	12/30/2015	25.81	2091	1600
				1600
42	12/22/2015	37.28	3020	1700
				2100
41	12/16/2015	37.56	3042	1700
				1700
40	12/8/2015	37.67	3051	1700
				1300

Notes:

[1] Flow based on EPA Method 2C data collection from "Blower Outlet"

[2] TRS analyzed per EPA method 15/16 from samples collected from the collected from "Blower Outlet"

[3] Test; reduction of GCCS vacuum (flow reduction) to assess possible TRS correlation.

	PARAMETER	Blower Out
Date	Test Date	1/5/16
Start	Run Start Time	7:24
	Run Finish Time	8:51
	Net Traversing Points	16 (2 x 8)
Θ	Net Run Time, minutes	1:26:15
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.38
% H_2O	Moisture Content of LFG, %	0.72
% RH	Relative Humidity, %	41.50
M_{fd}	Dry Mole Fraction	0.993
%CH_4	Methane, %	11.20
%CO_2	Carbon Dioxide, %	37.60
%O_2	Oxygen, %	7.70
%Balance	Assumed as Nitorgen, %	32.05
%H_2	Hydrogen, %	10.70
%CO	Carbon Monoxide, %	0.10
M_d	Dry Molecular Weight, lb/lb-Mole	30.03
M_s	Wet Molecular weight, lb/lb-Mole	29.94
P_g	Flue Gas Static Pressure, inches of H_2O	16.40
P_s	Absolute Flue Gas Pressure, inches of Mercury	31.21
t_s	Average Stack Gas Temperature, °F	60
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.295
v_s	Average LFG Velocity, feet/second	34.30
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	2,926
Q_s	Standard Volumetric Flow Rate, scfm	2,948
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	2,784
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	13,685
NHV	Net Heating Value, Btu/scf	142
LFG_{CH4}	Methane, lb/hr	819.1
	Methane, grains/dscf	32.65
LFG_{CO2}	Carbon Dioxide, lb/hr	7,543.2
	Carbon Dioxide, grains/dscf	300.73
LFG_{O2}	Oxygen, lb/hr	1123.2
	Oxygen, grains/dscf	44.78
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,092.8
	Balance gas as Nitrogen, grains/dscf	163.17
LFG_{H4}	Hydrogen, lb/hr	98.3
	Hydrogen, grains/dscf	3.92
LFG_{CO}	Carbon Monoxide, lb/hr	12.8
	Carbon Monoxide, grains/dscf	0.51

		Blower Out Sample #1	Blower Out Sample #2
H_2S	Hydrogen Sulfide Concentration, ppmd	61.00	56.00
	Hydrogen Sulfide Rate, lb/hr	0.95	0.87
	Hydrogen Sulfide Rate, grains/dscf	0.038	0.035
COS	Carbonyl Sulfide Concentration, ppmd	0.53	0.53
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	200.00	170.00
	Methyl Mercaptan Rate, lb/hr	4.39	3.73
	Methyl Mercaptan Rate, grains/dscf	0.175	0.149
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.60	2.50
	Ethyl Mercaptan Rate, lb/hr	0.07	0.07
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	920.00	890.00
	Dimethyl Sulfide Rate, lb/hr	26.06	25.21
	Dimethyl Sulfide Rate, grains/dscf	1.039	1.005
CS_2	Carbon Disulfide Concentration, ppmd	0.53	0.53
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	96.00	90.00
	Dimethyl Disulfide Rate, lb/hr	4.12	3.12
	Dimethyl Disulfide Rate, grains/dscf	0.164	0.125

❶ **$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,400.00	1,300.00
	TRS-->SO2 Emission Rate, lb/hr	40.88	37.96
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.514

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

Tuesday, January 05, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz
		Method 2	FleetZoom	Kurz FM		
BLOWER OUT	7:24	2,948	3,059	2,896	-3.8%	1.7%

Air TECHNOLOGY Laboratories, Inc.

January 11, 2016

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: H010603-01

Enclosed are results for sample(s) received 1/06/16 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 1/08/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	☐	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 5/9/2016 JS Verbal
Bill to:	Republic Services
	Attn: Jim Getting
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS & ASTM1946 + H2+ CO	ASTM 1946, BTU/SCF	ASTM D5504			
	Canister ID	Sample Start	Sample End	Lab Receive												
H0106003-01	6058	-21.59	-4.27	-2	Blower Outlet 1	1/5/2016	755	C	LFG	NA	X	X	X			
-02	5959	-20.63	-3.98	-2	Blower Outlet 2	1/5/2016	822	C	LFG	NA	X	X	X			
-03	5976	-21.08	-3.99	-2.5	LFG CSU EP14	1/5/2016	950	C	LFG	NA	X	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:	COMMENTS
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY:	1-5-16 1330	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	1/6/16 0919 DATE/TIME	
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME	

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

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

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 01/06/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H010603-01		H010603-02		H010603-03			
Client Sample I.D.:	Blower Outlet 1		Blower Outlet 2		LFG CSU EP 14			
Date/Time Sampled:	1/5/16 7:55		1/5/16 8:22		1/5/16 9:50			
Date/Time Analyzed:	1/6/16 15:52		1/6/16 16:06		1/6/16 16:21			
QC Batch No.:	160106GC8A2		160106GC8A2		160106GC8A2			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	2.7		2.7		2.7			
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Hydrogen	10.6	2.7	10.8	2.7	11.3	2.7		
Carbon Dioxide	37.7	0.027	37.5	0.027	32.0	0.027		
Oxygen/Argon	7.8	1.3	7.6	1.3	9.5	1.4		
Nitrogen	32.1	2.7	32.0	2.7	40.0	2.7		
Methane	11.1	0.0027	11.3	0.0027	6.3	0.0027		
Carbon Monoxide	0.10	0.0027	0.10	0.0027	0.089	0.0027		
Net Heating Value (BTU/ft3)	145.6	2.7	148.6	2.7	106.2	2.7		
Gross Heating Value (BTU/ft3)	165.4	2.7	168.7	2.7	121.8	2.7		

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 1-8-16
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.: 160106GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	1/6/16 15:04		1/6/16 13:36		1/6/16 13:50			
Analyst Initials:	AS		AS		AS			
Datafile:	06jan020		06jan017		06jan018			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	100	70-130%	99	70-130%	0.2	<30
Carbon Dioxide	ND	0.010	97	70-130%	97	70-130%	0.0	<30
Oxygen/Argon	ND	0.50	99	70-130%	100	70-130%	0.3	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.4	<30
Methane	ND	0.0010	91	70-130%	92	70-130%	0.4	<30
Carbon Monoxide	ND	0.0010	111	70-130%	111	70-130%	0.5	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 1-8-16

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: 01/06/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H010603-01		H010603-02					
Client Sample I.D.:	Blower Outlet 1		Blower Outlet 2					
Date/Time Sampled:	1/5/16 7:55		1/5/16 8:22					
Date/Time Analyzed:	1/7/16 9:41		1/7/16 10:19					
QC Batch No.:	160107GC3A1		160107GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	61 d	5.3	56 d	5.3				
Carbonyl Sulfide	ND	0.53	ND	0.53				
Methyl Mercaptan	200 d	5.3	170 d	5.3				
Ethyl Mercaptan	2.6	0.53	2.5	0.53				
Dimethyl Sulfide	920 d	53.0	890 d	53.0				
Carbon Disulfide	ND	0.53	ND	0.53				
Dimethyl Disulfide	96 d	5.3	90 d	5.3				
Total Reduced Sulfur	1,400	0.53	1,300	0.53				

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

Reviewed/Approved By: _____ Date 1-11-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160107GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	1/7/16 9:25		1/7/16 9:02		1/7/16 9:13			
Analyst Initials:	AS		AS		AS			
Datafile:	07jan003		07jan001		07jan002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	83	70-130%	83	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	101	70-130%	103	70-130%	1.8	<30
Methyl Mercaptan	ND	0.20	91	70-130%	91	70-130%	0.3	<30
Ethyl Mercaptan	ND	0.20	118	70-130%	118	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	91	70-130%	92	70-130%	1.5	<30
Carbon Disulfide	ND	0.20	83	70-130%	85	70-130%	1.3	<30
Dimethyl Disulfide	ND	0.20	94	70-130%	98	70-130%	3.9	<30

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

Reviewed/Approved By: _____ Date: 1-8-16
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: 01/06/16
Matrix: Air
Reporting Units: ppmv

ASTM D5504

Lab No.:	H010603-01		H010603-02					
Client Sample I.D.:	Blower Outlet 1		Blower Outlet 2					
Date/Time Sampled:	1/5/16 7:55		1/5/16 8:22					
Date/Time Analyzed:	1/7/16 9:41		1/7/16 10:19					
QC Batch No.:	160107GC3A1		160107GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	61 d	5.3	56 d	5.3				
Carbonyl Sulfide	ND	0.53	ND	0.53				
Methyl Mercaptan	200 d	5.3	170 d	5.3				
Ethyl Mercaptan	2.6	0.53	2.5	0.53				
Dimethyl Sulfide	920 d	53.0	890 d	53.0				
Carbon Disulfide	ND	0.53	ND	0.53				
Dimethyl Disulfide	96 d	5.3	90 d	5.3				
Total Reduced Sulfur	1,400	0.53	1,300	0.53				

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

Reviewed/Approved By: _____ Date 1-8-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160107GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by ASTM D5504

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	1/7/16 9:25		1/7/16 9:02		1/7/16 9:13			
Analyst Initials:	AS		AS		AS			
Datafile:	07jan003		07jan001		07jan002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	83	70-130%	83	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	101	70-130%	103	70-130%	1.8	<30
Methyl Mercaptan	ND	0.20	91	70-130%	91	70-130%	0.3	<30
Ethyl Mercaptan	ND	0.20	118	70-130%	118	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	91	70-130%	92	70-130%	1.5	<30
Carbon Disulfide	ND	0.20	83	70-130%	85	70-130%	1.3	<30
Dimethyl Disulfide	ND	0.20	94	70-130%	98	70-130%	3.9	<30

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

Reviewed/Approved By: _____ Date: 1-8-16
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 =	**2,201**	scfm
Fleetzoom Total =	**2,339**	scfm

$\Delta =$ **6%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		12/30/15
Time	Start - Finish	15:45	15:55
%CH_4	Methane, %	11.20	11.20
%CO_2	Carbon Dioxide, %	38.50	39.10
%O_2	Oxygen, %	7.60	7.30
%Balance	Assumed as Nitorgen, %	30.90	29.90
%H_2	Hydrogen, %	10.70	11.20
%CO	Carbon Monoxide, %	0.10	0.10
P_g	Flue Gas Static Pressure, inches of H_2O	17.46	17.46
t_s	Blower Outlet LFG Temperature, °F	60	60
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,091	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,201	
NHV	Net Heating Value, Btu/scf	148.8	152.6
LFG_{CH4}	Methane, lb/hr	585.3	585.3
	Methane, grains/dscf	32.65	32.65
LFG_{CO2}	Carbon Dioxide, lb/hr	5,519.9	5,605.9
	Carbon Dioxide, grains/dscf	307.92	312.72
LFG_{O2}	Oxygen, lb/hr	792.3	761.0
	Oxygen, grains/dscf	44.20	42.45
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,820.0	2,728.7
	Balance gas as Nitrogen, grains/dscf	157.31	152.22
LFG_{H4}	Hydrogen, lb/hr	70.3	73.6
	Hydrogen, grains/dscf	3.92	4.10
LFG_{CO}	Carbon Monoxide, lb/hr	9.1	9.1
	Carbon Monoxide, grains/dscf	0.48	0.48

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	63.00	62.00
	Hydrogen Sulfide Rate, lb/hr	0.70	0.69
	Hydrogen Sulfide Rate, grains/dscf	0.039	0.038
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	230.00	230.00
	Methyl Mercaptan Rate, lb/hr	3.60	3.60
	Methyl Mercaptan Rate, grains/dscf	0.201	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.70	2.70
	Ethyl Mercaptan Rate, lb/hr	0.05	0.05
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	22.27	26.31
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.468
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	130.00	250.00
	Dimethyl Disulfide Rate, lb/hr	3.99	7.67
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.428

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

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.

January 5, 2016

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: G123102-01/02

Enclosed are results for sample(s) received 12/31/15 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 1/04/16.

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

Air TECHNOLOGY 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:		5 day	☐	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST					
	Canister ID	Sample Start	Sample End	Lab Receive							EPA 15/16 + TRS & ASTM1946 + H2+ CO	ASTM 1946, BTU/SCF				
G123102-01	1536	-20.5	-3.5	-2	Outlet A	12/30/2015	1545	C	LFG	NA	X	X				
-02	1616	-20.5	-3.5	-2	Outlet B	12/30/2015	1555	C	LFG	NA	X	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY	DATE/TIME: 12-30-15 1600	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME: 12/30/15 12:12
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

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

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

Client: Republic Services, Inc.
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/31/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G123102-01		G123102-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/30/15 15:45		12/30/15 15:55					
Date/Time Analyzed:	12/31/15 14:15		12/31/15 14:30					
QC Batch No.:	151231GC8A1		151231GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	10.7	2.7	11.2	2.7				
Carbon Dioxide	38.5	0.027	39.1	0.027				
Oxygen/Argon	7.6	1.3	7.3	1.3				
Nitrogen	30.9	2.7	29.9	2.7				
Methane	11.7	0.0027	11.8	0.0027				
Carbon Monoxide	0.10	0.0027	0.10	0.0027				
Net Heating Value (BTU/ft3)	148.8	2.7	152.6	2.7				
Gross Heating Value (BTU/ft3)	169.0	2.7	173.4	2.7				

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 1-4-16

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.: 151231GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/31/15 13:45		12/31/15 11:35		12/31/15 11:49			
Analyst Initials:	AS		AS		AS			
Datafile:	31dec019		31dec012		31dec013			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	83	70-130%	85	70-130%	1.7	<30
Carbon Dioxide	ND	0.010	93	70-130%	95	70-130%	1.7	<30
Oxygen/Argon	ND	0.50	107	70-130%	108	70-130%	0.7	<30
Nitrogen	ND	1.0	104	70-130%	105	70-130%	0.4	<30
Methane	ND	0.0010	107	70-130%	107	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	103	70-130%	103	70-130%	0.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 1-4-16

Mark J. Johnson
Operations Manager

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

Client: Republic Services, Inc.
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/31/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G123102-01		G123102-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/30/15 15:45		12/30/15 15:55					
Date/Time Analyzed:	12/31/15 14:52		12/31/15 15:23					
QC Batch No.:	151231GC3A1		151231GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	71 d	5.3	81 d	5.3				
Carbonyl Sulfide	ND	0.53	ND	0.53				
Methyl Mercaptan	230 d	5.3	260 d	5.3				
Ethyl Mercaptan	2.6	0.53	2.8	0.53				
Dimethyl Sulfide	1,100 d	53.0	1,100 d	53.0				
Carbon Disulfide	ND	0.53	ND	0.53				
Dimethyl Disulfide	78 d	5.3	99 d	5.3				
Total Reduced Sulfur	1,600	0.53	1,600	0.53				

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

Reviewed/Approved By: _____ Date 1-4-16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 151231GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/31/15 14:41		12/31/15 15:54		12/31/15 16:05			
Analyst Initials:	AS		AS		AS			
Datafile:	31dec002		31dec009		31dec010			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	95	70-130%	95	70-130%	0.8	<30
Carbonyl Sulfide	ND	0.20	108	70-130%	105	70-130%	2.7	<30
Methyl Mercaptan	ND	0.20	99	70-130%	102	70-130%	3.2	<30
Ethyl Mercaptan	ND	0.20	121	70-130%	121	70-130%	0.8	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	118	70-130%	17.2	<30
Carbon Disulfide	ND	0.20	90	70-130%	92	70-130%	2.0	<30
Dimethyl Disulfide	ND	0.20	101	70-130%	111	70-130%	10.1	<30

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

Reviewed/Approved By: _____ Date: 1-4-16
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 =	**3,179**	**scfm**
Fleetzoom Total =	**3,547**	**scfm**

$\Delta =$ **10%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		12/22/15
Time	Start - Finish	15:08	15:19
%CH_4	Methane, %	11.20	11.20
%CO_2	Carbon Dioxide, %	38.10	38.60
%O_2	Oxygen, %	7.50	7.30
%Balance	Assumed as Nitorgen, %	29.90	29.60
%H_2	Hydrogen, %	12.40	12.20
%CO	Carbon Monoxide, %	0.10	0.10
P_g	Flue Gas Static Pressure, inches of H_2O	19.00	19.50
t_s	Blower Outlet LFG Temperature, °F	92	92
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	3,020	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	3,179	
NHV	Net Heating Value, Btu/scf	158.5	159.6
LFG_{CH4}	Methane, lb/hr	845.2	845.2
	Methane, grains/dscf	32.65	32.65
LFG_{CO2}	Carbon Dioxide, lb/hr	7,887.8	7,991.3
	Carbon Dioxide, grains/dscf	304.72	308.72
LFG_{O2}	Oxygen, lb/hr	1,129.0	1,098.9
	Oxygen, grains/dscf	43.61	42.45
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,940.2	3,900.7
	Balance gas as Nitrogen, grains/dscf	152.22	150.69
LFG_{H4}	Hydrogen, lb/hr	117.6	115.7
	Hydrogen, grains/dscf	4.54	4.47
LFG_{CO}	Carbon Monoxide, lb/hr	13.2	13.2
	Carbon Monoxide, grains/dscf	0.48	0.48

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	63.00	62.00
	Hydrogen Sulfide Rate, lb/hr	1.01	0.99
	Hydrogen Sulfide Rate, grains/dscf	0.039	0.038
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	230.00	230.00
	Methyl Mercaptan Rate, lb/hr	5.21	5.21
	Methyl Mercaptan Rate, grains/dscf	0.201	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.70	2.70
	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	1,100.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	32.15	38.00
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.468
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	130.00	250.00
	Dimethyl Disulfide Rate, lb/hr	5.76	11.08
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.428

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,700.00	2,100.00
	TRS-->SO2 Emission Rate, lb/hr	51.23	63.29
	TRS-->SO2 Emission Rate, grains/dscf	1.979	2.445

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.

December 30, 2015

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: G122302-01/02

Enclosed are results for sample(s) received 12/23/15 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 12/28/15.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	☐	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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS & ASTM1946 + H2+ CO	ASTM 1946, BTU/SCF				
	Canister ID	Sample Start	Sample End	Lab Receive												
G1223082-01	1535	-21.1	-3.5	-3	Outlet A	12/22/2015	1508	C	LFG	NA	X	X				
↓ -02	1612	-20.9	-3.5	-3	Outlet B	12/22/2015	1519	C	LFG	NA	X	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	12-22-15 1600		
FED EX		[illegible]	12/23/15 1033

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.:	**N/A**
Date Received:	**12/23/15**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	G122302-01		G122302-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/22/15 15:08		12/22/15 15:19					
Date/Time Analyzed:	12/23/15 20:27		12/23/15 20:42					
QC Batch No.:	151223GC8A1		151223GC8A1					
Analyst Initials:	MJ		MJ					
Dilution Factor:	2.8		2.8					
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**				
Hydrogen	12.4	2.8	12.2	2.8				
Carbon Dioxide	38.1	0.028	38.6	0.028				
Oxygen/Argon	7.5	1.4	7.3	1.4				
Nitrogen	29.9	2.8	29.6	2.8				
Methane	11.2	0.0028	11.2	0.0028				
Carbon Monoxide	0.1	0.0028	0.1	0.0028				
Net Heating Value (BTU/ft3)	158.5	2.8	159.6	2.8				
Gross Heating Value (BTU/ft3)	180.1	2.8	181.3	2.8				

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 12/28/15

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.: N/A
Date Received: 12/23/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G122302-01		G122302-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/22/15 15:08		12/22/15 15:19					
Date/Time Analyzed:	12/23/15 20:27		12/23/15 20:42					
QC Batch No.:	151223GC8A1		151223GC8A1					
Analyst Initials:	MJ		MJ					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	12	2.8	12	2.8				
Carbon Dioxide	38	0.028	39	0.028				
Oxygen/Argon	7.5	1.4	7.3	1.4				
Nitrogen	30	2.8	30	2.8				
Methane	11	0.0028	11	0.0028				
Carbon Monoxide	0.11	0.0028	0.11	0.0028				
Net Heating Value (BTU/ft3)	158	2.8	160	2.8				
Gross Heating Value (BTU/ft3)	180	2.8	181	2.8				

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 12/28/15
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.: 151223GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/23/15 18:46		12/23/15 18:02		12/23/15 18:17			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	23dec027		23dec024		23dec025			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	117	70-130%	114	70-130%	2.9	<30
Carbon Dioxide	ND	0.010	101	70-130%	98	70-130%	3.2	<30
Oxygen/Argon	ND	0.50	104	70-130%	101	70-130%	3.1	<30
Nitrogen	ND	1.0	103	70-130%	100	70-130%	2.9	<30
Methane	ND	0.0010	115	70-130%	113	70-130%	1.7	<30
Carbon Monoxide	ND	0.0010	111	70-130%	111	70-130%	0.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 12/28/15

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.: N/A
Date Received: 12/23/15
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	G122302-01		G122302-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/22/15 15:08		12/22/15 15:19					
Date/Time Analyzed:	12/24/15 10:51		12/24/15 11:26					
QC Batch No.:	151224GC3A1		151224GC3A1					
Analyst Initials:	MJ		MJ					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	63 d	5.6	62 d	5.6				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	230 d	5.6	230 d	5.6				
Ethyl Mercaptan	2.7	0.56	2.7	0.56				
Dimethyl Sulfide	1,100 d	56	1,300 d	56				
Carbon Disulfide	ND	0.56	ND	0.56				
Dimethyl Disulfide	130 d	5.6	250 d	56				
Total Reduced Sulfur	1,700	0.56	2,100	0.56				

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

Reviewed/Approved By: _____ Date 1/5/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 151224GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/24/15 10:23		12/24/15 9:48		12/24/15 10:04			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	24dec003		24dec001		24dec002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	106	70-130%	105	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	110	70-130%	110	70-130%	0.0	<30
Methyl Mercaptan	ND	0.20	110	70-130%	109	70-130%	0.3	<30
Ethyl Mercaptan	ND	0.20	126	70-130%	127	70-130%	0.9	<30
Dimethyl Sulfide	ND	0.20	97	70-130%	98	70-130%	1.6	<30
Carbon Disulfide	ND	0.20	103	70-130%	103	70-130%		<30
Dimethyl Disulfide	ND	0.20	115	70-130%	118	70-130%	2.8	<30

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

Reviewed/Approved By: _____ Date: 12/28/15
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 =	**3,202**	**scfm**
Fleetzoom Total =	**3,600**	**scfm**

$\Delta =$ **11%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		12/16/15
Time	Start - Finish	15:36	15:46
%CH_4	Methane, %	10.90	10.60
%CO_2	Carbon Dioxide, %	38.00	38.50
%O_2	Oxygen, %	7.60	7.60
%Balance	Assumed as Nitorgen, %	31.50	31.10
%H_2	Hydrogen, %	11.00	11.20
%CO	Carbon Monoxide, %	0.10	0.10
P_g	Flue Gas Static Pressure, inches of H_2O	26.40	26.00
t_s	Blower Outlet LFG Temperature, °F	100	100
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	3,042	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	3,202	
NHV	Net Heating Value, Btu/scf		
LFG_{CH4}	Methane, lb/hr	828.6	805.8
	Methane, grains/dscf	31.78	30.90
LFG_{CO2}	Carbon Dioxide, lb/hr	7,924.7	8,029.0
	Carbon Dioxide, grains/dscf	303.92	307.92
LFG_{O2}	Oxygen, lb/hr	1,152.4	1,152.4
	Oxygen, grains/dscf	44.20	44.20
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,181.5	4,128.4
	Balance gas as Nitrogen, grains/dscf	160.37	158.33
LFG_{H4}	Hydrogen, lb/hr	105.1	107.0
	Hydrogen, grains/dscf	4.03	4.10
LFG_{CO}	Carbon Monoxide, lb/hr	13.3	13.3
	Carbon Monoxide, grains/dscf	0.48	0.48

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	12.00	55.00
	Hydrogen Sulfide Rate, lb/hr	0.19	0.89
	Hydrogen Sulfide Rate, grains/dscf	0.007	0.034
COS	Carbonyl Sulfide Concentration, ppmd	0.55	0.55
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	180.00	210.00
	Methyl Mercaptan Rate, lb/hr	4.10	4.79
	Methyl Mercaptan Rate, grains/dscf	0.157	0.184
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.00	2.70
	Ethyl Mercaptan Rate, lb/hr	0.06	0.08
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	1,100.00
	Dimethyl Sulfide Rate, lb/hr	32.39	32.39
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.242
CS_2	Carbon Disulfide Concentration, ppmd	0.55	0.55
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	170.00	170.00
	Dimethyl Disulfide Rate, lb/hr	7.59	7.59
	Dimethyl Disulfide Rate, grains/dscf	0.291	0.291

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	51.61	51.61
	TRS-->SO2 Emission Rate, grains/dscf	1.979	1.979

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

AIR TECHNOLOGY
Laboratories, Inc.

December 30, 2015

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: G121707-01/02

Enclosed are results for sample(s) received 12/17/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Jim Getting, Mike Lambrich, Ryan Ayers and David Randall, Weaver Consultants Group, on 12/21/15.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	☐	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS & ASTM1946 + H2+ CO	ANALYSIS REQUEST: ASTM 1946, BTU/SCF				
	Canister ID	Sample Start	Sample End	Lab Receive												
G121707-01	1532	-20.1	-3.5	-2.5	Outlet A	12/15/2015 IC	~~1536~~ 916	C	LFG	NA	X	X				
↓ -02	J1717	-20.4	-3.5	-2.5	Outlet B	12/15/2015 IC	~~1546~~ 928	C	LFG	NA	X	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	12-16-15 1600	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		RECEIVED BY: [illegible]	DATE/TIME 12/17/15 0917
RELINQUISHED BY		RECEIVED BY	DATE/TIME

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

COMMENTS

Collection dates/times corrected per conversations / email from RAyers 12/17/15 GD

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

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121707-01		G121707-02					
Client Sample I.D.:	OUTLET A		OUTLET B					
Date/Time Sampled:	12/16/15 15:36		12/16/15 15:46					
Date/Time Analyzed:	12/18/15 19:00		12/18/15 19:14					
QC Batch No.:	151218GC8A2		151218GC8A2					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	11.0	2.7	11.2	2.7				
Carbon Dioxide	38.0	0.027	38.5	0.027				
Oxygen/Argon	7.6	1.4	7.6	1.4				
Nitrogen	31.5	2.7	31.1	2.7				
Methane	10.9	0.0027	10.6	0.0027				
Carbon Monoxide	0.1	0.0027	0.1	0.0027				
Net Heating Value (BTU/ft3)	137.0	2.7	135.3	2.7				
Gross Heating Value (BTU/ft3)	156.1	2.7	154.3	2.7				

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 12-21-15

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.: 151218GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/18/15 15:06		12/18/15 13:39		12/18/15 14:11			
Analyst Initials:	AS		AS		AS			
Datafile:	18dec009		18dec006		18dec007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	97	70-130%	97	70-130%	0.2	<30
Carbon Dioxide	ND	0.010	96	70-130%	95	70-130%	1.4	<30
Oxygen/Argon	ND	0.50	99	70-130%	99	70-130%	0.1	<30
Nitrogen	ND	1.0	98	70-130%	98	70-130%	0.0	<30
Methane	ND	0.0010	124	70-130%	125	70-130%	0.7	<30
Carbon Monoxide	ND	0.0010	111	70-130%	112	70-130%	0.8	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 12-21-15

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:	**12/17/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G121707-01		G121707-02					
Client Sample I.D.:	OUTLET A		OUTLET B					
Date/Time Sampled:	12/16/15 15:36		12/16/15 15:46					
Date/Time Analyzed:	12/18/15 15:28		12/18/15 16:09					
QC Batch No.:	151217GC3A1		151217GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**				
Hydrogen Sulfide	12	0.55	55 d	5.5				
Carbonyl Sulfide	ND	0.55	ND	0.55				
Methyl Mercaptan	180 d	5.5	210 d	5.5				
Ethyl Mercaptan	2.0	0.55	2.7	0.55				
Dimethyl Sulfide	1,100 d	55.0	1,100 d	55.0				
Carbon Disulfide	ND	0.55	ND	0.55				
Dimethyl Disulfide	170 d	55.0	170 d	5.5				
Total Reduced Sulfur	1,700	0.55	1,700	0.55				

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

Reviewed/Approved By: _____ Date 12-21-15

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.: 151217GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/17/15 18:59		12/17/15 17:55		12/17/15 18:34			
Analyst Initials:	AS		AS		AS			
Datafile:	17dec003		17dec001		17dec002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	89	70-130%	91	70-130%	1.9	<30
Carbonyl Sulfide	ND	0.20	102	70-130%	102	70-130%	0.6	<30
Methyl Mercaptan	ND	0.20	98	70-130%	102	70-130%	3.4	<30
Ethyl Mercaptan	ND	0.20	95	70-130%	98	70-130%	3.4	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	102	70-130%	4.6	<30
Carbon Disulfide	ND	0.20	97	70-130%	99	70-130%	2.5	<30
Dimethyl Disulfide	ND	0.20	102	70-130%	108	70-130%	5.2	<30

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

Reviewed/Approved By: _____ Date: 12-21-15
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 =	**3,212**	**scfm**
Fleetzoom Total =	**3,414**	**scfm**

$\Delta =$ **6%**

	PARAMETER	Blower Out #1	Blower Out #2
Date	Test Date		12/8/15
Time	Start - Finish	11:58	12:08
%CH_4	Methane, %	11.40	10.40
%CO_2	Carbon Dioxide, %	37.30	34.30
%O_2	Oxygen, %	7.80	8.90
%Balance	Assumed as Nitorgen, %	31.80	35.40
%H_2	Hydrogen, %	10.70	10.00
%CO	Carbon Monoxide, %	0.10	0.10
P_g	Flue Gas Static Pressure, inches of H_2O	21.50	22.50
t_s	Blower Outlet LFG Temperature, °F	83	83
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	3,051	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	3,212	
NHV	Net Heating Value, Btu/scf	157.2	143.4
LFG_{CH4}	Methane, lb/hr	869.3	793.0
	Methane, grains/dscf	33.24	30.32
LFG_{CO2}	Carbon Dioxide, lb/hr	7,802.7	7,175.1
	Carbon Dioxide, grains/dscf	298.33	274.33
LFG_{O2}	Oxygen, lb/hr	1,186.4	1,353.7
	Oxygen, grains/dscf	45.36	51.76
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,234.3	4,713.7
	Balance gas as Nitrogen, grains/dscf	161.89	180.22
LFG_{H4}	Hydrogen, lb/hr	102.5	95.8
	Hydrogen, grains/dscf	3.92	3.66
LFG_{CO}	Carbon Monoxide, lb/hr	13.3	13.3
	Carbon Monoxide, grains/dscf	0.48	0.48

		Blower Out #1	Blower Out #2
H_2S	Hydrogen Sulfide Concentration, ppmd	63.00	0.56
	Hydrogen Sulfide Rate, lb/hr	1.02	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.039	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	210.00	89.00
	Methyl Mercaptan Rate, lb/hr	4.80	2.04
	Methyl Mercaptan Rate, grains/dscf	0.184	0.078
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.60	0.99
	Ethyl Mercaptan Rate, lb/hr	0.08	0.03
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	970.00
	Dimethyl Sulfide Rate, lb/hr	32.49	28.65
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.095
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	120.00	130.00
	Dimethyl Disulfide Rate, lb/hr	5.37	5.82
	Dimethyl Disulfide Rate, grains/dscf	0.205	0.223

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,300.00
	TRS-->SO2 Emission Rate, lb/hr	51.77	39.59
	TRS-->SO2 Emission Rate, grains/dscf	1.979	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.

December 16, 2015

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: G120907-01/02

Enclosed are results for sample(s) received 12/09/15 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 12/11/15.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	☐	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS & ASTM1946 + H2+ CO	ASTM 1946, BTU/SCF	EPA TO15 & 25C			
	Canister ID	Sample Start	Sample End	Lab Receive												
G120907-01	J1721	-20.5	-3.5	-3	Outlet A	12/8/2015	916	C	LFG	NA	X	X	X			
↳ -02	1539	-17.7	-3.5	-3	Outlet B	12/8/2015	928	C	LFG	NA	X	X	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
Ryc Ayers	12-8-15 1080		
FedEx		[illegible]	12/9/15 1605

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

COMMENTS

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

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/09/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G120907-01		G120907-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/8/15 9:16		12/8/15 9:28					
Date/Time Analyzed:	12/10/15 14:42		12/10/15 14:58					
QC Batch No.:	151210GC8A2		151210GC8A2					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	10.7	2.8	10.0	2.8				
Carbon Dioxide	37.3	0.028	34.3	0.028				
Oxygen/Argon	7.8	1.4	8.9	1.4				
Nitrogen	31.8	2.8	35.4	2.8				
Methane	11.4	0.0028	10.4	0.0028				
Carbon Monoxide	0.1	0.0028	0.1	0.0028				
Net Heating Value (BTU/ft3)	157.2	2.8	143.4	2.8				
Gross Heating Value (BTU/ft3)	178.0	2.8	162.5	2.8				

Results normalized including non-methane hydrocarbons
BTU values based on D1946 analysis and non-methane analysis assumed as propane
ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 12/11/15
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.: 151210GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/10/15 14:09		12/10/15 13:26		12/10/15 13:40			
Analyst Initials:	AS		AS		AS			
Datafile:	10dec025		10dec022		10dec023			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	102	70-130%	103	70-130%	1.1	<30
Carbon Dioxide	ND	0.010	94	70-130%	96	70-130%	2.1	<30
Oxygen/Argon	ND	0.50	95	70-130%	97	70-130%	2.2	<30
Nitrogen	ND	1.0	95	70-130%	97	70-130%	1.9	<30
Methane	ND	0.0010	102	70-130%	101	70-130%	1.1	<30
Carbon Monoxide	ND	0.0010	114	70-130%	113	70-130%	1.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 12/14/15

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 Number: NA
Date Received: 12/9/2015
Matrix: Vapor

TNMOC by EPA METHOD 25C

Lab Number:		G120907-01		G120907-02							
Client Sample ID:		Outlet A		Outlet B							
Date/Time Collected:		12/8/15 9:16		12/8/15 9:28							
Date/Time Analyzed:		12/10/15 15:58		12/10/15 16:42							
Analyst Initials:		AS		AS							
QC Batch:		151210GC8A2		151210GC8A2							
Dilution Factor:		16.8		16.8							
ANALYTE	Units	Result	RL	Result	RL						
TNMOC	ppmv C	61,000	168	54,000	168						
TNMOC uncorr*	ppmv C	32,000	168	28,000	168						

ND = Not detected at or above reporting limit.
TNMOC = Total Non-Methane Organic Carbon.
TNMOC uncorr* = TNMOC concentration in sample without nitrogen/moisture correction.
NA = Nitrogen/moisture correction causes division by zero.

Reviewed/Approved By: _____ Date: 12/11/15
Mark 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:	**12/09/15**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	G120907-01		G120907-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/8/15 9:16		12/8/15 9:28					
Date/Time Analyzed:	12/10/15 9:01		12/10/15 9:35					
QC Batch No.:	151210GC3A1		151210GC3A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv				
Hydrogen Sulfide	63 d	5.6	ND	0.56				
Carbonyl Sulfide	ND	0.56	ND	0.56				
Methyl Mercaptan	210 d	5.6	89 d	5.6				
Ethyl Mercaptan	2.6	0.56	0.99	0.56				
Dimethyl Sulfide	1,100 d	56.0	970 d	56.0				
Carbon Disulfide	ND	0.56	ND	0.56				
Dimethyl Disulfide	120 d	5.6	130 d	5.6				
Total Reduced Sulfur	1,700	0.56	1,300	0.56				

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

Reviewed/Approved By: _____ **Date** 12/11/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/10/15 8:43		12/10/15 8:18		12/10/15 8:32			
Analyst Initials:	AS		AS		AS			
Datafile:	10dec003		10dec001		10dec002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	84	70-130%	84	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	105	70-130%	0.2	<30
Methyl Mercaptan	ND	0.20	93	70-130%	92	70-130%	1.2	<30
Ethyl Mercaptan	ND	0.20	112	70-130%	120	70-130%	6.9	<30
Dimethyl Sulfide	ND	0.20	89	70-130%	93	70-130%	4.3	<30
Carbon Disulfide	ND	0.20	85	70-130%	87	70-130%	2.6	<30
Dimethyl Disulfide	ND	0.20	95	70-130%	97	70-130%	2.0	<30

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

Reviewed/Approved By: _____ Date: 12/11/15
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: 12/09/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	G120907-01		G120907-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/8/15 9:16		12/8/15 9:28					
Date/Time Analyzed:	12/11/15 7:11		12/11/15 7:51					
QC Batch No.:	151210MS2A1		151210MS2A1					
Analyst Initials:	VM		VM					
Dilution Factor:	4,200		4,200					
ANALYTE	Result ppbv	RL ppbv	Result ppbv	RL ppbv				
Dichlorodifluoromethane (12)	ND	4,200	ND	4,200				
Chloromethane	ND	8,400	ND	8,400				
1,2-Cl-1,1,2,2-F ethane (114)	ND	4,200	ND	4,200				
Vinyl Chloride	ND	4,200	ND	4,200				
Bromomethane	5,600	4,200	5,700	4,200				
Chloroethane	ND	4,200	ND	4,200				
Trichlorofluoromethane (11)	ND	4,200	ND	4,200				
1,1-Dichloroethene	ND	4,200	ND	4,200				
Carbon Disulfide	ND	21,000	ND	21,000				
1,1,2-Cl 1,2,2-F ethane (113)	ND	4,200	ND	4,200				
Acetone	900,000	21,000	420,000	21,000				
Methylene Chloride	ND	4,200	ND	4,200				
t-1,2-Dichloroethene	ND	4,200	ND	4,200				
1,1-Dichloroethane	ND	4,200	ND	4,200				
Vinyl Acetate	ND	21,000	ND	21,000				
c-1,2-Dichloroethene	ND	4,200	ND	4,200				
2-Butanone	340,000	4,200	230,000	4,200				
t-Butyl Methyl Ether (MTBE)	ND	4,200	ND	4,200				
Chloroform	ND	4,200	ND	4,200				
1,1,1-Trichloroethane	ND	4,200	ND	4,200				
Carbon Tetrachloride	ND	4,200	ND	4,200				
Benzene	180,000	4,200	130,000	4,200				
1,2-Dichloroethane	ND	4,200	ND	4,200				
Trichloroethene	ND	4,200	ND	4,200				
1,2-Dichloropropane	ND	4,200	ND	4,200				
Bromodichloromethane	ND	4,200	ND	4,200				
c-1,3-Dichloropropene	ND	4,200	ND	4,200				
4-Methyl-2-Pentanone	10,000	4,200	5,900	4,200				
Toluene	30,000	4,200	25,000	4,200				
t-1,3-Dichloropropene	ND	4,200	ND	4,200				

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:	**12/09/15**
Matrix:	**Air**
Reporting Units:	**ppbv**

EPA Method TO15

Lab No.:	G120907-01		G120907-02					
Client Sample I.D.:	Outlet A		Outlet B					
Date/Time Sampled:	12/8/15 9:16		12/8/15 9:28					
Date/Time Analyzed:	12/11/15 7:11		12/11/15 7:51					
QC Batch No.:	151210MS2A1		151210MS2A1					
Analyst Initials:	VM		VM					
Dilution Factor:	4,200		4,200					
ANALYTE	**Result ppbv**	**RL ppbv**	**Result ppbv**	**RL ppbv**				
1,1,2-Trichloroethane	ND	4,200	ND	4,200				
Tetrachloroethene	ND	4,200	ND	4,200				
2-Hexanone	4,700	4,200	ND	4,200				
Dibromochloromethane	ND	4,200	ND	4,200				
1,2-Dibromoethane	ND	4,200	ND	4,200				
Chlorobenzene	ND	4,200	ND	4,200				
Ethylbenzene	12,000	4,200	10,000	4,200				
p,&m-Xylene	20,000	4,200	18,000	4,200				
o-Xylene	7,000	4,200	6,700	4,200				
Styrene	ND	4,200	ND	4,200				
Bromoform	ND	4,200	ND	4,200				
1,1,2,2-Tetrachloroethane	ND	8,400	ND	8,400				
Benzyl Chloride	ND	4,200	ND	4,200				
4-Ethyl Toluene	ND	4,200	4,400	4,200				
1,3,5-Trimethylbenzene	ND	8,400	ND	8,400				
1,2,4-Trimethylbenzene	ND	8,400	ND	8,400				
p-Isopropyltoluene	13,000	4,200	15,000	4,200				
1,3-Dichlorobenzene	ND	4,200	ND	4,200				
1,4-Dichlorobenzene	ND	4,200	ND	4,200				
1,2-Dichlorobenzene	ND	4,200	ND	4,200				
1,2,4-Trichlorobenzene	ND	8,400	ND	8,400				
Hexachlorobutadiene	ND	4,200	ND	4,200				

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

Reviewed/Approved By: _____ **Date** 12/16/15

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: 12/09/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	METHOD BLANK							
Client Sample I.D.:	--							
Date/Time Sampled:	--							
Date/Time Analyzed:	12/11/15 4:34							
QC Batch No.:	151210MS2A1							
Analyst Initials:	VM							
Dilution Factor:	0.20							

ANALYTE	Result ppbv	RL ppbv						
Dichlorodifluoromethane (12)	ND	0.20						
Chloromethane	ND	0.40						
1,2-Cl-1,1,2,2-F ethane (114)	ND	0.20						
Vinyl Chloride	ND	0.20						
Bromomethane	0.39	0.20						
Chloroethane	ND	0.20						
Trichlorofluoromethane (11)	ND	0.20						
1,1-Dichloroethene	ND	0.20						
Carbon Disulfide	ND	1.0						
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.20						
Acetone	ND	1.0						
Methylene Chloride	ND	0.20						
t-1,2-Dichloroethene	ND	0.20						
1,1-Dichloroethane	ND	0.20						
Vinyl Acetate	ND	1.0						
c-1,2-Dichloroethene	ND	0.20						
2-Butanone	ND	0.20						
t-Butyl Methyl Ether (MTBE)	ND	0.20						
Chloroform	ND	0.20						
1,1,1-Trichloroethane	ND	0.20						
Carbon Tetrachloride	ND	0.20						
Benzene	ND	0.20						
1,2-Dichloroethane	ND	0.20						
Trichloroethene	ND	0.20						
1,2-Dichloropropane	ND	0.20						
Bromodichloromethane	ND	0.20						
c-1,3-Dichloropropene	ND	0.20						
4-Methyl-2-Pentanone	ND	0.20						
Toluene	ND	0.20						
t-1,3-Dichloropropene	ND	0.20						
1,1,2-Trichloroethane	ND	0.20						

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

Client: Republic Services
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/09/15
Matrix: Air
Reporting Units: ppbv

EPA Method TO15

Lab No.:	METHOD BLANK							
Client Sample I.D.:	--							
Date/Time Sampled:	--							
Date/Time Analyzed:	12/11/15 4:34							
QC Batch No.:	151210MS2A1							
Analyst Initials:	VM							
Dilution Factor:	0.20							
ANALYTE	Result ppbv	RL ppbv						
Tetrachloroethene	ND	0.20						
2-Hexanone	ND	0.20						
Dibromochloromethane	ND	0.20						
1,2-Dibromoethane	ND	0.20						
Chlorobenzene	ND	0.20						
Ethylbenzene	ND	0.20						
p,&m-Xylene	ND	0.20						
o-Xylene	ND	0.20						
Styrene	ND	0.20						
Bromoform	ND	0.20						
1,1,2,2-Tetrachloroethane	ND	0.40						
Benzyl Chloride	ND	0.20						
4-Ethyl Toluene	ND	0.20						
1,3,5-Trimethylbenzene	ND	0.40						
1,2,4-Trimethylbenzene	ND	0.40						
p-Isopropyltoluene	ND	0.20						
1,3-Dichlorobenzene	ND	0.20						
1,4-Dichlorobenzene	ND	0.20						
1,2-Dichlorobenzene	ND	0.20						
1,2,4-Trichlorobenzene	ND	0.40						
Hexachlorobutadiene	ND	0.20						

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

Reviewed/Approved By: _____ Date 12/11/15
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch #: 151210MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	12/11/15 4:34		12/11/15 1:58		12/11/15 2:36						
Data File ID:	10DEC016.D		10DEC012.D		10DEC013.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	10.1	101	10.2	102	0.7	70	130	30	Pass
Methylene Chloride	0.0	10.0	10.7	107	10.8	108	0.7	70	130	30	Pass
Trichloroethene	0.0	10.0	10.3	103	10.4	104	1.0	70	130	30	Pass
Toluene	0.0	10.0	10.3	103	10.3	103	0.5	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	10.9	109	10.8	108	0.3	70	130	30	Pass

RPD = Relative Percent Difference

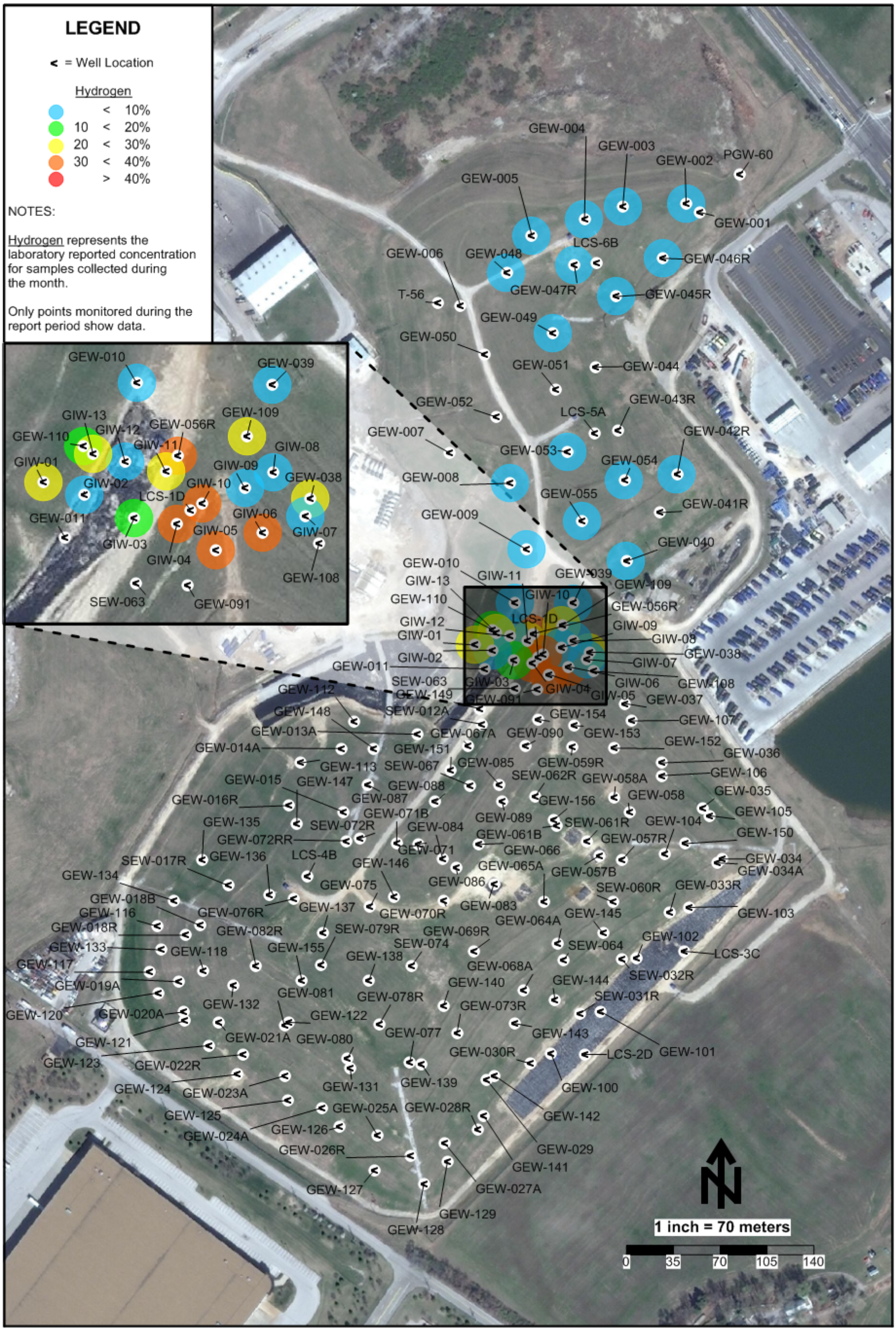
Reviewed/Approved By: _____ Date: 12/11/15

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

ATTACHMENT C

GAS WELL ANALYSIS MAPS



Hydrogen Data Map - December 2015 - Bridgeton Landfill

LEGEND

< = Well Location

Maximum Temperature

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

NOTES:

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

Only points monitored during the report period show data.

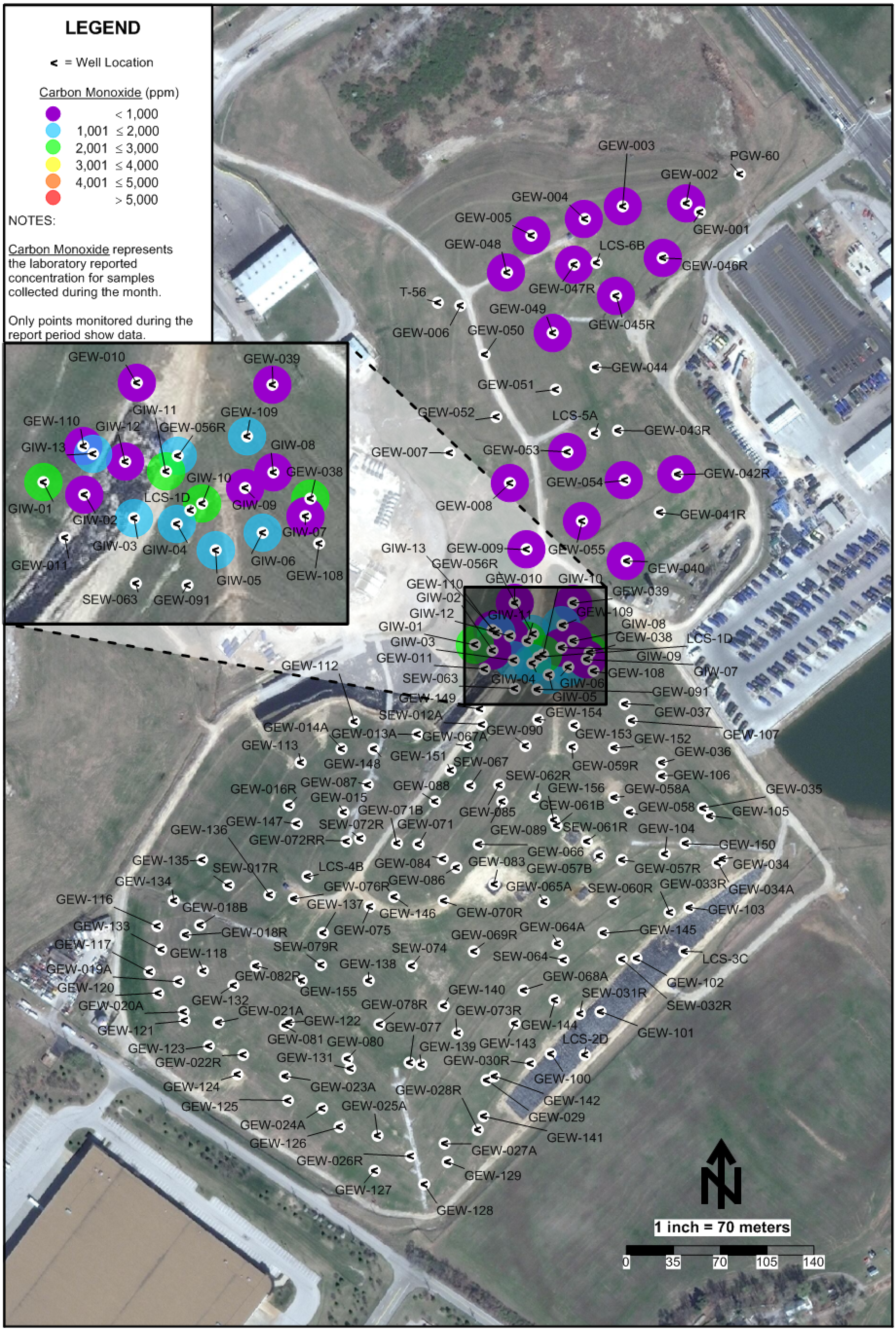
GEW-010 GEW-039 GEW-056R GIW-08 GIW-13 GIW-12 GIW-11 GEW-109 GEW-038 GEW-110 GIW-01 GIW-09 GIW-07 GIW-10 LCS-1D GIW-02 GIW-03 GIW-04 GIW-06 GEW-011 GIW-05 GEW-108 SEW-063 GEW-091

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

1 inch = 70 meters

0 35 70 105 140

Initial Temperature Maximums - December 2015 - Bridgeton Landfill



Carbon Monoxide Data Map - December 2015 - Bridgeton Landfill

ATTACHMENT D

LABORATORY 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	8/13/2015	57	40	ND	ND	ND	ND	
GEW-002	9/10/2015	55	41	ND	ND	ND	ND	
GEW-002	10/12/2015	56	41	ND	ND	ND	ND	
GEW-002	11/13/2015	54	43	ND	ND	ND	ND	
GEW-002	12/14/2015	41	32	3.2	23	ND	35	See Note 3
GEW-002	12/31/2015	53	40	ND	5.7	0.1	ND	Resample
GEW-003	8/13/2015	53	38	1.6	8.1	0.1	ND	
GEW-003	9/10/2015	49	36	2.8	13	0.1	ND	See Note 1
GEW-003	10/12/2015	47	35	2.9	15	0.1	ND	See Note 1 and 3
GEW-003	11/10/2015	50	40	ND	8.7	0.1	ND	
GEW-003	12/14/2015	42	37	ND	20	ND	ND	
GEW-004	8/13/2015	53	39	ND	7.9	0.1	ND	
GEW-004	9/10/2015	53	40	ND	6.3	0.1	ND	
GEW-004	10/12/2015	54	40	ND	5.8	0.1	ND	
GEW-004	11/10/2015	49	40	ND	10	0.1	ND	
GEW-004	12/14/2015	45	37	ND	16	ND	ND	
GEW-005	8/13/2015	43	35	ND	21	ND	ND	
GEW-005	9/10/2015	52	38	ND	10	0.1	ND	
GEW-005	10/12/2015	47	35	1.7	16	ND	ND	See Note 3
GEW-005	11/10/2015	44	36	ND	19	0.03	ND	
GEW-005	12/15/2015	41	34	ND	23	ND	ND	
GEW-006	9/10/2015	55	38	ND	6.5	ND	ND	
GEW-006	11/10/2015	51	40	ND	8.1	ND	ND	
GEW-007	7/9/2015	54	38	ND	6	ND	ND	
GEW-007	9/11/2015	57	40	ND	ND	ND	ND	
GEW-007	11/11/2015	56	41	ND	ND	ND	ND	
GEW-008	7/9/2015	46	41	2.4	8.4	1.8	ND	
GEW-008	8/13/2015	51	44	ND	ND	1.5	ND	
GEW-008	9/11/2015	49	47	ND	ND	0.7	ND	
GEW-008	10/12/2015	50	46	ND	ND	1.3	ND	
GEW-008	11/11/2015	49	47	ND	ND	2.1	ND	
GEW-008	12/15/2015	42	42	1.8	8.6	1.4	ND	See Note 3
GEW-009	8/13/2015	53	41	ND	4.3	0.5	ND	
GEW-009	9/11/2015	51	40	1.5	7	0.8	ND	See Note 1
GEW-009	10/12/2015	52	41	ND	5.1	0.8	ND	
GEW-009	11/11/2015	46	39	2	12	0.4	ND	See Note 1 and 3
GEW-009	12/15/2015	39	40	ND	19	0.3	ND	
GEW-040	8/13/2015	57	38	ND	3.4	ND	ND	
GEW-040	9/8/2015	56	40	ND	ND	ND	ND	
GEW-040	10/12/2015	57	40	ND	ND	ND	ND	
GEW-040	11/10/2015	52	37	2.4	8.5	ND	ND	See Note 1 and 3
GEW-040	12/14/2015	54	38	1.9	6.6	ND	ND	See Note 3
GEW-041R	9/8/2015	56	40	ND	3.6	ND	ND	
GEW-041R	11/10/2015	47	37	1.6	15	ND	ND	See Note 3
GEW-042R	8/13/2015	57	39	ND	3.2	ND	ND	
GEW-042R	9/8/2015	55	41	ND	ND	ND	ND	
GEW-042R	10/12/2015	56	41	ND	ND	ND	ND	
GEW-042R	11/10/2015	42	35	5	18	ND	ND	See Note 1 and 3
GEW-042R	12/14/2015	49	40	2.3	8.3	ND	ND	See Note 3
GEW-043R	9/8/2015	54	41	ND	ND	0.2	ND	
GEW-043R	11/11/2015	53	44	ND	ND	ND	ND	
GEW-044	9/10/2015	55	38	ND	5.9	ND	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-044	11/10/2015	47	37	ND	15	ND	ND	
GEW-045R	8/13/2015	57	37	ND	4.4	ND	ND	
GEW-045R	9/10/2015	58	39	ND	ND	ND	ND	
GEW-045R	10/12/2015	58	38	ND	ND	ND	ND	
GEW-045R	11/10/2015	58	39	ND	ND	ND	ND	
GEW-045R	12/14/2015	57	38	ND	3.9	ND	ND	
GEW-046R	8/13/2015	54	39	ND	5.9	0.1	ND	
GEW-046R	9/10/2015	53	40	ND	5	0.1	ND	
GEW-046R	10/12/2015	56	41	ND	ND	0.1	ND	
GEW-046R	11/10/2015	53	41	ND	4.7	0.1	ND	
GEW-046R	12/14/2015	47	39	ND	13	ND	ND	
GEW-047R	8/13/2015	41	35	ND	22	0.1	ND	
GEW-047R	9/10/2015	49	38	ND	12	0.1	ND	
GEW-047R	10/12/2015	47	37	ND	15	ND	ND	
GEW-047R	11/10/2015	41	37	ND	21	0.1	ND	
GEW-047R	12/14/2015	37	33	ND	29	ND	ND	
GEW-048	8/13/2015	54	38	ND	7.6	ND	ND	
GEW-048	9/10/2015	53	39	ND	7.5	ND	ND	
GEW-048	10/12/2015	55	39	ND	4.9	ND	ND	
GEW-048	11/10/2015	53	40	ND	5.7	ND	ND	
GEW-048	12/15/2015	49	38	ND	12	ND	ND	
GEW-049	8/13/2015	42	34	ND	23	ND	ND	
GEW-049	9/10/2015	50	35	2.9	12	0.1	ND	See Note 1
GEW-049	10/12/2015	54	39	ND	6.2	0.1	ND	
GEW-049	11/10/2015	46	37	ND	15	0.1	ND	
GEW-049	12/15/2015	46	37	ND	16	ND	ND	
GEW-050	9/10/2015	56	39	ND	4.4	0.1	ND	
GEW-050	11/10/2015	48	37	ND	13	ND	ND	
GEW-051	9/10/2015	54	41	ND	ND	1	ND	
GEW-051	11/10/2015	53	42	ND	3.3	1	ND	
GEW-052	9/10/2015	52	39	ND	8.1	0.1	ND	
GEW-052	11/11/2015	43	37	1.7	18	0.04	ND	See Note 1 and 3
GEW-053	8/13/2015	51	41	ND	ND	5.2	59	
GEW-053	9/11/2015	49	41	ND	ND	5.7	63	
GEW-053	10/12/2015	50	41	ND	ND	5.7	64	
GEW-053	11/11/2015	49	42	ND	3.3	4.8	55	
GEW-053	12/15/2015	49	41	ND	4.8	4.5	51	
GEW-054	8/13/2015	54	41	ND	ND	3	33	
GEW-054	9/11/2015	51	41	ND	ND	4.3	34	
GEW-054	10/28/2015	52	41	ND	3.5	2.2	ND	
GEW-054	11/11/2015	52	43	ND	ND	2.6	ND	
GEW-054	12/15/2015	50	42	ND	ND	5.1	39	
GEW-055	8/13/2015	54	41	ND	ND	1.5	ND	
GEW-055	9/10/2015	48	39	2.6	9.4	1.4	ND	
GEW-055	10/12/2015	50	40	2	7.3	1.4	30	See Note 3
GEW-055	11/11/2015	52	43	ND	3.2	1.2	ND	
GEW-055	12/15/2015	51	41	ND	5.8	1.8	ND	

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. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of FL-100, FL-120, and FL-140.

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	8/6/2015	49	36	2.9	11	0.2	ND	See Note 1
GEW-010	9/11/2015	40	39	4.3	16	0.6	78	
GEW-010	10/14/2015	42	44	2.9	11	0.6	79	See Note 4
GEW-010	11/11/2015	53	42	ND	3.9	0.6	50	
GEW-010	12/16/2015	54	40	ND	4.4	ND	35	
GEW-022R	9/21/2015	0.9	65	ND	ND	29	4,100	
GEW-022R	11/12/2015	0.8	65	ND	ND	30	4,800	
GEW-028R	11/13/2015	0.1	59	ND	4.9	34	3,600	
GEW-038	8/6/2015	0.2	47	4.5	16	31	3,100	
GEW-038	9/11/2015	0.3	46	5.4	19	28	3,000	
GEW-038	10/14/2015	0.3	45	5.6	20	28	3,000	See Note 4
GEW-038	11/11/2015	0.2	33	9.8	35	21	2,100	
GEW-038	12/16/2015	0.2	33	10	36	20	2,100	See Note 4
GEW-039	8/6/2015	40	52	ND	ND	4.2	200	
GEW-039	9/11/2015	39	52	ND	4.8	2.3	190	
GEW-039	10/14/2015	39	53	ND	3.9	2.4	170	
GEW-039	11/11/2015	39	55	ND	ND	2.7	170	
GEW-039	12/16/2015	37	54	ND	4.5	3.3	150	
GEW-056R	8/6/2015	2.2	52	ND	4.9	38	2,100	
GEW-056R	9/11/2015	0.6	56	ND	ND	39	2,400	
GEW-056R	10/14/2015	12	42	ND	23	22	1,300	
GEW-056R	11/11/2015	14	42	ND	24	18	1,100	
GEW-056R	12/16/2015	1.8	54	ND	5.8	37	2,000	
GEW-057R	9/18/2015	0.4	52	ND	5.4	38	2,400	
GEW-057R	11/11/2015	0.5	53	ND	3.8	40	2,800	
GEW-058	9/18/2015	0.3	46	4	14	33	2,400	
GEW-058	11/11/2015	3.5	48	3.6	14	30	2,100	See Note 3
GEW-058A	9/18/2015	5.1	55	ND	3.6	34	2,400	
GEW-058A	11/11/2015	0.4	49	3.3	12	35	2,500	
GEW-059R	9/18/2015	1.5	51	ND	ND	41	1,700	
GEW-059R	11/11/2015	0.8	51	ND	4.4	41	1,800	
GEW-065A	9/21/2015	0.4	57	ND	3.7	36	3,100	
GEW-065A	11/12/2015	0.4	58	ND	ND	37	3,200	
GEW-082R	9/21/2015	0.8	53	ND	3.7	40	2,200	
GEW-082R	11/12/2015	0.9	55	ND	ND	40	2,300	
GEW-086	9/18/2015	12	36	5.3	40	5.6	520	
GEW-086	11/12/2015	10	34	8.7	44	2.7	430	
GEW-090	9/18/2015	5	51	ND	ND	40	2,200	
GEW-090	11/12/2015	5.5	49	ND	3.6	40	2,200	
GEW-102	11/13/2015	2.1	59	ND	3.3	34	2,100	
GEW-104	11/13/2015	0.4	43	5.7	21	29	1,500	
GEW-109	8/6/2015	2.7	50	ND	11	33	2,200	
GEW-109	9/11/2015	4.8	49	2.5	14	28	2,000	See Note 1
GEW-109	10/14/2015	5.3	50	ND	12	30	2,000	
GEW-109	11/11/2015	5.6	60	ND	ND	31	2,400	
GEW-109	12/16/2015	3.6	42	5	24	25	1,500	See Note 3
GEW-110	8/6/2015	1.4	8.8	18	69	2.6	320	
GEW-110	9/11/2015	7.7	23	11	52	6.6	570	
GEW-110	10/15/2015	3.8	15	14	62	5.2	380	See Note 4
GEW-110	11/11/2015	7.8	43	4.1	23	22	1,400	
GEW-110	12/16/2015	6	33	8.7	39	13	990	See Note 4
GEW-116	11/12/2015	2.8	50	6.2	22	17	1,800	
GEW-117	9/18/2015	4	69	ND	ND	22	2,700	
GEW-117	11/12/2015	3.7	66	ND	4.8	22	2,600	
GEW-120	9/15/2015	11	65	ND	5.1	17	1,600	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-120	11/12/2015	7.6	68	ND	ND	21	2,100	
GEW-121	9/15/2015	2.2	53	2.7	9.5	31	2,800	
GEW-121	11/12/2015	2.3	46	5	18	28	2,200	See Note 3
GEW-122	9/15/2015	5.2	50	2.3	8.3	32	2,500	
GEW-122	11/12/2015	5.3	55	ND	ND	35	2,800	
GEW-123	9/15/2015	6.6	55	3.1	11	23	3,500	
GEW-123	11/12/2015	1.6	51	4.9	17	24	3,200	See Note 3
GEW-124	9/15/2015	8.3	56	2.7	9.8	22	2,000	
GEW-124	11/13/2015	7	61	ND	ND	28	2,100	
GEW-125	9/18/2015	1.7	57	ND	ND	36	3,200	
GEW-125	11/12/2015	0.5	59	ND	ND	36	3,600	
GEW-126	9/15/2015	5.5	54	ND	ND	36	3,700	
GEW-126	11/12/2015	8.2	54	ND	ND	33	3,300	
GEW-127	11/13/2015	0.4	62	ND	ND	33	4,100	
GEW-128	11/13/2015	0.7	61	ND	ND	34	3,800	
GEW-129	9/15/2015	1.8	58	ND	3.4	34	3,500	
GEW-129	11/13/2015	0.7	58	ND	3.3	36	3,400	
GEW-131	9/15/2015	20	44	2.4	8.8	23	1,500	
GEW-131	11/12/2015	20	47	ND	4.6	26	1,700	
GEW-132	11/12/2015	6.9	43	5.9	26	17	1,200	See Note 4
GEW-133	11/12/2015	0.4	53	3	11	32	3,800	
GEW-134	9/18/2015	17	57	ND	10	15	990	
GEW-134	11/12/2015	11	43	5.8	28	11	770	See Note 1 and 3
GEW-135	9/14/2015	3.8	51	2.7	9.8	31	1,900	
GEW-135	9/18/2015	4.7	56	ND	4.9	32	2,000	See Note 2
GEW-135	11/13/2015	4.8	47	4.2	15	28	1,500	See Note 3
GEW-137	11/12/2015	11	29	6.6	52	0.6	71	See Note 3
GEW-138	9/14/2015	11	49	1.7	21	16	1,400	
GEW-138	9/18/2015	11	43	2.4	31	11	960	See Note 2
GEW-138	11/12/2015	2.8	23	10	56	8	670	
GEW-139	9/14/2015	14	49	3.5	19	14	1,000	
GEW-139	9/15/2015	0.5	59	ND	4.1	34	4,600	See Note 2
GEW-139	11/13/2015	0.9	47	4	19	29	3,300	
GEW-141	9/15/2015	2	61	ND	ND	32	3,700	
GEW-141	11/13/2015	1.7	60	1.6	5.5	30	3,500	See Note 1 and 3
GEW-142	11/13/2015	0.2	51	4.1	15	29	3,500	
GEW-143	9/15/2015	0.3	46	2.5	9.1	41	3,500	
GEW-143	11/13/2015	0.2	49	3.3	12	35	3,200	
GEW-144	11/13/2015	0.8	56	1.9	6.6	33	3,500	
GEW-145	11/13/2015	1.7	52	2.9	10	32	2,700	See Note 3
GEW-146	11/12/2015	3.1	18	13	64	2	220	
GEW-147	9/15/2015	4.9	52	ND	3.6	37	2,200	
GEW-147	11/13/2015	5.1	51	ND	3.6	38	2,300	
GEW-149	11/12/2015	9.6	55	2.4	14	18	1,600	See Note 1
GEW-150	11/13/2015	9	60	2	7.9	20	1,600	
GEW-151	9/15/2015	5.7	50	3.4	14	26	1,800	
GEW-151	11/12/2015	11	56	ND	ND	28	2,200	
GEW-152	9/15/2015	5.9	51	ND	3.4	38	3,000	
GEW-152	11/13/2015	4.1	49	2.3	8.2	35	2,900	See Note 1 and 3
GEW-153	9/15/2015	20	38	ND	31	9.3	340	
GEW-153	11/13/2015	20	45	ND	19	15	580	
GEW-156	11/12/2015	4.6	37	9.1	40	9.4	1,100	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-01	8/6/2015	1.6	66	ND	ND	28	3,300	
GIW-01	9/11/2015	2.7	67	ND	ND	25	2,600	
GIW-01	10/14/2015	1.4	56	3.7	13	24	2,800	See Note 1 and 3
GIW-01	11/13/2015	2.6	66	ND	4.4	25	2,700	
GIW-01	12/9/2015	2.5	68	ND	ND	26	2,500	
GIW-02	8/6/2015	0.4	59	3.4	12	24	2,900	
GIW-02	9/11/2015	5.2	63	ND	3.1	27	2,500	
GIW-02	10/14/2015	7.8	63	ND	ND	25	2,300	
GIW-02	11/13/2015	4.7	22	12	55	5.8	370	See Note 1
GIW-02	12/10/2015	5.7	33	9	44	8.5	610	See Note 4
GIW-03	8/6/2015	0.3	50	4.5	16	28	2,900	
GIW-03	9/11/2015	0.4	60	ND	ND	36	3,400	
GIW-03	10/14/2015	0.3	41	7.5	27	24	2,300	See Note 4
GIW-03	11/13/2015	0.2	38	8.3	30	23	2,200	
GIW-03	12/10/2015	0.1	24	13	47	14	1,300	See Note 4
GIW-04	8/6/2015	0.7	54	ND	ND	42	2,800	
GIW-04	9/11/2015	0.6	43	4.2	15	36	2,100	
GIW-04	10/14/2015	0.5	43	4.4	16	36	2,200	See Note 4
GIW-04	11/13/2015	0.5	41	5	18	35	2,200	
GIW-04	12/10/2015	0.5	35	6.9	25	32	1,900	See Note 4
GIW-05	8/6/2015	2.5	58	ND	ND	35	2,200	
GIW-05	9/11/2015	2.4	48	4.4	16	28	1,900	
GIW-05	10/14/2015	1.9	32	10.0	37	18	1,100	See Note 4
GIW-05	11/13/2015	2.6	58	ND	ND	37	1,900	
GIW-05	12/09/2015	2.3	51	2.3	8.2	35	1,700	See Note 3
GIW-06	8/6/2015	0.8	61	ND	ND	34	2,100	
GIW-06	9/11/2015	0.9	59	ND	3.9	34	2,000	
GIW-06	10/14/2015	0.9	57	1.7	6.1	34	1,700	See Note 4
GIW-06	11/13/2015	0.9	56	1.8	6.2	34	1,700	
GIW-06	12/10/2015	1	56	1.8	6.3	34	1,600	See Note 4
GIW-07	8/6/2015	23	60	ND	3.7	12	1,200	
GIW-07	9/11/2015	25	56	2.5	8.8	7.5	730	
GIW-07	10/14/2015	31	54	1.7	5.8	7.1	700	See Note 4
GIW-07	11/13/2015	30	53	2.2	7.9	6.9	660	
GIW-07	12/10/2015	26	58	ND	4.5	9.6	870	
GIW-08	8/6/2015	18	48	6.9	25	2.4	590	
GIW-08	9/11/2015	13	45	3.6	37	1.1	300	
GIW-08	10/14/2015	19	62	2.8	12	5.0	740	See Note 4
GIW-08	11/13/2015	19	56	4	15	5.4	740	
GIW-08	12/09/2015	24	59	2	10	4.7	570	
GIW-08	12/10/2015	24	63	ND	4.9	6.7	860	See Note 2
GIW-09	8/6/2015	15	36	6.7	35	6.8	590	
GIW-09	9/11/2015	2.5	17	12	64	4.2	400	
GIW-09	10/14/2015	3	13	15	66	2.2	260	See Note 4
GIW-09	11/13/2015	3.9	13	16	64	2.4	220	
GIW-09	12/10/2015	5	21	14	55	5.4	340	See Note 4
GIW-10	8/6/2015	0.4	38	5.6	21	35	3,500	
GIW-10	9/11/2015	0.3	54	ND	ND	43	3,300	
GIW-10	10/14/2015	3.6	51	ND	ND	42	2,900	
GIW-10	11/13/2015	1.3	50	ND	4.5	42	3,200	
GIW-10	12/10/2015	0.4	42	5.1	18	34	2,500	See Note 1
GIW-11	8/6/2015	1.7	52	3.1	13	30	3,000	
GIW-11	9/11/2015	2.9	44	5.4	24	23	2,200	
GIW-11	10/14/2015	2.9	47	4.8	19	26	2,500	See Note 4
GIW-11	11/13/2015	3.2	48	4.2	17	27	2,500	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-11	12/09/2015	2.4	53	2.7	12	29	2,500	See Note 4
GIW-12	8/6/2015	6.7	24	8.9	54	5.3	470	
GIW-12	9/11/2015	7.1	23	9.4	55	5.2	440	
GIW-12	10/14/2015	5.2	20	11	57	5.9	510	See Note 4
GIW-12	11/13/2015	4.3	21	12	56	6.5	530	
GIW-12	12/09/2015	4.2	24	10	55	6.5	470	See Note 4
GIW-13	8/6/2015	2.9	62	ND	ND	31	2,800	
GIW-13	9/11/2015	10	62	ND	5.6	20	1,600	
GIW-13	10/14/2015	8.5	57	ND	7	25	2,000	
GIW-13	11/13/2015	4.3	63	ND	3.2	28	2,500	
GIW-13	12/09/2015	10	58	ND	5.7	25	1,700	
Flare Station[2]	8/11/2015	9.5	32	9.1	38	10	1,500	
Flare Station[2]	9/1/2015	7.9	29.7	10.3	41.7	9.2	870	See Note 5
Flare Station[2]	10/6/2015	9.4	33.3	9.0	37.0	9.9	933	See Note 5
Flare Station[2]	11/3/2015	10.7	37.3	8.0	32.0	10.7	1,100	See Note 5
Flare Station[2]	1/5/2016	11.2	37.6	7.7	32.1	10.7	1,000	

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. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of FL-100, FL-120, and FL-140.

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

AirTECHNOLOGY
Laboratories, Inc.

December 30, 2015

ANAB ACCREDITED
DOD ELAP
ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

nelac
LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C, RSK-175
TX Cert T104704450-14-6
EPA Methods TO14A, TO15
UT Cert CA0133332015-3
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: G121704-01/36

Enclosed are results for sample(s) received 12/17/15 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

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

Preliminary results were e-mailed to Jim Getting, Mike Lambrich, Ryan Ayers and David Randall, Weaver Consultants Group, on 12/28/15.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 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:		5 day	■	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
G121704-01	5907	-20.9	-5	-4.5	GIW-8	12/9/2015	1111	C	LFG	NA	X					
-02	A7804	-21.1	-5	-4.5	GIW-5	12/9/2015	1125	C	LFG	NA	X					
-03	A7805	-20.8	-5	-4.5	GIW-11	12/9/2015	1136	C	LFG	NA	X					
-04	A7651	-20.5	-5	-4.5	GIW-12	12/9/2015	1144	C	LFG	NA	X					
-05	5310	-19.8	-5	-4	GIW-13	12/9/2015	1337	C	LFG	NA	X					
-06	5921	-20.8	-5	-4.5	GIW-1	12/9/2015	1348	C	LFG	NA	X					
-07	A7665	-20.6	-5	-4	GIW-9	12/10/2015	903	C	LFG	NA	X					
-08	A7764	-20.3	-5	-4.5	GIW-8	12/10/2015	912	C	LFG	NA	X					
-09	5318	-20.5	-5	4	GIW-6	12/10/2015	920	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: RA	DATE: 12-16-15 1130	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx	DATE:	RECEIVED BY	DATE/TIME: 12/17/15 0917
RELINQUISHED BY	DATE:	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.

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: 2 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:		5 day	■	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
G124704-10	A7793	-20.8	-5	-3.5	GIW-7	12/10/2015	931	C	LFG	NA	X					
-11	5320	-18.8	-5	-4.5	GIW-10	12/10/2015	953	C	LFG	NA	X					
-12	A7808	-20.8	-5	-4	GIW-4	12/10/2015	1000	C	LFG	NA	X					
-13	5832	-21	-5	-4	GIW-3	12/10/2015	1007	C	LFG	NA	X					
-14	5823	-19.8	-5	-4	GIW-2	12/10/2015	1013	C	LFG	NA	X					
-15	3159	-19.8	-5	-3.5	GEW-40	12/14/2015	1022	C	LFG	NA	X					
-16	A8092	-20.7	-5	-3.5	GEW-42R	12/14/2015	1034	C	LFG	NA	X					
-17	5813	-20.4	-5	-4	GEW-45R	12/14/2015	1106	C	LFG	NA	X					
-18	A7798	-19.1	-5	-3.5	GEW-46R	12/14/2015	1139	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: 12-16-15 — TIME: 1130 — RECEIVED BY — DATE/TIME

RELINQUISHED BY: FED EX — DATE — RECEIVED BY: [signature] — DATE/TIME: 12/17/15 0917

RELINQUISHED BY — DATE — 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.

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: 5 day ■

DELIVERABLES

EDD ☐
EDF ☐
Level 3 ☐
Level 4 ☐

PAGE: 3 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	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G121704-19	A8080	-19.1	-5	-3.5	GEW-2	12/14/2015	1400	C	LFG	NA	X					
-20	A7765	-20.4	-5	-3.5	GEW-3	12/14/2015	1409	C	LFG	NA	X					
-21	A7797	-20.1	-5	-3.5	GEW-4	12/14/2015	1419	C	LFG	NA	X					
-22	5900	-20.7	-5	-3.5	GEW-47R	12/14/2015	1557	C	LFG	NA	X					
-23	A8070	-21.1	-5	-3	GEW-5	12/15/2015	1343	C	LFG	NA	X					
-24	5811	-20.3	-5	-3	GEW-48	12/15/2015	1358	C	LFG	NA	X					
-25	A7646	-19.8	-5	-3	GEW-8	12/15/2015	1437	C	LFG	NA	X					
-26	5307	-21	-5	-3	GEW-49	12/15/2015	1447	C	LFG	NA	X					
-27	5833	-21.1	-5	-3	GEW-53	12/15/2015	1506	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	12-16-15 1130	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY		DATE/ 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.

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:		5 day	■

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 4 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	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
G121704-28	A8085	-21.1	-5	-3	GEW-54	12/15/2015	1515	C	LFG	NA	X					
-29	5924	-21.1	-5	-3	GEW-55	12/15/2015	1530	C	LFG	NA	X					
-30	A7671	-21.2	-5	-2.5	GEW-9	12/15/2015	1541	C	LFG	NA	X					
-31	A8088	-18.3	-5	-3	GEW-38	12/16/2015	825	C	LFG	NA	X					
-32	4645	-18	-5	-3	GEW-109	12/16/2015	834	C	LFG	NA	X					
-33	A8075	-20.6	-5	-3	GEW-39	12/16/2015	852	C	LFG	NA	X					
-34	A7770	-20.5	-5	-3	GEW-56R	12/16/2015	912	C	LFG	NA	X					
-35	A7819	-20.9	-5	-3	GEW-10	12/16/2015	929	C	LFG	NA	X					
-36	3839	-20.4	-5	-3.5	GEW-110	12/16/2015	942	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	12-16-15 1130	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		RECEIVED BY: [signature]	DATE/TIME: 12/17/15 0917
RELINQUISHED BY		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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-01		G121704-02		G121704-03		G121704-04	
Client Sample I.D.:	GIW-8		GIW-5		GIW-11		GIW-12	
Date/Time Sampled:	12/9/15 11:11		12/9/15 11:25		12/9/15 11:36		12/9/15 11:44	
Date/Time Analyzed:	12/21/15 18:27		12/21/15 18:42		12/21/15 18:56		12/21/15 19:11	
QC Batch No.:	151221GC8A1		151221GC8A1		151221GC8A1		151221GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.1		3.1		3.1		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	4.7	3.1	35	3.1	29	3.1	6.5	3.1
Carbon Dioxide	59	0.031	51	0.031	53	0.031	24	0.031
Oxygen/Argon	2.2	1.5	2.3	1.5	2.7	1.5	10	1.5
Nitrogen	9.6	3.1	8.2	3.1	12	3.1	55	3.1
Methane	24	0.0031	2.3	0.0031	2.4	0.0031	4.2	0.0031
Carbon Monoxide	0.057	0.0031	0.17	0.0031	0.25	0.0031	0.047	0.0031

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

Reviewed/Approved By: _____ Date 12-28-15

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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-05		G121704-06		G121704-07		G121704-08	
Client Sample I.D.:	GIW-13		GIW-1		GIW-9		GIW-8	
Date/Time Sampled:	12/9/15 13:37		12/9/15 13:48		12/10/15 9:03		12/10/15 9:12	
Date/Time Analyzed:	12/21/15 19:25		12/21/15 19:40		12/21/15 19:54		12/21/15 20:09	
QC Batch No.:	151221GC8A1		151221GC8A1		151221GC8A1		151221GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.1		3.0		3.1	
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	3.0	26	3.1	5.4	3.0	6.7	3.1
Carbon Dioxide	58	0.030	68	0.031	21	0.030	63	0.031
Oxygen/Argon	ND	1.5	ND	1.5	14	1.5	ND	1.5
Nitrogen	5.7	3.0	ND	3.1	55	3.0	4.9	3.1
Methane	10	0.0030	2.5	0.0031	5.0	0.0030	24	0.0031
Carbon Monoxide	0.17	0.0030	0.25	0.0031	0.034	0.0030	0.086	0.0031

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

Reviewed/Approved By: _____ Date 12-28-15

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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-09		G121704-10		G121704-11		G121704-12	
Client Sample I.D.:	GIW-6		GIW-7		GIW-10		GIW-4	
Date/Time Sampled:	12/10/15 9:20		12/10/15 9:31		12/10/15 9:53		12/10/15 10:00	
Date/Time Analyzed:	12/21/15 20:23		12/21/15 20:38		12/21/15 20:52		12/21/15 21:07	
QC Batch No.:	151221GC8A1		151221GC8A1		151221GC8A1		151221GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		2.9		3.1		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	34	3.0	9.6	2.9	34	3.1	32	3.0
Carbon Dioxide	56	0.030	58	0.029	42	0.031	35	0.030
Oxygen/Argon	1.8	1.5	ND	1.4	5.1	1.5	6.9	1.5
Nitrogen	6.3	3.0	4.5	2.9	18	3.1	25	3.0
Methane	1.0	0.0030	26	0.0029	0.40	0.0031	0.45	0.0030
Carbon Monoxide	0.16	0.0030	0.087	0.0029	0.25	0.0031	0.19	0.0030

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

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-13		G121704-14		G121704-15		G121704-16	
Client Sample I.D.:	GIW-3		GIW-2		GEW-40		GEW-42R	
Date/Time Sampled:	12/10/15 10:07		12/10/15 10:13		12/14/15 10:22		12/14/15 10:34	
Date/Time Analyzed:	12/21/15 21:22		12/21/15 21:36		12/21/15 21:51		12/21/15 22:05	
QC Batch No.:	151221GC8A1		151221GC8A1		151221GC8A1		151221GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		2.9		2.9	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	14	3.0	8.5	3.0	ND d	0.029	ND d	0.029
Carbon Dioxide	24	0.030	33	0.030	38	0.029	40	0.029
Oxygen/Argon	13	1.5	9.0	1.5	1.9	1.4	2.3	1.4
Nitrogen	47	3.0	44	3.0	6.6	2.9	8.3	2.9
Methane	0.14	0.0030	5.7	0.0030	54	0.0029	49	0.0029
Carbon Monoxide	0.13	0.0030	0.061	0.0030	ND	0.0029	ND	0.0029

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-17		G121704-18		G121704-19		G121704-20	
Client Sample I.D.:	GEW-45R		GEW-46R		GEW-2		GEW-3	
Date/Time Sampled:	12/14/15 11:06		12/14/15 11:39		12/14/15 14:00		12/14/15 14:09	
Date/Time Analyzed:	12/22/15 10:52		12/22/15 11:07		12/22/15 11:21		12/22/15 11:36	
QC Batch No.:	151222GC8A1		151222GC8A1		151222GC8A1		151222GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		2.9		2.9		2.9	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.030	ND d	0.029	ND d	0.029	ND d	0.029
Carbon Dioxide	38	0.030	39	0.029	32	0.029	37	0.029
Oxygen/Argon	ND	1.5	ND	1.4	3.2	1.4	ND	1.4
Nitrogen	3.9	3.0	13	2.9	23	2.9	20	2.9
Methane	57	0.0030	47	0.0029	41	0.0029	42	0.0029
Carbon Monoxide	ND	0.0030	ND	0.0029	0.0035	0.0029	ND	0.0029

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-21		G121704-22		G121704-23		G121704-24	
Client Sample I.D.:	GEW-4		GEW-47R		GEW-5		GEW-48	
Date/Time Sampled:	12/14/15 14:19		12/14/15 15:57		12/15/15 13:43		12/15/15 13:58	
Date/Time Analyzed:	12/22/15 11:50		12/22/15 12:05		12/22/15 12:19		12/22/15 12:34	
QC Batch No.:	151222GC8A1		151222GC8A1		151222GC8A1		151222GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	2.9		2.9		2.8		2.8	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.029	ND d	0.029	ND d	0.028	ND d	0.028
Carbon Dioxide	37	0.029	33	0.029	34	0.028	38	0.028
Oxygen/Argon	ND	1.4	ND	1.4	ND	1.4	ND	1.4
Nitrogen	16	2.9	29	2.9	23	2.8	12	2.8
Methane	45	0.0029	37	0.0029	41	0.0028	49	0.0028
Carbon Monoxide	ND	0.0029	ND	0.0029	ND	0.0028	ND	0.0028

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ **Date** 12-28-15

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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-25		G121704-26		G121704-27		G121704-28	
Client Sample I.D.:	GEW-8		GEW-49		GEW-53		GEW-54	
Date/Time Sampled:	12/15/15 14:37		12/15/15 14:47		12/15/15 15:06		12/15/15 15:15	
Date/Time Analyzed:	12/22/15 12:48		12/22/15 13:03		12/22/15 13:17		12/22/15 13:32	
QC Batch No.:	151222GC8A1		151222GC8A1		151222GC8A1		151222GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	2.8		2.8		2.8		2.8	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	1.4 d	0.028	ND d	0.028	4.5	2.8	5.1	2.8
Carbon Dioxide	42	0.028	37	0.028	41	0.028	42	0.028
Oxygen/Argon	1.8	1.4	ND	1.4	ND	1.4	ND	1.4
Nitrogen	8.6	2.8	16	2.8	4.8	2.8	ND	2.8
Methane	46	0.0028	46	0.0028	49	0.0028	50	0.0028
Carbon Monoxide	ND	0.0028	ND	0.0028	0.0051	0.0028	0.0039	0.0028

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-29		G121704-30		G121704-31		G121704-32	
Client Sample I.D.:	GEW-55		GEW-9		GEW-38		GEW-109	
Date/Time Sampled:	12/15/15 15:30		12/15/15 15:41		12/16/15 8:25		12/16/15 8:34	
Date/Time Analyzed:	12/22/15 13:46		12/22/15 14:01		12/22/15 14:16		12/22/15 14:30	
QC Batch No.:	151222GC8A1		151222GC8A1		151222GC8A1		151222GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	2.8		2.7		2.9		2.8	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	1.8 d	0.028	0.33 d	0.027	20	2.9	25	2.8
Carbon Dioxide	41	0.028	40	0.027	33	0.029	42	0.028
Oxygen/Argon	ND	1.4	ND	1.4	10.0	1.4	5.0	1.4
Nitrogen	5.8	2.8	19	2.7	36	2.9	24	2.8
Methane	51	0.0028	39	0.0027	0.19	0.0029	3.6	0.0028
Carbon Monoxide	ND	0.0028	ND	0.0027	0.21	0.0029	0.15	0.0028

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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: 12/17/15
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	G121704-33		G121704-34		G121704-35		G121704-36	
Client Sample I.D.:	GEW-39		GEW-56R		GEW-10		GEW-110	
Date/Time Sampled:	12/16/15 8:52		12/16/15 9:12		12/16/15 9:29		12/16/15 9:42	
Date/Time Analyzed:	12/22/15 14:45		12/22/15 15:01		12/22/15 15:16		12/22/15 15:30	
QC Batch No.:	151222GC8A1		151222GC8A1		151222GC8A1		151222GC8A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	2.8		2.8		2.8		2.9	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	3.3	2.8	37	2.8	ND d	0.028	13	2.9
Carbon Dioxide	54	0.028	54	0.028	40	0.028	33	0.029
Oxygen/Argon	ND	1.4	ND	1.4	ND	1.4	8.7	1.4
Nitrogen	4.5	2.8	5.8	2.8	4.4	2.8	39	2.9
Methane	37	0.0028	1.8	0.0028	54	0.0028	6.0	0.0029
Carbon Monoxide	0.015	0.0028	0.20	0.0028	0.0035	0.0028	0.099	0.0029

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = reported from secondary dilution, batch 151223GC8A1

Reviewed/Approved By: _____ Date 12-28-15

Mark Johnson
Operations Manager

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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.: 151221GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/21/15 17:16		12/21/15 14:54		12/21/15 15:09			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	21dec008		21dec005		21dec006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	86	70-130%	86	70-130%	0.4	<30
Carbon Dioxide	ND	0.010	94	70-130%	94	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	106	70-130%	105	70-130%	0.2	<30
Nitrogen	ND	1.0	105	70-130%	105	70-130%	0.1	<30
Methane	ND	0.0010	124	70-130%	122	70-130%	1.4	<30
Carbon Monoxide	ND	0.0010	114	70-130%	113	70-130%	0.8	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 12-28-15

Mark J. Johnson
Operations Manager

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

QC Batch No.: 151222GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/22/15 10:07		12/22/15 9:08		12/22/15 9:23			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	22dec006		22dec003		22dec004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	117	70-130%	117	70-130%	0.2	<30
Carbon Dioxide	ND	0.010	104	70-130%	103	70-130%	0.4	<30
Oxygen/Argon	ND	0.50	102	70-130%	101	70-130%	0.1	<30
Nitrogen	ND	1.0	103	70-130%	103	70-130%	0.4	<30
Methane	ND	0.0010	97	70-130%	96	70-130%	0.3	<30
Carbon Monoxide	ND	0.0010	116	70-130%	113	70-130%	2.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 12-28-15

Mark J. Johnson
Operations Manager

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

QC Batch # 151223GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	12/23/2015 13:48		12/23/2015 13:38		12/23/2015 13:43			
Analyst Initials:	MJ		MJ		MJ			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.010	92	70-130	93	70-130	0.9	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 12-28-15

Mark Johnson
Operations Manager

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AirTECHNOLOGY
Laboratories, Inc.

January 8, 2016

ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
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: H010401-01

Enclosed are results for sample(s) received 1/04/16 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 1/07/16.

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

Air TECHNOLOGY 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:		5 day	☐	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	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
GT H010401-01	5920	-21.1	-5	-2.5	GEW-2	12/31/2015	852	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 12-31-15 0900	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX	DATE/ RECEIVED BY	DATE/TIME	1/4/16 1123
RELINQUISHED BY	DATE/ 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, Inc.
Attn: Jim Getting
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 01/04/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H010401-01	
Client Sample I.D.:	GEW-2	
Date/Time Sampled:	12/31/15 8:52	
Date/Time Analyzed:	1/4/16 15:08	
QC Batch No.:	160104GC8A1	
Analyst Initials:	AS	
Dilution Factor:	2.7	

ANALYTE	Result % v/v	RL % v/v
Hydrogen	0.060 d	0.027
Carbon Dioxide	40	0.027
Oxygen/Argon	ND	1.4
Nitrogen	5.7	2.7
Methane	53	0.0027
Carbon Monoxide	ND	0.0027

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160105GC8A2

Reviewed/Approved By: _____ Date 1-7-16
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.: 160104GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	1/4/16 14:51		1/4/16 14:08		1/4/16 14:22			
Analyst Initials:	AS		AS		AS			
Datafile:	04jan022		04jan019		04jan020			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	110	70-130%	110	70-130%	0.3	<30
Carbon Dioxide	ND	0.010	103	70-130%	103	70-130%	0.7	<30
Oxygen/Argon	ND	0.50	101	70-130%	101	70-130%	0.1	<30
Nitrogen	ND	1.0	101	70-130%	101	70-130%	0.1	<30
Methane	ND	0.0010	93	70-130%	91	70-130%	2.8	<30
Carbon Monoxide	ND	0.0010	107	70-130%	105	70-130%	2.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 1-7-16

Mark J. Johnson
Operations Manager

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

QC Batch # 160105GC11A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	1/5/2016 13:53		1/5/2016 13:43		1/5/2016 13:48			
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	95	70-130	90	70-130	5.8	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: Date: 1-7-16

Mark Johnson
Operations Manager

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

ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

WELLFIELD DATA TABLE

December 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	12/4/2015 18:11	56.3	39.5	0.0	4.2	45.9		0	0	0.9	0.9	-11.2
GEW-002	12/4/2015 18:12	55.5	40.9	0.0	3.6	45.6		0	0	0.9	0.9	-11.6
GEW-002	12/7/2015 10:23	53.6	46.3	0.0	0.1	30.0	30.0			0.8	0.8	-10.7
GEW-002	12/7/2015 10:25	53.7	46.2	0.0	0.1	45.0	45.0			0.4	0.4	-10.7
GEW-002	12/14/2015 13:59	46.9	38.1	0.0	15.0	122.0	122.0	55	60	-3.0	-3.0	-10.7
GEW-002	12/14/2015 14:04	47.1	39.0	0.0	13.9	122.0	122.0	21	22	-2.1	-2.1	-10.8
GEW-002	12/21/2015 11:18	53.7	41.6	0.0	4.7	122.0	122.0	68	65	-2.2	-2.1	-10.5
GEW-002	12/21/2015 11:23	53.7	41.8	0.0	4.5	122.0	122.0	32	32	-0.8	-0.8	-10.4
GEW-002	12/29/2015 10:40	56.3	39.7	0.0	4.0	118.4		20	20	-1.0	-1.1	-9.7
GEW-002	12/31/2015 8:51	54.2	44.0	0.0	1.8	118.4		13	17	-0.5	-0.5	-8.8
GEW-002	12/31/2015 8:55	56.0	39.2	0.0	4.8	118.3		13	13	-0.4	-0.4	-8.7
GEW-003	12/4/2015 18:22	55.7	40.1	0.0	4.2	45.2		5	7	0.5	0.5	-11.6
GEW-003	12/4/2015 18:23	55.2	41.6	0.0	3.2	44.8		5	4	0.5	0.5	-11.5
GEW-003	12/7/2015 10:28	54.9	45.0	0.0	0.1	30.0	30.0			0.4	0.4	-10.2
GEW-003	12/7/2015 10:30	54.6	45.3	0.0	0.1	85.0	85.0	15	14	0.0	0.0	-9.2
GEW-003	12/14/2015 14:07	42.8	38.7	0.0	18.5	111.0	111.0	42	38	-4.1	-4.1	-10.3
GEW-003	12/14/2015 14:13	42.7	38.8	0.0	18.5	111.0	111.0	21	17	-3.1	-3.1	-10.9
GEW-003	12/21/2015 11:29	46.3	40.1	0.0	13.6	105.0	105.0	26	24	-0.2	-0.3	-10.1
GEW-003	12/29/2015 11:03	49.2	38.9	0.0	11.9	111.9		19	19	-1.1	-1.1	-9.4
GEW-003	12/29/2015 11:06	49.7	38.3	0.0	12.0	107.9		0	0	-1.0	-1.0	-9.4
GEW-004	12/4/2015 18:27	49.5	39.0	0.0	11.5	43.9		0	0	0.2	0.2	-11.4
GEW-004	12/4/2015 18:28	48.8	38.7	0.0	12.5	43.6		0	0	0.2	0.2	-11.5
GEW-004	12/7/2015 10:32	46.0	40.7	0.0	13.3	30.0	30.0			0.2	0.2	-8.9
GEW-004	12/7/2015 10:34	46.1	40.1	0.0	13.8	40.0	40.0			0.1	0.1	-8.8
GEW-004	12/14/2015 14:17	47.5	40.5	0.0	12.0	115.0	115.0	28	26	-2.4	-2.4	-11.0
GEW-004	12/14/2015 14:23	48.2	40.7	0.0	11.1	115.0	115.0	16	11	-2.0	-2.0	-11.6
GEW-004	12/21/2015 11:37	52.3	42.2	0.0	5.5	100.0	100.0	35	44	-0.2	-0.2	-10.3
GEW-004	12/29/2015 11:16	53.9	40.0	0.0	6.1	100.9		0	0	-0.8	-0.8	-9.7
GEW-005	12/7/2015 11:29	39.7	35.9	0.0	24.4	80.0	80.0			-0.2	-0.2	-8.8
GEW-005	12/15/2015 13:42	42.1	34.6	0.0	23.3	85.0	85.0			0.1	0.1	-10.5
GEW-005	12/15/2015 13:47	41.0	35.7	0.0	23.3	88.0	88.0	21	20	0.0	0.0	-9.7
GEW-005	12/21/2015 11:59	41.8	36.5	0.0	21.7	88.0	88.0	36	38	-0.2	-0.2	-10.1
GEW-005	12/29/2015 14:05	42.7	34.9	0.0	22.4	93.4		0	0	-0.3	-0.3	-7.8
GEW-006	12/7/2015 11:33	46.6	38.1	0.0	15.3	70.0	70.0			-0.1	-0.1	-8.6
GEW-006	12/15/2015 14:06	51.9	38.9	0.0	9.2	70.0	70.0		1	0.0	0.0	-9.6
GEW-006	12/15/2015 14:08	52.2	38.5	0.0	9.3	70.0	70.0	15	15	-0.1	-0.1	-9.5
GEW-006	12/21/2015 14:57	51.9	39.1	0.0	9.0	84.0	84.0	10	4	-0.2	-0.2	-9.4
GEW-006	12/29/2015 14:19	51.7	37.3	0.0	11.0	82.5		0	0	-0.4	-0.4	-7.7
GEW-007	12/7/2015 14:02	57.0	42.9	0.0	0.1	80.0	80.0			-2.0	-1.9	-9.0
GEW-007	12/15/2015 14:29	58.0	41.9	0.0	0.1	85.0	85.0	9	2	-2.3	-2.3	-9.6
GEW-007	12/21/2015 15:13	56.6	43.3	0.0	0.1	90.0	90.0	8	8	-2.3	-2.2	-9.6
GEW-007	12/30/2015 11:45	55.5	42.5	0.0	2.0	90.5		7	9	-1.9	-1.9	-7.1

December 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-008	12/7/2015 14:06	52.3	46.2	0.0	1.5	100.0	100.0		1	-0.7	-0.7	-8.9
GEW-008	12/15/2015 14:35	51.2	47.4	0.0	1.4	100.0	100.0	12	8	-1.1	-1.1	-9.6
GEW-008	12/15/2015 14:40	51.6	46.8	0.0	1.6	100.0	100.0	18	13	-1.2	-1.2	-9.5
GEW-008	12/21/2015 15:19	50.9	48.4	0.0	0.7	108.0	108.0	8	9	-1.0	-1.0	-9.4
GEW-008	12/30/2015 11:42	50.7	40.7	0.0	8.6	111.8		11	18	-0.7	-0.7	-6.8
GEW-009	12/7/2015 14:32	54.4	45.2	0.0	0.4	110.0	110.0		6	0.0	0.0	-5.9
GEW-009	12/7/2015 14:34	54.1	45.1	0.0	0.8	110.0	110.0	16		-0.6	-0.5	-5.7
GEW-009	12/15/2015 15:39	39.9	42.6	0.0	17.5	105.0	105.0	21	21	-1.8	-1.8	-12.4
GEW-009	12/15/2015 15:44	40.3	41.8	0.0	17.9	105.0	105.0			-0.9	-0.9	-12.6
GEW-009	12/23/2015 9:09	48.5	43.4	0.0	8.1	124.5		35	35	0.0	0.0	-11.3
GEW-009	12/30/2015 11:38	44.3	39.0	0.0	16.7	117.8		10	10	-0.4	-0.4	-13.0
GEW-010	12/7/2015 14:38	56.0	43.8	0.0	0.2	50.0	50.0			-1.3	-1.3	-8.5
GEW-010	12/16/2015 9:27	53.2	46.7	0.0	0.1	55.0	55.0			-0.2	-0.2	-4.6
GEW-010	12/16/2015 9:31	56.3	43.6	0.0	0.1	55.0	55.0	1		-0.2	-0.2	-4.2
GEW-010	12/23/2015 9:00	53.1	41.7	0.5	4.7	59.9		3	3	-1.6	-1.6	-11.2
GEW-010	12/29/2015 11:23	53.8	43.3	0.0	2.9	36.0				-3.6	-3.6	-15.6
GEW-020A	12/10/2015 14:10	0.9	57.8	4.3	37.0	90.0	90.0	193	192	-11.4	-11.4	-11.5
GEW-022R	12/10/2015 14:13	1.0	74.6	0.0	24.4	170.0	170.0	168	169	-9.8	-9.0	-8.0
GEW-022R	12/10/2015 14:14	1.0	73.8	0.0	25.2	170.0	170.0	128	170	-8.3	-9.8	-7.9
GEW-027A	12/10/2015 14:25	0.2	58.5	3.3	38.0	90.0	90.0	207	208	-13.5	-13.2	-13.5
GEW-028R	12/10/2015 14:28	0.2	54.4	4.7	40.7	150.0	150.0	199	196	-13.4	-13.3	-13.2
GEW-028R	12/10/2015 14:28	0.3	59.8	2.9	37.0	150.0	150.0	197	197	-13.5	-13.4	-13.4
GEW-038	12/8/2015 11:38	0.2	42.8	8.0	49.0	52.0	52.0	14		-14.1	-14.0	-14.0
GEW-038	12/8/2015 11:39	0.2	42.4	8.4	49.0	52.0	52.0		1	-14.6	-14.8	-15.0
GEW-038	12/16/2015 8:20	0.3	44.7	7.6	47.4	45.0	45.0			-3.7	-3.7	-3.8
GEW-038	12/16/2015 8:29	0.2	47.8	6.8	45.2	45.0	45.0	27		-3.6	-3.6	-3.6
GEW-038	12/23/2015 8:59	0.4	52.0	3.9	43.7	59.9		6	3	-8.2	-8.2	-11.4
GEW-038	12/29/2015 11:04	0.1	27.8	12.8	59.3	33.4				-11.7	-11.8	-15.3
GEW-038	12/29/2015 11:06	0.2	32.6	10.1	57.1	33.6		9	5	-1.2	-1.0	-14.8
GEW-039	12/1/2015 15:34	32.1	47.7	0.6	19.6	128.0	128.0	81	82	-1.9	-1.9	-17.4
GEW-039	12/8/2015 11:37	32.1	48.7	0.3	18.9	136.0				-1.4	-1.3	-22.2
GEW-039	12/8/2015 11:38	35.2	49.4	0.1	15.3	136.0				-1.3	-1.3	-22.6
GEW-039	12/16/2015 8:51	39.4	59.4	0.0	1.2	133.0	133.0	14	15	0.0	0.0	-5.0
GEW-039	12/16/2015 8:58	40.0	58.3	0.0	1.7	133.0	133.0	27	26	-0.2	-0.2	-5.0
GEW-039	12/23/2015 9:04	39.3	52.8	0.0	7.9	134.6				-0.8	-0.8	-11.1
GEW-039	12/23/2015 9:05	39.2	52.3	0.0	8.5	134.6				-0.7	-0.7	-10.8
GEW-039	12/29/2015 11:09	33.8	47.1	0.0	19.1	130.8				-1.8	-1.8	-15.8
GEW-039	12/29/2015 11:10	33.1	45.7	0.0	21.2	130.5				-1.8	-1.8	-15.7
GEW-040	12/7/2015 9:42	56.9	43.0	0.0	0.1	70.0	70.0	21		-0.6	-0.6	-11.2
GEW-040	12/14/2015 10:20	57.2	42.7	0.0	0.1	80.0	80.0	34	38	-0.5	-0.5	-10.7
GEW-040	12/14/2015 10:26	56.6	43.3	0.0	0.1	80.0	80.0	30	31	-0.4	-0.4	-9.9
GEW-040	12/21/2015 10:22	57.8	42.0	0.0	0.2	80.0	80.0			-0.6	-0.6	-10.9

December 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	12/29/2015 8:49	58.1	41.2	0.0	0.7	87.4		0	0	-1.3	-1.2	-13.3
GEW-040	12/29/2015 8:54	57.7	41.6	0.0	0.7	83.4		0	0	-0.6	-0.6	-10.0
GEW-041R	12/7/2015 9:45	58.0	41.9	0.0	0.1	71.0	71.0		9	-0.1	-0.1	-11.2
GEW-041R	12/14/2015 10:29	56.0	43.9	0.0	0.1	90.0	90.0	10		-0.1	-0.1	-7.8
GEW-041R	12/21/2015 10:27	56.6	43.3	0.0	0.1	88.0	88.0			-0.1	-0.1	-10.6
GEW-041R	12/29/2015 9:00	58.2	41.3	0.0	0.5	95.2		0	14	-0.5	-0.5	-9.4
GEW-042R	12/7/2015 9:47	56.9	43.0	0.0	0.1	94.0	94.0	21	21	-1.2	-1.2	-4.2
GEW-042R	12/14/2015 10:33	54.0	45.9	0.0	0.1	90.0	90.0	19	22	-1.2	-1.3	-3.4
GEW-042R	12/14/2015 10:37	53.5	46.4	0.0	0.1	90.0	90.0	16	16	-1.0	-1.1	-3.3
GEW-042R	12/21/2015 10:32	55.2	44.7	0.0	0.1	95.0	95.0	59	42	-1.4	-1.1	-3.1
GEW-042R	12/29/2015 9:05	56.5	43.1	0.0	0.4	99.9		11	0	-1.0	-1.0	-1.5
GEW-043R	12/7/2015 9:51	55.9	44.0	0.0	0.1	124.0	124.0	29	32	-1.4	-1.4	-10.7
GEW-043R	12/14/2015 10:49	55.0	44.9	0.0	0.1	120.0	120.0	42	40	-2.0	-2.0	-10.2
GEW-043R	12/21/2015 10:37	55.2	44.7	0.0	0.1	127.0	127.0	46	204	-1.7	-10.4	-10.4
GEW-043R	12/29/2015 9:10	55.4	42.6	0.0	2.0	126.1		33	40	-2.8	-2.9	-8.9
GEW-043R	12/29/2015 9:13	55.7	42.8	0.0	1.5	119.1		20	20	-1.6	-1.6	-9.7
GEW-044	12/7/2015 9:55	50.2	39.0	0.0	10.8	80.0	80.0			-0.8	-0.8	-4.9
GEW-044	12/14/2015 10:53	46.9	36.8	0.0	16.3	70.0	70.0			-1.2	-1.2	-5.5
GEW-044	12/21/2015 10:43	49.9	38.2	0.0	11.9	70.0	70.0	4	8	-0.6	-0.6	-4.5
GEW-044	12/29/2015 9:21	55.0	41.2	0.0	3.8	46.9		0	0	-2.8	-2.8	-3.8
GEW-044	12/29/2015 9:23	55.8	41.4	0.0	2.8	47.2		0	0	-3.0	-3.0	-4.2
GEW-045R	12/7/2015 10:00	58.0	41.9	0.0	0.1	65.0	65.0			-2.2	-2.2	-11.2
GEW-045R	12/14/2015 11:05	58.4	41.4	0.0	0.2	55.0	55.0			-2.7	-2.8	-10.4
GEW-045R	12/14/2015 11:10	58.3	41.6	0.0	0.1	55.0	55.0			-3.1	-2.7	-10.4
GEW-045R	12/21/2015 10:48	54.1	45.8	0.0	0.1	65.0	65.0			1.8	1.8	-10.6
GEW-045R	12/21/2015 10:52	54.2	45.7	0.0	0.1	75.0	75.0		3	-0.5	-0.4	-10.6
GEW-045R	12/29/2015 9:53	59.3	40.6	0.0	0.1	47.6		8	8	-2.8	-2.8	-9.7
GEW-046R	12/4/2015 18:17	54.8	39.5	0.0	5.7	44.5		0	0	0.4	0.4	-11.6
GEW-046R	12/4/2015 18:18	54.6	40.2	0.0	5.2	44.5		0	0	0.4	0.4	-11.6
GEW-046R	12/7/2015 10:03	57.0	42.9	0.0	0.1	40.0	40.0			0.3	0.3	-11.3
GEW-046R	12/7/2015 10:05	56.9	43.0	0.0	0.1	50.0	50.0			0.1	0.1	-11.1
GEW-046R	12/14/2015 11:37	48.4	41.1	0.0	10.5	80.0	80.0			-1.3	-1.3	-10.6
GEW-046R	12/14/2015 11:41	48.3	41.6	0.0	10.1	80.0	80.0			-1.6	-1.2	-10.6
GEW-046R	12/21/2015 11:00	51.3	42.9	0.0	5.8	73.0	73.0	33	33	-0.1	0.0	-10.5
GEW-046R	12/21/2015 11:04	51.2	42.8	0.0	6.0	73.0	73.0	30	31	-0.1	-0.1	-10.6
GEW-046R	12/29/2015 9:56	53.5	40.3	0.0	6.2	81.2		0	0	-1.1	-1.1	-9.7
GEW-047R	12/7/2015 11:26	42.5	36.9	0.0	20.6	90.0	90.0	11		-0.2	-0.2	-8.6
GEW-047R	12/14/2015 15:55	36.9	34.2	0.1	28.8	90.0	90.0	17	20	-1.1	-1.1	-9.9
GEW-047R	12/14/2015 16:00	36.9	34.0	0.2	28.9	90.0	90.0	14	19	-0.9	-0.9	-10.3
GEW-047R	12/21/2015 11:49	50.8	41.3	1.3	6.6	52.0	52.0	13	12	0.2	0.2	-9.5
GEW-047R	12/21/2015 11:53	55.4	44.5	0.0	0.1	70.0	70.0	17	14	0.0	0.0	-10.1
GEW-047R	12/29/2015 13:59	46.4	36.8	0.1	16.7	103.5		0	0	-0.3	-0.3	-7.8

December 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-048	12/7/2015 11:31	53.1	41.4	0.0	5.5	90.0	90.0			-0.2	-0.2	-8.2
GEW-048	12/15/2015 13:52	52.1	40.0	0.0	7.9	85.0	88.0	20	22	0.0	0.0	-9.5
GEW-048	12/15/2015 14:02	51.2	40.6	0.0	8.2	85.0	85.0	30	28	-0.1	-0.1	-9.2
GEW-048	12/21/2015 14:52	52.5	41.1	0.0	6.4	94.0	94.0			-0.4	-0.3	-8.2
GEW-048	12/29/2015 14:12	52.2	38.6	0.0	9.2	101.3		0	0	-0.5	-0.4	-7.3
GEW-049	12/7/2015 14:10	54.2	42.3	0.0	3.5	80.0	80.0			0.1	0.1	-3.0
GEW-049	12/7/2015 14:11	54.8	41.7	0.0	3.5	92.0	92.0			-0.1	-0.1	-2.5
GEW-049	12/15/2015 14:45	46.5	39.7	0.0	13.8	100.0	100.0	26		-0.8	-0.7	-4.2
GEW-049	12/15/2015 14:50	50.4	39.2	0.0	10.4	100.0	100.0	10	8	-0.6	-0.5	-4.5
GEW-049	12/21/2015 15:25	48.5	39.8	0.0	11.7	100.0	100.0	34	36	-0.3	-0.3	-3.6
GEW-049	12/30/2015 11:12	54.7	37.2	0.0	8.1	84.0		0	0	0.1	0.1	-1.2
GEW-049	12/30/2015 11:14	54.3	38.2	0.0	7.5	100.7		12	15	0.0	-0.1	-0.6
GEW-050	12/7/2015 11:39	48.5	38.7	0.0	12.8	90.0	90.0	15	8	-0.5	-0.5	-5.5
GEW-050	12/7/2015 11:41	48.5	39.1	0.0	12.4	90.0	90.0	20	19	-0.3	-0.3	-5.1
GEW-050	12/15/2015 14:15	51.4	39.7	0.0	8.9	95.0	95.0	18	15	-0.1	-0.1	-4.3
GEW-050	12/21/2015 15:01	53.8	40.4	0.0	5.8	99.0	99.0	30	32	-0.1	-0.1	-3.8
GEW-050	12/29/2015 14:23	52.7	36.1	0.0	11.2	101.5		11	12	-0.4	-0.4	-2.5
GEW-051	12/7/2015 14:14	56.1	43.8	0.0	0.1	98.0	98.0			0.4	0.4	-8.6
GEW-051	12/7/2015 14:15	55.6	44.3	0.0	0.1	111.0	111.0			0.0	0.0	-7.9
GEW-051	12/15/2015 14:57	55.3	43.3	0.0	1.4	111.0	111.0	7	19	-1.2	-1.2	-9.5
GEW-051	12/21/2015 15:30	54.3	44.0	0.0	1.7	115.0	115.0		7	-0.2	-0.2	-9.7
GEW-051	12/30/2015 11:16	55.2	39.4	0.0	5.4	119.1		14	11	0.1	0.1	-7.0
GEW-051	12/30/2015 11:17	54.3	41.2	0.0	4.5	122.1		18	17	0.0	0.0	-6.9
GEW-052	12/7/2015 13:59	42.8	38.1	0.0	19.1	92.0	92.0			-0.1	-0.1	-9.2
GEW-052	12/15/2015 14:26	39.8	36.6	0.0	23.6	100.0	100.0	21	22	-0.2	-0.2	-9.8
GEW-052	12/21/2015 15:06	43.5	38.0	0.0	18.5	100.0	100.0	4	5	-0.1	-0.1	-9.4
GEW-052	12/30/2015 11:09	44.8	33.3	0.2	21.7	109.0		35	34	-0.1	-0.1	-7.5
GEW-053	12/7/2015 14:20	55.4	42.6	0.0	2.0	137.0	137.0			0.5	0.5	-8.6
GEW-053	12/7/2015 14:21	50.5	45.3	0.0	4.2	144.0	144.0			0.1	0.1	-8.0
GEW-053	12/15/2015 15:04	53.1	43.2	0.0	3.7	133.0	133.0	0	10	-1.2	-1.2	-10.0
GEW-053	12/15/2015 15:09	50.8	45.0	0.0	4.2	133.0	133.0		12	-1.3	-1.3	-11.0
GEW-053	12/21/2015 15:33	49.4	44.3	0.0	6.3	135.0	135.0	16	16	-0.9	-0.9	-9.6
GEW-053	12/21/2015 15:34	49.8	43.8	0.0	6.4	135.0	135.0	13	12	-0.8	-0.8	-9.7
GEW-053	12/30/2015 11:20	51.3	41.4	0.0	7.3	136.0		20	20	-0.2	-0.2	-7.3
GEW-053	12/30/2015 11:20	50.3	43.1	0.0	6.6	135.6		20	20	-0.2	-0.2	-7.2
GEW-054	12/7/2015 14:24	52.2	45.9	0.0	1.9	133.0	133.0			0.7	0.6	-8.5
GEW-054	12/7/2015 14:25	52.1	46.0	0.0	1.9	140.0	140.0			0.0	0.1	-8.6
GEW-054	12/15/2015 15:13	52.8	45.2	0.0	2.0	137.0	137.0	13	22	-1.2	-1.2	-10.5
GEW-054	12/15/2015 15:18	52.4	45.8	0.0	1.8	137.0	137.0	25	14	-1.2	-1.2	-10.5
GEW-054	12/21/2015 15:44	51.0	46.0	0.0	3.0	140.0	140.0	29	22	-0.8	-0.8	-10.1
GEW-054	12/21/2015 15:48	51.0	46.1	0.0	2.9	140.0	140.0	25	20	-0.6	-0.7	-8.7
GEW-054	12/30/2015 11:25	54.1	38.3	0.0	7.6	147.7		27	32	0.0	0.0	-6.1

December 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	12/30/2015 11:26	52.3	41.8	0.0	5.9	147.7		31	27	-0.2	-0.2	-6.6
GEW-055	12/7/2015 14:28	54.3	44.7	0.0	1.0	100.0	100.0			0.3	0.3	-8.4
GEW-055	12/7/2015 14:29	54.5	44.7	0.0	0.8	110.0	110.0			-0.1	-0.2	-8.2
GEW-055	12/15/2015 15:28	53.6	45.2	0.0	1.2	115.0	115.0		17	-1.7	-1.7	-10.0
GEW-055	12/15/2015 15:34	54.8	44.4	0.0	0.8	115.0	115.0			-1.1	-1.0	-10.4
GEW-055	12/21/2015 15:51	53.2	45.0	0.0	1.8	111.0	111.0	7	9	-0.3	-0.4	-9.2
GEW-055	12/30/2015 11:29	52.5	42.3	0.0	5.2	116.8		10	0	0.0	0.0	-7.1
GEW-056R	12/7/2015 14:46	7.9	50.3	0.0	41.8	150.0	150.0	55	56	-1.1	-1.2	-3.2
GEW-056R	12/7/2015 14:47	8.0	49.2	0.1	42.7	150.0	150.0	56	56	-1.1	-1.2	-3.4
GEW-056R	12/16/2015 9:06	2.6	61.1	0.0	36.3	145.0	145.0	12	15	-0.1	-0.1	-0.4
GEW-056R	12/16/2015 9:14	2.2	61.6	0.0	36.2	145.0	145.0	15	16	-0.1	-0.1	-0.4
GEW-056R	12/23/2015 8:56	11.5	39.3	0.1	49.1	165.9				-3.7	-3.8	-7.3
GEW-056R	12/23/2015 8:57	11.6	38.2	0.1	50.1	165.9				-3.7	-3.7	-7.3
GEW-056R	12/29/2015 11:18	9.4	41.4	0.0	49.2	165.0				-6.0	-6.0	-9.3
GEW-056R	12/29/2015 11:19	9.6	38.4	0.0	52.0	165.0				-6.2	-6.0	-9.2
GEW-057B	12/17/2015 11:08	0.6	57.9	2.2	39.3	167.0	167.0	173	173	-10.8	-10.6	-10.6
GEW-057B	12/17/2015 11:08	0.6	62.3	0.5	36.6	167.0	167.0	175	175	-10.7	-10.9	-11.0
GEW-057R	12/17/2015 11:05	0.7	60.4	1.1	37.8	185.0	185.0	170	170	-10.7	-10.8	-10.8
GEW-057R	12/17/2015 11:06	0.7	61.8	0.5	37.0	185.0	185.0	172	170	-10.8	-10.8	-11.0
GEW-058	12/17/2015 10:59	5.0	60.6	0.9	33.5	172.0	172.0			-13.6	-13.6	-13.5
GEW-058	12/17/2015 11:00	5.1	62.0	0.3	32.6	172.0	172.0			-13.6	-13.5	-13.5
GEW-058A	12/17/2015 10:57	0.6	59.6	1.2	38.6	188.0	188.0	113	113	-4.9	-5.0	-13.5
GEW-058A	12/17/2015 10:58	0.6	59.2	1.2	39.0	188.0	188.0	119	119	-5.4	-5.3	-13.4
GEW-059R	12/17/2015 11:29	1.2	60.7	0.1	38.0	142.0	142.0	184	195	-12.0	-12.8	-13.2
GEW-059R	12/17/2015 11:30	1.2	61.4	0.0	37.4	142.0	142.0	198	196	-13.4	-13.1	-12.5
GEW-061B	12/17/2015 10:48	0.1	8.2	19.3	72.4	44.0	44.0	235	235	-12.7	-12.7	-12.9
GEW-061B	12/17/2015 10:48	0.1	7.3	20.1	72.5	44.0	44.0	238	239	-12.9	-12.9	-13.0
GEW-065A	12/17/2015 11:33	0.7	66.5	0.0	32.8	192.0	192.0			-13.0	-13.2	-13.1
GEW-065A	12/17/2015 11:34	0.7	68.2	0.0	31.1	192.0	192.0			-13.3	-13.3	-13.1
GEW-067A	12/17/2015 14:20	1.2	35.3	9.8	53.7	186.8				-4.6	-4.9	-4.4
GEW-067A	12/17/2015 14:22	1.6	50.1	3.0	45.3	189.1				-1.1	-0.5	-5.5
GEW-077	12/10/2015 13:51	0.5	72.0	0.0	27.5	111.0	111.0	182	176	-10.8	-10.5	-10.3
GEW-080	12/10/2015 13:54	0.4	22.8	13.2	63.6	50.0	50.0	216	210	-11.1	-11.1	-11.3
GEW-080	12/10/2015 13:55	0.2	12.1	17.0	70.7	50.0	50.0	218	223	-11.1	-11.3	-11.4
GEW-082R	12/10/2015 13:58	1.0	64.8	0.0	34.2	180.0	180.0	149	149	-8.1	-8.2	-10.3
GEW-082R	12/10/2015 14:00	1.0	65.0	0.0	34.0	180.0	180.0	150	152	-8.2	-8.6	-10.0
GEW-086	12/17/2015 10:40	14.8	39.2	5.0	41.0	110.0	110.0	108	109	-3.5	-3.5	-12.8
GEW-086	12/17/2015 10:41	14.8	38.4	5.2	41.6	110.0	110.0	108	108	-3.5	-3.6	-12.8
GEW-089	12/17/2015 10:44	8.1	31.8	10.6	49.5	55.0	55.0	45	43	-0.8	-0.8	-12.1
GEW-089	12/17/2015 10:45	7.9	30.9	11.1	50.1	55.0	55.0	44	45	-0.8	-0.8	-12.4
GEW-090	12/17/2015 14:25	6.8	58.3	0.1	34.8	173.0	173.0	175	174	-10.5	-10.5	-10.7
GEW-090	12/17/2015 14:25	6.8	57.9	0.1	35.2	173.0	173.0	176	178	-10.3	-10.7	-10.7

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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-102	12/17/2015 14:53	3.8	68.8	0.0	27.4	188.0	188.0	190	193	-14.3	-13.9	-13.8
GEW-102	12/17/2015 14:54	3.9	68.9	0.0	27.2	188.0	188.0	189	187	-13.4	-13.3	-13.5
GEW-104	12/17/2015 14:45	0.5	37.9	9.6	52.0	55.0	55.0	230	233	-14.2	-14.1	-14.1
GEW-104	12/17/2015 14:45	0.5	39.2	8.7	51.6	55.0	55.0	232	231	-14.2	-14.2	-14.2
GEW-105	12/17/2015 11:24	2.1	55.6	4.8	37.5	45.0	45.0	242	241	-16.4	-16.3	-16.4
GEW-109	12/1/2015 15:37	5.6	54.6	0.0	39.8	65.0	65.0			-12.5	-12.6	-18.0
GEW-109	12/8/2015 11:34	7.9	46.5	0.2	45.4	102.6		2	2	-13.7	-13.7	-22.8
GEW-109	12/16/2015 8:32	5.1	57.2	0.5	37.2	60.0	60.0	9	14	-3.3	-3.2	-4.9
GEW-109	12/16/2015 8:37	5.3	60.5	0.0	34.2	60.0	60.0	8	11	-3.3	-3.3	-5.0
GEW-109	12/23/2015 9:01	6.2	46.4	0.3	47.1	59.4		13	17	-10.2	-10.3	-11.1
GEW-109	12/29/2015 11:13	7.0	47.4	0.0	45.6	45.2		3	2	-12.3	-12.3	-15.5
GEW-109	12/29/2015 11:15	6.8	47.8	0.0	45.4	42.0		4	4	-7.8	-7.8	-15.6
GEW-110	12/7/2015 14:43	5.5	28.4	10.7	55.4	90.0	90.0			-0.5	-0.5	-6.1
GEW-110	12/7/2015 14:44	5.4	28.3	10.6	55.7	90.0	90.0			-0.5	-0.6	-8.5
GEW-110	12/16/2015 9:40	6.1	36.8	8.5	48.6	90.0	90.0			-0.2	-0.2	-4.2
GEW-110	12/16/2015 9:44	6.1	34.9	8.8	50.2	90.0	90.0			-0.3	-0.3	-4.1
GEW-110	12/23/2015 9:08	4.5	24.1	10.9	60.5	95.6		21	21	-0.6	-0.6	-11.1
GEW-110	12/23/2015 9:10	4.7	26.0	10.7	58.6	95.5		18	17	-0.4	-0.4	-12.4
GEW-110	12/29/2015 11:27	2.4	17.5	18.0	62.1	62.5				-0.7	-0.6	-16.6
GEW-110	12/29/2015 11:29	1.6	14.9	18.4	65.1	62.4		13	13	-0.3	-0.3	-16.0
GEW-116	12/4/2015 10:02	4.0	62.5	3.8	29.7	77.0	77.0			-6.1	-6.0	-8.8
GEW-116	12/10/2015 14:03	3.7	58.9	4.8	32.6	66.0	66.0			-7.5	-7.5	-11.3
GEW-117	12/10/2015 14:06	4.2	63.6	3.3	28.9	70.0	70.0	197	191	-11.5	-11.5	-11.5
GEW-120	12/10/2015 14:12	15.9	60.8	0.1	23.2	170.7				-3.4	-3.4	-3.3
GEW-120	12/10/2015 14:13	16.9	61.5	0.1	21.5	171.2				-3.4	-3.4	-3.2
GEW-121	12/10/2015 14:16	5.4	56.9	0.0	37.7	187.2				-9.3	-9.3	-9.2
GEW-121	12/10/2015 14:17	4.5	56.8	0.1	38.6	187.4				-9.3	-9.9	-9.5
GEW-122	12/10/2015 14:27	3.5	56.8	0.0	39.7	193.7				-1.9	-1.9	-2.0
GEW-122	12/10/2015 14:28	3.6	56.1	0.0	40.3	193.7				-2.4	-2.4	-2.4
GEW-123	12/10/2015 14:20	2.3	55.7	2.9	39.1	192.6				-11.3	-11.3	-11.7
GEW-123	12/10/2015 14:21	2.4	52.8	2.8	42.0	192.6				-11.0	-10.9	-11.4
GEW-124	12/10/2015 14:24	7.9	55.5	0.8	35.8	111.6				-11.3	-11.8	-11.2
GEW-125	12/18/2015 11:11	1.3	60.8	0.1	37.8	192.5				-8.2	-8.2	-11.0
GEW-125	12/18/2015 11:12	1.2	61.9	0.0	36.9	192.6				-8.4	-8.7	-11.3
GEW-126	12/15/2015 15:33	4.0	58.3	0.1	37.6	184.1				-11.6	-11.6	-11.1
GEW-126	12/15/2015 15:34	5.3	57.0	0.1	37.6	184.6				-11.5	-11.5	-11.0
GEW-127	12/15/2015 15:28	3.0	55.1	0.3	41.6	186.3				-11.6	-11.6	-11.7
GEW-127	12/15/2015 15:29	0.7	61.5	0.1	37.7	186.3				-8.7	-9.2	-11.9
GEW-128	12/18/2015 11:28	1.1	60.5	0.0	38.4	182.2				-11.8	-11.5	-11.3
GEW-128	12/18/2015 11:29	0.8	63.5	0.0	35.7	182.2				-11.5	-11.8	-11.1
GEW-129	12/15/2015 15:39	0.7	60.2	0.0	39.1	166.4				-8.7	-8.9	-12.1
GEW-129	12/15/2015 15:42	0.6	54.1	0.1	45.2	166.4				-10.1	-9.6	-12.3

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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-131	12/18/2015 11:15	21.4	56.4	0.1	22.1	125.1				-10.1	-10.1	-10.1
GEW-132	12/10/2015 14:32	9.4	48.7	2.7	39.2	181.4				-9.6	-9.7	-10.1
GEW-132	12/10/2015 14:34	9.7	49.0	2.8	38.5	181.4				-9.8	-9.3	-10.3
GEW-133	12/10/2015 14:08	1.5	55.9	0.2	42.4	71.4		7	11	-11.7	-11.7	-11.7
GEW-134	12/10/2015 14:03	16.5	58.1	0.3	25.1	168.3				-11.7	-12.1	-11.8
GEW-134	12/10/2015 14:04	17.3	54.2	0.3	28.2	168.3				-11.9	-11.8	-12.1
GEW-135	12/10/2015 14:00	7.5	55.4	0.5	36.6	178.7				-7.5	-7.3	-7.3
GEW-135	12/10/2015 14:01	7.1	55.3	0.5	37.1	178.7				-7.4	-7.4	-8.3
GEW-136	12/10/2015 13:56	2.4	17.5	16.8	63.3	133.3				-9.3	-9.4	-9.4
GEW-136	12/10/2015 13:57	2.3	12.6	17.3	67.8	136.6				-9.8	-9.8	-9.8
GEW-137	12/10/2015 13:52	20.2	36.3	1.3	42.2	120.1				-10.3	-10.4	-10.3
GEW-138	12/18/2015 13:40	16.1	43.9	1.5	38.5	157.0				-2.1	-2.1	-9.4
GEW-138	12/18/2015 13:40	15.7	45.7	1.5	37.1	157.0				-2.1	-2.1	-9.2
GEW-139	12/14/2015 16:56	4.4	54.3	2.5	38.8	184.6				-9.9	-9.9	-10.8
GEW-139	12/14/2015 16:57	4.3	49.5	2.6	43.6	184.6				-8.8	-8.5	-10.6
GEW-140	12/14/2015 16:52	3.6	60.4	0.1	35.9	179.3				19.8	19.8	20.1
GEW-140	12/14/2015 16:53	3.7	62.5	0.0	33.8	183.0				18.3	18.2	19.2
GEW-141	12/15/2015 15:46	1.3	58.5	0.0	40.2	148.5				-12.5	-12.7	-12.3
GEW-141	12/15/2015 15:47	1.1	61.2	0.1	37.6	140.0				-12.6	-12.6	-12.7
GEW-142	12/16/2015 8:23	0.3	60.6	0.0	39.1	104.2				41.9	42.3	42.0
GEW-142	12/16/2015 8:24	0.2	61.4	0.0	38.4	103.9				40.9	40.4	41.1
GEW-143	12/16/2015 8:19	0.2	53.7	1.1	45.0	103.0				-2.8	-2.4	-2.9
GEW-144	12/16/2015 8:12	0.8	55.2	1.3	42.7	70.2				8.0	5.9	8.1
GEW-144	12/16/2015 8:13	0.7	57.1	0.9	41.3	71.9				-1.4	-1.1	-1.3
GEW-145	12/18/2015 11:20	4.0	56.9	0.6	38.5	137.0				-13.1	-13.1	-12.8
GEW-145	12/18/2015 11:20	3.1	56.5	0.4	40.0	137.6				-13.1	-12.7	-13.0
GEW-146	12/14/2015 16:19	6.8	29.0	9.3	54.9	76.9				-8.5	-8.5	-9.4
GEW-146	12/14/2015 16:20	6.6	28.2	9.4	55.8	77.3				-6.0	-6.0	-10.9
GEW-147	12/18/2015 13:51	5.6	38.4	6.6	49.4	183.6				-10.3	-9.8	-11.7
GEW-147	12/18/2015 13:51	4.0	42.1	6.8	47.1	184.1				-7.6	-7.6	-11.4
GEW-148	12/14/2015 16:02	2.6	59.1	0.2	38.1	135.3				-11.5	-11.9	-11.6
GEW-148	12/14/2015 16:05	2.2	58.8	0.1	38.9	136.3				-9.6	-9.9	-11.8
GEW-149	12/14/2015 15:55	13.6	57.0	0.6	28.8	168.8				-0.6	-0.6	-11.1
GEW-149	12/14/2015 15:57	14.2	59.5	0.4	25.9	171.7			42	-3.3	-3.2	-11.7
GEW-150	12/17/2015 14:42	0.0	13.2	20.1	66.7	136.3				-5.9	-6.7	-6.2
GEW-150	12/23/2015 9:45	0.0	12.3	20.3	67.4	133.3				-4.2	-3.2	-4.8
GEW-151	12/18/2015 9:56	8.9	36.5	7.4	47.2	171.2				-10.6	-10.5	-13.5
GEW-151	12/18/2015 9:57	8.1	37.5	7.1	47.3	171.2				-10.5	-10.6	-12.6
GEW-153	12/14/2015 17:22	0.4	51.3	1.2	47.1	46.1				9.1	9.0	9.3
GEW-153	12/14/2015 17:23	0.4	54.2	1.0	44.4	46.2				9.1	9.1	9.4
GEW-154	12/14/2015 16:11	10.9	29.4	12.5	47.2	144.7			36	-5.7	-6.0	-8.1
GEW-154	12/14/2015 16:12	10.9	27.6	12.6	48.9	144.4			29	-4.5	-4.7	-10.3

December 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	12/10/2015 13:45	3.5	24.1	12.2	60.2	108.6				-3.9	-3.8	-4.0
GEW-155	12/10/2015 13:47	3.4	24.4	12.4	59.8	108.5				-1.5	-1.5	-9.9
GEW-156	12/16/2015 8:03	6.6	9.7	14.8	68.9	120.4				-1.5	-1.5	-13.2
GEW-156	12/16/2015 8:04	5.9	12.9	14.4	66.8	124.0				-1.5	-1.4	-12.7
GIW-01	12/1/2015 15:51	3.1	67.7	0.2	29.0	189.6		31	48	-2.2	-2.0	-3.6
GIW-01	12/1/2015 15:54	2.9	65.2	0.1	31.8	189.1		23	0	-1.1	-1.2	-1.9
GIW-01	12/9/2015 13:47	3.1	77.0	0.0	19.9	182.0	182.0	17	21	-7.2	-7.4	-8.1
GIW-01	12/9/2015 13:51	3.1	76.2	0.0	20.7	182.0	182.0	30	34	-6.7	-6.9	-8.3
GIW-01	12/14/2015 15:40	3.0	65.3	0.1	31.6	185.7			17	-10.7	-11.0	-11.6
GIW-01	12/14/2015 15:42	2.7	66.9	0.0	30.4	186.3			45	-10.9	-10.9	-12.0
GIW-01	12/23/2015 9:16	3.0	67.4	0.0	29.6	187.0		14	0	-9.7	-9.7	-10.2
GIW-01	12/23/2015 9:17	2.9	69.5	0.0	27.6	186.5		0	16	-9.7	-9.7	-10.6
GIW-01	12/29/2015 11:40	2.4	56.5	3.9	37.2	183.5		43	38	-14.6	-14.2	-15.6
GIW-01	12/29/2015 11:42	2.3	56.6	3.7	37.4	183.1		35	20	-14.0	-13.8	-15.5
GIW-02	12/1/2015 15:41	5.9	32.1	9.9	52.1	62.7		0	0	-0.7	-0.7	-3.7
GIW-02	12/1/2015 15:42	6.1	31.3	9.5	53.1	63.1		12	12	-2.3	-2.3	-3.2
GIW-02	12/10/2015 10:11	6.8	37.0	7.7	48.5	51.0	51.0	80		-9.0	-8.8	-8.9
GIW-02	12/10/2015 10:15	7.0	36.7	7.9	48.4	51.0	51.0	30		-8.7	-8.6	-11.4
GIW-02	12/15/2015 14:04	5.3	24.7	11.1	58.9	63.8		45	45	-10.6	-10.6	-12.8
GIW-02	12/15/2015 14:05	5.1	24.0	11.0	59.9	63.5		0	0	-9.1	-9.1	-12.3
GIW-02	12/23/2015 10:15	0.1	12.5	19.1	68.3	61.7		3	3	-0.2	-0.2	-10.7
GIW-02	12/23/2015 10:16	0.0	11.2	19.2	69.6	60.9		6	7	-0.2	-0.3	-10.5
GIW-02	12/31/2015 8:17	0.4	58.4	1.2	40.0	31.3		0	0	-0.5	-0.4	-14.0
GIW-03	12/1/2015 15:33	0.4	55.3	2.2	42.1	63.0		0	4	-0.9	-1.1	-3.5
GIW-03	12/1/2015 15:34	0.3	49.2	6.6	43.9	63.5		12	0	-1.9	-2.1	-2.2
GIW-03	12/10/2015 10:05	0.2	25.5	13.8	60.5	52.0	52.0			-11.5	-10.9	-10.9
GIW-03	12/10/2015 10:09	0.2	24.5	14.0	61.3	52.0	52.0			-11.0	-11.0	-11.1
GIW-03	12/15/2015 14:10	0.6	23.3	13.4	62.7	48.7		15	10	-12.5	-12.4	-12.5
GIW-03	12/15/2015 14:12	0.1	26.2	12.7	61.0	48.9		13	0	-8.6	-8.6	-12.3
GIW-03	12/23/2015 10:12	0.1	20.8	16.9	62.2	61.1		6	2	-8.7	-8.4	-10.7
GIW-03	12/23/2015 10:14	0.1	17.4	17.6	64.9	61.1		10	5	-8.7	-8.7	-10.8
GIW-03	12/31/2015 8:16	0.4	54.0	0.7	44.9	31.3		12	12	0.0	0.0	-14.5
GIW-04	12/1/2015 15:28	0.8	52.3	0.3	46.6	61.9		15	0	-2.9	-2.2	-2.8
GIW-04	12/10/2015 9:59	0.2	15.1	16.2	68.5	55.0	55.0			-11.0	-11.1	-11.1
GIW-04	12/10/2015 10:02	0.2	12.9	16.6	70.3	55.0	55.0	8		-11.0	-11.0	-11.1
GIW-04	12/15/2015 14:17	0.2	21.4	14.4	64.0	48.4		8	0	-12.5	-12.5	-12.1
GIW-04	12/15/2015 14:19	0.5	31.3	7.8	60.4	48.5		8	8	-10.6	-10.6	-12.3
GIW-04	12/23/2015 10:07	0.5	38.5	7.8	53.2	59.7		8	8	-5.3	-5.7	-10.8
GIW-04	12/23/2015 10:09	0.5	42.3	6.9	50.3	59.9		7	8	-5.7	-5.7	-10.4
GIW-04	12/31/2015 8:12	0.2	10.1	19.9	69.8	31.1		0	0	-3.1	-3.1	-14.4
GIW-04	12/31/2015 8:12	0.1	8.0	19.4	72.5	30.9		0	0	-3.6	-3.6	-14.7
GIW-05	12/1/2015 15:44	3.8	67.2	0.0	29.0	40.0	40.0	0		-0.4	-0.9	-2.7

December 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		
GIW-05	12/9/2015 11:23	2.6	59.1	1.7	36.6	50.0	50.0			-4.7	-5.5	-7.7
GIW-05	12/9/2015 11:28	2.8	58.9	1.6	36.7	50.0	50.0	22	3	-4.4	-5.3	-8.1
GIW-05	12/14/2015 15:14	2.4	56.5	1.4	39.7	47.6			33	-9.9	-9.9	-10.6
GIW-05	12/14/2015 15:15	2.6	55.2	1.2	41.0	47.6			15	-8.0	-8.0	-10.8
GIW-05	12/23/2015 9:36	2.5	55.8	1.0	40.7	59.3		10	8	-8.6	-8.6	-10.8
GIW-05	12/23/2015 9:38	2.7	55.9	0.9	40.5	59.3		8	6	-7.7	-7.5	-10.5
GIW-05	12/29/2015 11:51	2.3	54.3	1.7	41.7	32.6		6	8	-12.7	-12.7	-15.0
GIW-05	12/29/2015 11:53	2.4	55.5	1.4	40.7	32.9		10	10	-0.5	-0.5	-15.5
GIW-06	12/1/2015 15:06	1.1	60.4	0.1	38.4	60.5		11	9	-3.0	-2.4	-3.1
GIW-06	12/10/2015 9:19	1.2	68.0	0.1	30.7	50.0	50.0			-10.2	-10.2	-10.6
GIW-06	12/10/2015 9:23	1.3	68.0	0.1	30.6	50.0	50.0			-10.3	-10.3	-10.3
GIW-06	12/15/2015 14:38	2.1	52.6	0.5	44.8	48.7		12	13	-12.0	-12.0	-12.2
GIW-06	12/15/2015 14:40	1.3	59.7	0.2	38.8	48.9		7	14	-4.2	-4.1	-12.2
GIW-06	12/23/2015 9:45	1.5	61.7	0.1	36.7	58.2		14	0	-10.6	-10.3	-10.5
GIW-06	12/31/2015 8:32	1.2	60.2	0.5	38.1	30.2		0	8	-15.1	-15.1	-14.9
GIW-07	12/1/2015 15:11	30.6	58.1	0.6	10.7	59.6		0	5	-18.3	-18.7	-18.8
GIW-07	12/10/2015 9:29	29.7	63.3	0.3	6.7	50.0	50.0			-10.8	-10.8	-10.7
GIW-07	12/10/2015 9:33	29.8	62.7	0.6	6.9	50.0	50.0	13		-10.7	-10.7	-10.7
GIW-07	12/15/2015 14:52	30.0	56.9	0.6	12.5	49.6		0	9	-12.5	-12.7	-12.2
GIW-07	12/15/2015 14:54	30.1	55.0	0.7	14.2	49.7		7	6	-10.6	-10.6	-12.2
GIW-07	12/23/2015 9:50	30.1	54.3	0.6	15.0	58.4		10	14	-9.7	-9.7	-10.2
GIW-07	12/31/2015 8:30	4.6	28.1	2.3	65.0	29.7		3	3	-14.7	-14.7	-15.0
GIW-08	12/1/2015 15:38	24.3	65.7	1.1	8.9	40.0	40.0	107	106	-3.0	-3.0	-19.1
GIW-08	12/9/2015 11:14	26.8	63.0	1.3	8.9	55.0	55.0	105	104	-2.9	-2.9	-18.7
GIW-08	12/9/2015 11:18	27.3	61.8	2.6	8.3	55.0	55.0	105	105	-2.8	-2.8	-18.7
GIW-08	12/10/2015 9:10	12.6	29.3	12.3	45.8	45.0	45.0	209	208	-10.9	-10.8	-11.0
GIW-08	12/10/2015 9:14	27.4	68.0	0.4	4.2	45.0	45.0	200	199	-10.4	-10.4	-10.3
GIW-08	12/15/2015 14:46	27.3	60.1	0.0	12.6	49.9		109	109	-2.2	-2.3	-12.2
GIW-08	12/15/2015 14:48	28.2	59.2	0.1	12.5	50.5				-7.7	-7.6	-12.0
GIW-08	12/23/2015 9:54	28.0	56.7	0.0	15.3	59.2		184	185	-6.3	-6.7	-11.4
GIW-08	12/31/2015 8:27	7.6	16.6	16.9	58.9	44.8				-5.8	-5.4	-15.4
GIW-08	12/31/2015 8:28	7.7	15.8	16.9	59.6	44.8				-6.3	-6.2	-14.9
GIW-09	12/1/2015 15:16	3.1	13.8	15.8	67.3	66.8				-5.4	-4.9	-17.7
GIW-09	12/1/2015 15:17	3.4	12.4	16.1	68.1	66.2				-3.1	-3.0	-21.3
GIW-09	12/10/2015 9:01	5.5	23.2	13.2	58.1	45.0	45.0	163	161	-7.3	-8.1	-10.8
GIW-09	12/10/2015 9:05	5.7	20.4	13.9	60.0	45.0	45.0	178	181	-7.3	-7.2	-10.9
GIW-09	12/15/2015 14:31	6.0	26.5	13.1	54.4	59.9				-7.3	-7.8	-12.4
GIW-09	12/15/2015 14:33	7.6	17.9	14.1	60.4	59.1				-2.7	-2.7	-12.0
GIW-09	12/23/2015 9:57	7.7	21.1	14.5	56.7	65.8				-2.9	-3.0	-8.8
GIW-09	12/23/2015 9:59	7.6	18.8	14.9	58.7	65.8				-2.9	-2.9	-9.2
GIW-09	12/31/2015 8:26	3.4	33.9	14.5	48.2	44.5				-6.4	-6.8	-14.9
GIW-09	12/31/2015 8:26	4.7	28.3	14.8	52.2	44.5				-7.6	-9.8	-15.0

December 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		
GIW-10	12/1/2015 15:24	0.5	54.9	0.2	44.4	60.2		13	14	-2.2	-2.2	-2.8
GIW-10	12/10/2015 9:52	0.6	59.7	0.6	39.1	50.0	50.0			-7.9	-7.9	-10.9
GIW-10	12/10/2015 9:56	0.5	56.9	1.6	41.0	50.0	50.0	12		-7.7	-7.7	-11.0
GIW-10	12/15/2015 14:23	0.4	48.1	2.2	49.3	48.9		8	6	-10.1	-10.1	-11.9
GIW-10	12/15/2015 14:26	0.3	51.9	0.7	47.1	49.0		12	10	-8.7	-8.7	-12.1
GIW-10	12/23/2015 10:02	0.5	38.7	6.7	54.1	58.7		10	8	-9.7	-9.7	-10.3
GIW-10	12/23/2015 10:03	0.5	43.3	4.9	51.3	59.0		10	4	-10.9	-10.9	-10.3
GIW-10	12/31/2015 8:22	0.3	32.5	8.5	58.7	30.2		4	3	-11.2	-11.2	-14.6
GIW-10	12/31/2015 8:23	0.3	37.1	7.3	55.3	30.2		6	6	-13.6	-13.6	-14.7
GIW-11	12/1/2015 15:47	3.1	67.2	0.1	29.6	55.0	55.0	36	38	-0.4	-0.4	-3.0
GIW-11	12/9/2015 11:33	3.0	60.1	1.9	35.0	50.0	50.0	85	85	-1.8	-1.8	-7.6
GIW-11	12/9/2015 11:39	2.9	59.9	2.1	35.1	50.0	50.0	85	85	-1.8	-1.8	-7.8
GIW-11	12/14/2015 15:19	3.6	51.9	3.6	40.9	55.2				-3.3	-3.3	-11.6
GIW-11	12/23/2015 9:20	3.1	56.5	2.4	38.0	62.2				-2.9	-2.8	-10.7
GIW-11	12/29/2015 11:46	3.6	47.4	5.5	43.5	48.0				-4.4	-4.4	-15.5
GIW-11	12/29/2015 11:47	3.8	45.0	5.4	45.8	48.2				-4.5	-4.5	-15.6
GIW-12	12/1/2015 15:49	4.0	28.9	9.6	57.5	50.0	50.0	65	67	-1.2	-1.2	-2.6
GIW-12	12/9/2015 11:43	4.4	25.5	9.9	60.2	62.0	62.0	102	104	-2.4	-2.4	-7.7
GIW-12	12/9/2015 11:46	4.5	23.2	10.5	61.8	62.0	62.0	103	101	-2.4	-2.4	-7.7
GIW-12	12/14/2015 15:25	3.4	21.2	10.9	64.5	67.1				-3.7	-3.8	-11.6
GIW-12	12/14/2015 15:30	3.5	20.0	11.0	65.5	67.1				-3.7	-3.7	-11.7
GIW-12	12/23/2015 9:16	3.7	24.0	10.9	61.4	74.5				-3.5	-3.5	-10.8
GIW-12	12/23/2015 9:17	3.6	20.6	11.1	64.7	74.7				-3.5	-3.5	-10.5
GIW-12	12/29/2015 11:35	2.3	18.7	14.6	64.4	61.9				-6.2	-6.2	-15.1
GIW-12	12/29/2015 11:36	2.4	16.3	15.0	66.3	59.9				-3.2	-3.2	-15.3
GIW-13	12/1/2015 15:51	6.2	69.8	0.0	24.0	54.0	54.0	47	47	-0.6	-0.4	-0.3
GIW-13	12/9/2015 13:36	12.7	64.9	0.0	22.4	60.0	60.0	125	128	-4.3	-4.3	-4.0
GIW-13	12/9/2015 13:40	12.5	65.6	0.0	21.9	60.0	60.0	126	125	-4.2	-4.0	-4.1
GIW-13	12/14/2015 15:36	13.1	55.9	0.6	30.4	46.6				-7.4	-7.5	-7.3
GIW-13	12/23/2015 9:13	11.3	53.2	0.5	35.0	58.7				-6.5	-6.5	-6.4
GIW-13	12/29/2015 11:32	13.8	55.7	0.3	30.2	35.1				-10.8	-10.8	-11.0
LCS-5A	12/7/2015 14:17	56.3	43.6	0.0	0.1	70.0	70.0	192	185	-8.1	-8.0	-7.9
LCS-5A	12/15/2015 15:00	56.5	43.4	0.0	0.1	75.0	75.0	211	210	-9.9	-9.8	-9.7
LCS-5A	12/21/2015 15:39	57.6	42.3	0.0	0.1	90.0	90.0	203	202	-9.2	-9.2	-9.5
LCS-5A	12/30/2015 11:23	56.0	42.7	0.0	1.3	87.9				-6.7	-6.8	-7.0
LCS-6B	12/7/2015 10:55	52.6	41.7	0.7	5.0	40.0	40.0	23	52	-1.1	-1.2	-8.5
LCS-6B	12/14/2015 15:51	57.1	42.7	0.1	0.1	55.0	55.0	18	19	-2.5	-2.5	-10.1
LCS-6B	12/21/2015 11:44	50.9	41.9	0.6	6.6	73.0	73.0	40	11	-1.0	-1.0	-10.2
LCS-6B	12/29/2015 13:54	50.8	39.6	0.0	9.6	44.8		12	11	-1.7	-1.7	-7.9
PGW-60	12/4/2015 8:11	56.1	38.7	1.7	3.5	47.0	47.0	6	11	-10.2	-10.2	-10.0
PGW-60	12/4/2015 18:06	60.4	37.8	0.0	1.8	45.3		12	13	18.0	18.0	-11.1
PGW-60	12/4/2015 18:07	59.4	39.0	0.0	1.6	44.6		12	9	23.4	23.4	-11.1

December 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		
PGW-60	12/7/2015 10:14	57.0	42.9	0.0	0.1	35.0	35.0			34.3	35.4	-10.8
PGW-60	12/7/2015 10:15	57.1	42.8	0.0	0.1	35.0	35.0			23.7	23.5	-10.0
PGW-60	12/14/2015 13:31	59.5	40.4	0.0	0.1	35.0	35.0	18	17	-6.6	-6.7	-10.7
PGW-60	12/21/2015 11:12	56.8	38.7	0.9	3.6	60.0	60.0	5	9	-8.6	-8.6	-10.5
PGW-60	12/29/2015 10:18	60.7	32.9	2.1	4.3	34.9		19	19	-8.1	-8.1	-9.7
PGW-60	12/29/2015 10:20	55.7	35.6	1.9	6.8	35.4		14	12	-4.6	-4.6	-9.7
SEW-002	12/17/2015 15:34	0.5	27.1	9.0	63.4	38.0		11	13	-10.2	-10.3	-12.3
SEW-002	12/17/2015 15:36	0.5	37.1	7.3	55.1	38.0		8	8	-10.7	-10.7	-11.9
T-56	12/7/2015 11:37	45.1	35.7	0.0	19.2	40.0	40.0			-0.2	-0.2	-8.7

ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

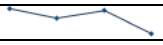
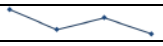
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	September 2015	October 2015	November 2015	December 2015		
GEW-001	--	--	--	--		
GEW-002	122.4	119.9	116.5	122.0		
GEW-003	118.3	119.4	117.3	111.9		
GEW-004	122.1	121.0	120.4	115.0		
GEW-005	100.2	97.3	97.9	93.4		
GEW-006	93.6	94.0	95.0	84.0		
GEW-007	102.4	99.2	96.9	90.5		
GEW-008	116.0	115.0	114.3	111.8		
GEW-009	126.3	126.3	125.4	124.5		
GEW-010	112.3	100.4	77.3	59.9		
GEW-011	--	--	51.5	--		
GEW-013A	--	--	--	--		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	--		
GEW-018B	--	--	--	--		
GEW-018R	--	--	150.1	--		
GEW-019A	--	--	--	--		
GEW-020A	--	110.6	146.2	90.0		
GEW-021A	--	--	156.2	--		
GEW-022R	191.4	193.7	192.5	170.0		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	95.6	68.0	--	--		
GEW-027A	121.5	--	--	90.0		
GEW-028R	189.1	194.8	195.1	150.0		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	136.0	101.7	108.6	59.9		
GEW-039	134.0	136.0	136.6	136.0		
GEW-040	96.9	94.8	93.4	87.4		
GEW-041R	107.9	107.2	108.7	95.2		
GEW-042R	103.4	105.2	110.4	99.9		
GEW-043R	131.9	130.5	138.3	127.0		
GEW-044	98.7	90.3	95.6	80.0		
GEW-045R	97.1	92.9	92.1	75.0		
GEW-046R	101.5	100.0	100.1	81.2		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	September 2015	October 2015	November 2015	December 2015		
GEW-047R	118.8	115.7	115.0	103.5		
GEW-048	107.4	107.0	105.8	101.3		
GEW-049	115.0	113.2	112.5	100.7		
GEW-050	109.7	108.6	109.7	101.5		
GEW-051	129.6	128.0	125.8	122.1		
GEW-052	118.1	115.0	114.7	109.0		
GEW-053	140.7	140.7	139.3	144.0		
GEW-054	143.6	150.9	144.0	147.7		
GEW-055	128.7	129.9	125.1	116.8		
GEW-056R	178.6	171.6	168.8	165.9		
GEW-057B	184.1	158.4	80.0	167.0		
GEW-057R	192.5	188.5	176.7	185.0		
GEW-058	188.5	187.9	185.7	172.0		
GEW-058A	182.0	181.9	164.0	188.0		
GEW-059R	186.8	186.3	186.8	142.0		
GEW-061B	96.8	92.8	55.3	44.0		
GEW-064A	--	--	--	--		
GEW-065A	195.4	194.2	191.3	192.0		
GEW-066	--	--	--	--		
GEW-067A	190.2	186.3	160.0	189.1		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	--	184.1	90.0	111.0		
GEW-078R	--	--	--	--		
GEW-080	--	90.7	40.0	50.0		
GEW-081	--	--	--	--		
GEW-082R	192.5	192.5	194.9	180.0		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	137.3	106.0	97.1	110.0		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		
GEW-089	101.5	93.6	80.0	55.0		
GEW-090	188.5	189.6	187.4	173.0		
GEW-091	--	--	--	--		
GEW-100	--	--	--	--		
GEW-101	--	--	--	--		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	September 2015	October 2015	November 2015	December 2015		
GEW-102	82.3	85.6	148.8	188.0		
GEW-103	--	--	--	--		
GEW-104	110.9	97.3	81.5	55.0		
GEW-105	100.2	95.2	75.0	45.0		
GEW-106	--	--	--	--		
GEW-107	99.6	89.5	40.0	--		
GEW-108	--	--	--	--		
GEW-109	180.8	180.9	81.9	102.6		
GEW-110	136.0	120.2	133.0	95.6		
GEW-112	--	--	--	--		
GEW-113	--	--	--	--		
GEW-116	105.0	88.9	82.5	77.0		
GEW-117	139.0	82.4	115.5	70.0		
GEW-118	--	--	--	--		
GEW-120	176.7	177.7	186.8	171.2		
GEW-121	189.1	189.1	189.1	187.4		
GEW-122	184.6	183.5	184.6	193.7		
GEW-123	183.5	190.7	193.7	192.6		
GEW-124	162.3	166.4	163.2	111.6		
GEW-125	191.3	91.3	191.9	192.6		
GEW-126	180.8	193.3	191.3	184.6		
GEW-127	95.6	176.2	188.0	186.3		
GEW-128	181.4	182.4	183.5	182.2		
GEW-129	162.6	162.2	159.6	166.4		
GEW-130	--	--	--	--		
GEW-131	149.1	175.8	161.1	125.1		
GEW-132	180.3	177.7	182.5	181.4		
GEW-133	81.9	103.2	71.2	71.4		
GEW-134	179.3	173.6	176.2	168.3		
GEW-135	189.6	186.3	186.8	178.7		
GEW-136	158.3	134.7	184.6	136.6		
GEW-137	113.8	120.2	115.5	120.1		
GEW-138	191.3	162.7	164.5	157.0		
GEW-139	190.8	188.3	188.5	184.6		
GEW-140	185.7	184.6	185.7	183.0		
GEW-141	148.1	147.7	153.7	148.5		
GEW-142	185.4	159.6	115.2	104.2		
GEW-143	149.7	118.3	109.0	103.0		
GEW-144	102.2	109.0	98.3	71.9		
GEW-145	98.3	85.6	144.2	137.6		
GEW-146	103.4	99.0	89.7	77.3		
GEW-147	191.8	190.2	191.3	184.1		
GEW-148	89.7	172.3	71.4	136.3		
GEW-149	145.1	153.3	172.6	171.7		
GEW-150	181.9	172.7	182.4	136.3		

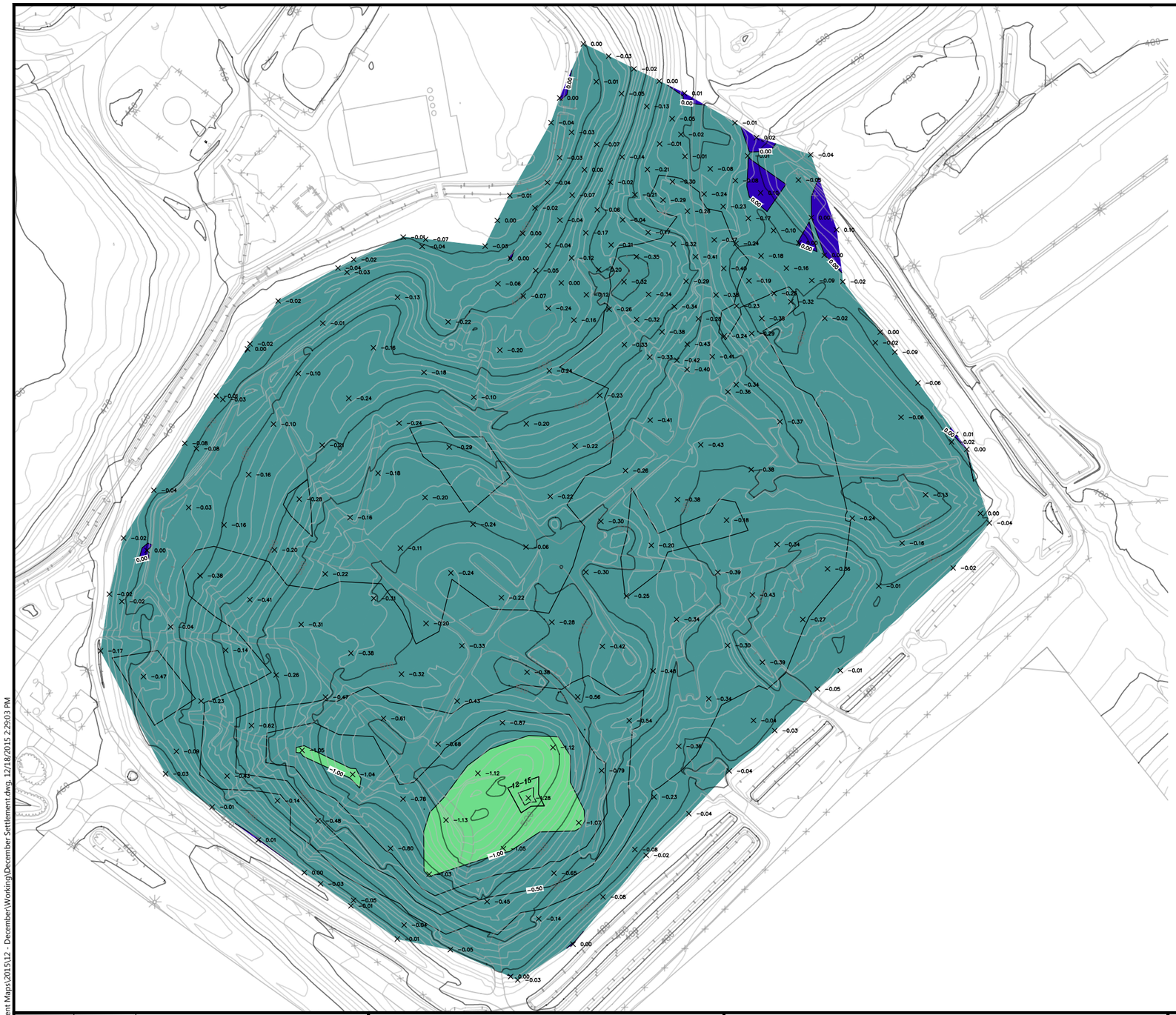
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	September 2015	October 2015	November 2015	December 2015		
GEW-151	196.0	93.6	189.2	171.2		
GEW-152	193.7	179.8	192.5	--		
GEW-153	131.4	136.2	130.5	46.2		
GEW-154	93.7	191.9	184.1	144.7		
GEW-155	146.2	120.4	122.6	108.6		
GEW-156	155.9	160.1	118.6	124.0		
GIW-01	189.6	188.5	189.1	189.6		
GIW-02	100.4	91.1	77.3	63.8		
GIW-03	96.7	89.6	74.8	63.5		
GIW-04	92.7	92.7	71.2	61.9		
GIW-05	97.9	88.7	61.8	59.3		
GIW-06	95.2	87.5	72.2	60.5		
GIW-07	95.0	89.5	69.5	59.6		
GIW-08	99.4	86.0	68.5	59.2		
GIW-09	98.4	88.3	78.6	66.8		
GIW-10	95.0	90.7	70.9	60.2		
GIW-11	101.3	93.2	74.9	62.2		
GIW-12	107.2	96.2	83.6	74.7		
GIW-13	144.4	87.8	71.7	60.0		
LCS-1D	--	--	--	--		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	94.8	94.6	94.7	90.0		
LCS-6B	99.7	88.8	79.8	73.0		
PGW-60	91.2	88.3	81.9	60.0		
SEW-002	--	78.0	54.3	38.0		
SEW-012A	--	--	--	--		
SEW-017R	--	--	--	--		
SEW-031R	--	--	--	--		
SEW-032R	--	--	--	--		
SEW-060R	--	--	--	--		
SEW-061R	--	--	--	--		
SEW-062R	--	--	--	--		
SEW-063	--	--	--	--		
SEW-064	--	--	--	--		
SEW-067	--	--	--	--		
SEW-072R	--	--	--	--		
SEW-074	--	--	--	--		
SEW-079R	--	--	--	--		
T-56	87.8	77.0	69.4	40.0		

-- = Indicates no data available.

ATTACHMENT F

SETTLEMENT FRONT MAP



N

0 200'

GRAPHIC SCALE

NOTES

1. EXISTING CONTOURS DEVELOPED FROM SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON FEBRUARY 10, 2015.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 11-18-15 FROM SPOT ELEVATIONS SURVEYED ON 12-15-15.
4. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
5. SETTLEMENT RANGE SURFACE WAS GENERATED FROM THE SPOT ELEVATION DIFFERENCES.
6. ELEVATION DIFFERENCES THAT ARE SHOWN AS NEGATIVE INDICATE SPOTS OF SETTLEMENT.
7. ANY POINTS THAT ARE NOT A GROUND-TO-GROUND COMPARISON TO THE PREVIOUS MONTH'S POINTS, OR THAT WERE NOT SURVEYED IN THE SAME LOCATION AS THE PREVIOUS MONTH ARE NOT INCLUDED AND WERE NOT USED IN ANY SURFACE GENERATION.

LEGEND

× −0.42 SPOT ELEVATION DIFFERENCE (12-15-15 TO 11-18-15)

MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)

−0.50 MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)

11−18 SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.35' PER 30 DAYS FOR CURRENT PERIOD OF DAYS (AREA REPRESENTS 1.215' OVER 27 DAYS BASED ON CONVERSION)

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	47085.82	
5	−1.00	0.00	1476918.46	
6	0.00	1.00	11361.12	

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
NOVEMBER 18, 2015 THROUGH DECEMBER 15, 2015

DRAWN BY:	ORC	APPROVED BY:	JPV	PROJ. NO.:	155162	DATE:	JANUARY 2015

T:\AutoCAD\Projects\Bridgeton LF\Settlement Maps\2015\12 - December\Working\December Settlement.dwg, 12/18/2015 2:29:03 PM

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

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

Name: David Blackwell

Message: Odor logged December 1, 2015, at 7:30 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within the hour of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed at multiple points in close proximity to this concern location. Winds were of a persistent west southwest origin at the time specified in this concern and throughout this date, placing this concern location upwind of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 1, 2015, at 8:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within the hour of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed at multiple points between the Bridgeton Landfill and this concern location. This was not a Bridgeton Landfill odor.
directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Bob LaBeaume

Message: Odor logged December 1, 2015, at 6:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. As this concern was submitted nearly six hours after the stated observation time this could not be investigated in real time. An odor patrol was performed approximately two hours after this concern and did not observe any odor related to the Bridgeton Landfill. Winds were of a west southwest origin throughout this date placing this location outside the downwind pathway of the Bridgeton Landfill. Odor related to another known odor source has been observed in the proximity of this location during such wind conditions, but was not documented during the odor patrol on this morning. This is not believed to have been a Bridgeton Landfill odor.

Name: Margie MENKE

Message: Odor logged December 1, 2015, at 3:30 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within the hour of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed at multiple points in close proximity to this concern location. Winds were of a persistent west southwest origin at the time specified in this concern

and throughout this date, placing this concern location upwind of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 2, 2015, at 7:45 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed simultaneous of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent western origin at the time specified in this concern and throughout this date, placing this concern location well outside the downwind pathway of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 2, 2015, at 7:45 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed simultaneous of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent western origin at the time specified in this concern and throughout this date, placing this concern location well outside the downwind pathway of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 2, 2015, at 8:15 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed simultaneous of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent western origin at the time specified in this concern and throughout this date, placing this concern location well outside the downwind pathway of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: David

Message: Odor logged December 2, 2015, at 8:08 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed simultaneous of the time referenced in this concern. No odor related to the Bridgeton Landfill was observed. Winds were of a persistent western origin at the time specified in this concern and throughout this date, placing this concern location well outside

the downwind pathway of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 2, 2015, at 5:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided was immediately adjacent to and directly downwind from another known odor source with frequent off-site odor emissions observed in the past and on this date in particular. This was not a Bridgeton Landfill odor.

Name: Bob Labeaume

Message: Odor logged December 2, 2015, at 6:00 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided was immediately adjacent to and directly downwind from another known odor source with frequent off-site odor emissions observed in the past and on this date in particular. This was not a Bridgeton Landfill odor.

Name: Meagan

Message: Odor logged December 2, 2015, at 11:54 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed shortly before this concern observed a non-Bridgeton Landfill odor at two points. Winds were of a persistent western origin placing this concern location downwind of a known odor source with multiple odor detections on this date matching those observed on the odor patrol performed shortly before this concern. This odor concern was likely related to that odor and was not related to the Bridgeton Landfill.

Name: rich

Message: Odor logged December 2, 2015, at 6:56 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrol performed before and after this concern observed a non-Bridgeton Landfill odor at various locations in the area. Winds were of a persistent western origin placing this concern location downwind of a known odor source with multiple odor detections on this date matching those observed on the odor patrol performed shortly before this concern. This odor concern was likely related to that odor and was not related to the Bridgeton Landfill.

Name: Scott Schuchard

Message: Odor logged December 2, 2015, at 5:30 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided was immediately adjacent to and directly downwind from another known odor source with frequent off-site odor emissions observed in the past and on this date in particular. This was not a Bridgeton Landfill odor.

Name: Scott Schuchard

Message: Odor logged December 2, 2015, at 5:30 pm strength of 5

Follow-up: This is a duplicate of the previous concern.

Name: NA

Message: Odor logged December 2, 2015, at 9:14 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is of substantial distance away from the Bridgeton Landfill and well outside the downwind pathway. Odor patrols on this date observed odor from a non-Bridgeton source significantly closer to this concern location than the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 3, 2015, at 7:45 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is directly adjacent to and at the time of this concern downwind from another known odor source. An odor patrol conducted at this time did not observe odor related to the Bridgeton Landfill at points between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: David Blackwell

Message: Odor logged December 3, 2015, at 11:15 am strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time cited in this concern winds were of a low western velocity, placing this location generally upwind of the Bridgeton Landfill and downwind of another known odor source. This is not believed to have been a Bridgeton Landfill odor.

Name: Bob Labeaume

Message: Odor logged December 3, 2015, at 4:38 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time cited in this concern Bridgeton Landfill staff was performing an odor patrol that observed no odor related to the Bridgeton Landfill at points between the Bridgeton landfill and this location. This location is in close proximity to another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged December 3, 2015, at 9:45 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time cited in this concern winds were of a low western velocity, placing this location generally upwind of the Bridgeton Landfill and downwind of another known odor source. This is not believed to have been a Bridgeton Landfill odor.

Name: Meagan

Message: Odor logged December 3, 2015, at 11:09 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time cited in this concern winds were of a low western velocity, odor patrols on this date did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: menke

Message: Odor logged December 4, 2015, at 5:15 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Within the hour cited in this concern Bridgeton Landfill staff observed strong garbage/fecal combined odor throughout the area unassociated with the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 4, 2015, at 6:30 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Within the hour cited in this concern Bridgeton Landfill staff observed strong garbage/fecal combined odor throughout the area unassociated with the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Tabitha Vaughn

Message: Odor logged December 4, 2015, at 8:54 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed shortly before the time cited in this concern, no odor related to the Bridgeton Landfill was detected at points between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 4, 2015, at 7:30 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed shortly after the time cited in this concern, no odor related to the Bridgeton Landfill was detected at points between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: tammy dunn

Message: Odor logged December 4, 2015, at 6:00 am strength of 9

Follow-up: The following concern lacks location data needed for investigation.

Name: NA

Message: Odor logged December 4, 2015, at 6:21 am strength of 8

Follow-up: The following concern lacks location data needed for investigation.

Name: Christen Commuso

Message: Odor logged December 5, 2015, at 2:18 pm strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. On this date no odor related to the Bridgeton Landfill was detected during odor patrols performed before and after this concern. The concern location cited is of greater distance than any previously documented odor from the Bridgeton Landfill within the last several years. No projects were occurring on this date with the potential to cause off-site odor at such a distance. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 6, 2015, at 6:53 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was submitted with a time that matches with a change in local wind patterns from a southeastern to southwestern origin, resulting in this location being directly upwind of the Bridgeton Landfill at the time of this concern and downwind of another known odor source. This is not believed to have been a Bridgeton Landfill concern.

Name: NA

Message: Odor logged December 6, 2015, at 1:17 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern is of significant distance to the east of Bridgeton Landfill, outside the downwind pathway of the Bridgeton Landfill at the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill.

Name: jEmily Jacobi

Message: Odor logged December 6, 2015, at 3:00 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill and downwind of other known odor sources in the area. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Robbin Dailey

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

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the southwest of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill and downwind of other known odor sources in the area. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Deplorablepapertowel@gmail.com

Message: Odor logged December 6, 2015, at 6:56 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill and downwind of other known odor sources in the area. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 5, 2015, at 10:45 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the southeast of Bridgeton Landfill during a period of southeastern winds, placing it upwind of the Bridgeton Landfill and downwind of other known odor sources in the area. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Kirk Morris

Message: Odor logged December 6, 2015, at 4:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the west southwest of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill and downwind of other known odor sources in the area. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Trisha Bakula

Message: Odor logged December 6, 2015, at 10:45 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Trisha Bakula

Message: Odor logged December 7, 2015, at 5:19 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of Bridgeton Landfill during a period of western winds, placing it outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Scott Schuchard

Message: Odor logged December 7, 2015, at 6:23 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location a significant distance to the south in closer proximity to other known odor sources during a period of predominantly western winds, placing this location outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: Margie Menke

Message: Odor logged December 7, 2015, at 6:35 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the west of the Bridgeton Landfill during a period of western winds, placing this location well upwind of the Bridgeton Landfill and downwind of another known odor source. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 8:30 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the southwest of the Bridgeton Landfill during a period of western winds, placing this location well upwind of the Bridgeton Landfill and downwind of another known odor source. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 7:30 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location a significant distance to the south of the Bridgeton Landfill during a period of western winds, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 7:35 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of the Bridgeton Landfill during a period of western winds, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 7:45 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location a significant distance to the southeast of the Bridgeton Landfill during a period of western winds, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 7:50 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location a significant distance to the southeast of the Bridgeton Landfill during a period of western winds, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: Christina slaughter

Message: Odor logged December 7, 2015, at 9:00 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: Tonya Mason

Message: Odor logged December 7, 2015, at 8:45 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of the Bridgeton Landfill during a period of western winds, placing this location well outside the downwind pathway of the Bridgeton Landfill. This is not believed to have been a Bridgeton Landfill odor.

Name: Josh Shy

Message: Odor logged December 7, 2015, at 9:24 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: Josh Shy

Message: Odor logged December 7, 2015, at 9:24 am strength of 10

Follow-up: This is a duplicate of a previous odor concern.

Name: Josh Shy

Message: Odor logged December 7, 2015, at 9:24 am strength of 10

Follow-up: This is a duplicate of a previous odor concern.

Name: Josh Shy

Message: Odor logged December 7, 2015, at 9:24 am strength of 10

Follow-up: This is a duplicate of a previous odor concern.

Name: Jennifer shakhnovich

Message: Odor logged December 7, 2015, at 2:35 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location in question is of significant distance to the northeast of the Bridgeton Landfill. Winds were of an eastern to southeastern origin at the time of this concern, placing it outside the downwind pathway of the Bridgeton Landfill. An odor patrol performed shortly after this concern's submittal time did not observe off-site odor from the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: David Blackwell

Message: Odor logged December 6, 2015, at 12:30 pm strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the south of Bridgeton Landfill during a period of southwestern winds, placing it upwind of the Bridgeton Landfill. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: David Blackwell

Message: Odor logged December 6, 2015, at 12:30 pm strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed coinciding with the time referenced in this concern. No odor related to the Bridgeton Landfill was observed at multiple points in close proximity to this location during that patrol. This was not a Bridgeton Landfill odor.

Name: Susan Johnson

Message: Odor logged December 7, 2015, at 10:17 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: Caitlyn williams

Message: Odor logged December 5, 2015, at 4:30 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was from a location to the southwest of Bridgeton Landfill during a period of southeastern winds, placing it upwind of the Bridgeton Landfill. Odor patrols on this date did not observe off-site odor related to the Bridgeton Landfill and no projects were being conducted with the potential to generate off-site odor. This was not a Bridgeton Landfill odor.

Name: Rebecca Kelleher

Message: Odor logged December 6, 2015, at 10:45 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location given is located to the south of the Bridgeton Landfill and directly east of another known odor source during a period of due west winds. Bridgeton Landfill odor patrols on this evening did not observe odor related to the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Deanna Cullen

Message: Odor logged December 7, 2015, at 11:05 am strength of 6

Follow-up: The following concern lacks location data needed for investigation.

Name: Rhonda Steelman

Message: Odor logged December 7, 2015, at 10:00 am strength of 10

Follow-up: The following concern cites a date and time in direct concurrence with Bridgeton Landfill odor patrol observations at multiple points in the immediate vicinity of this concern. No odor was detected.

Name: NA

Message: Odor logged December 6, 2015, at 4:45 pm strength of 9

Follow-up: The following concern lacks location data needed for investigation.

Name: NA

Message: Odor logged December 7, 2015, at 6:35 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: linsey estes

Message: Odor logged December 4, 2015, at 9:54 pm strength of 10

Follow-up: The following concern cites a date and time that was in concurrence with a Bridgeton Landfill odor patrol. This odor patrol did not observe Bridgeton Landfill odor off-site. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 4:00 pm strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: NA

Message: Odor logged December 7, 2015, at 6:10 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern location is of substantial distance from the Bridgeton Landfill and well upwind of the site on the time and date cited in this concern. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 6, 2015, at 4:20 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern location is of substantial distance from the Bridgeton Landfill and well upwind of the site on the time and date cited in this concern. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 6, 2015, at 9:30 pm strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: NA

Message: Odor logged December 6, 2015, at 9:30 pm strength of 10

Follow-up: The following concern is a duplicate of a previously addressed concern.

Name: David beck

Message: Odor logged December 8, 2015, at 3:25 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: David Blackwell

Message: Odor logged December 8, 2015, at 10:00 am strength of 4

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. This odor was of decomposing garbage and originated from a location to the south of this location. This was not a Bridgeton Landfill odor.

Name: Theresa Ravens

Message: Odor logged December 8, 2015, at 1:25 pm strength of 6

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. This odor was of decomposing garbage and originated from a location to the south of this location. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 7, 2015, at 7:00 am strength of 10

Follow-up: The following concern lacks location data needed for investigation.

Name: NA

Message: Odor logged December 9, 2015, at 8:00 am strength of 7

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. No odor originating from the Bridgeton Landfill was observed at multiple locations between the specified concern location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 9, 2015, at 7:29 am strength of 8

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. No odor originating from the Bridgeton Landfill was observed at multiple locations between the specified concern location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 9, 2015, at 7:30 am strength of 8

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. No odor originating from the Bridgeton Landfill was observed at multiple locations between the specified concern location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: David

Message: Odor logged December 9, 2015, at 8:00 am strength of 10

Follow-up: The following concern was investigated shortly after receipt by Bridgeton Landfill staff. No odor originating from the Bridgeton Landfill was observed at multiple locations between the specified concern location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Scott Schuchard

Message: Odor logged December 9, 2015, at 5:15 am strength of 7

Follow-up: As the following concern was submitted over seven hours after the stated observation time this concern could not be investigated in real-time. However, an odor patrol performed later on this morning did not detect any odor originating from the Bridgeton Landfill

and no technical disturbances with the potential to cause off-site odor occurred. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jolene Schuchard

Message: Odor logged December 9, 2015, at 11:20 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor related to the Bridgeton Landfill was observed during odor patrols on this date. The location cited is south of the Bridgeton Landfill while winds were of a due west or southwest origin, placing this location well outside the downwind pathway of the Bridgeton Landfill and instead directly downwind of other known odor sources. This was not a Bridgeton Landfill odor.

Name: M

Message: Odor logged December 9, 2015, at 2:30 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor related to the Bridgeton Landfill was observed during odor patrols on this date. The location cited is south of the Bridgeton Landfill while winds were of a due west or southwest origin, placing this location well outside the downwind pathway of the Bridgeton Landfill and instead directly downwind of other known odor sources. This was not a Bridgeton Landfill odor.

Name: Jennifer

Message: Odor logged December 9, 2015, at 12:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The location specified in this concern is within or directly adjacent to the boundaries of another known odor source with frequent uncontrolled and unregulated odor emissions, both of which were located upwind of the Bridgeton Landfill at the time cited in this concern. This was clearly not a Bridgeton Landfill odor.

Name: Jennifer

Message: Odor logged December 9, 2015, at 6:00 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor related to the Bridgeton Landfill was observed during odor patrols on this date. The location cited is south of the Bridgeton Landfill while winds were of a due west or southwest origin, placing this location well outside the downwind pathway of the Bridgeton Landfill and instead directly downwind of other known odor sources. This was not a Bridgeton Landfill odor.

Name: M

Message: Odor logged December 10, 2015, at 1:36 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor related to the Bridgeton Landfill was during odor patrols shortly before and shortly after the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: meagan

Message: Odor logged December 10, 2015, at 3:38 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed concurrently with the time cited in this concern. No odor related to the Bridgeton Landfill was observed. The location cited in this concern was well upwind of the Bridgeton Landfill at the time of this concern as well. This was obviously not a Bridgeton Landfill odor.

Name: Jolene Schuchard

Message: Odor logged December 10, 2015, at 3:12 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed concurrently with the time cited in this concern. No odor related to the Bridgeton Landfill was observed. The location cited in this concern was well upwind of the Bridgeton Landfill at the time of this concern as well. This was obviously not a Bridgeton Landfill odor.

Name: Scott Schuchard

Message: Odor logged December 10, 2015, at 6:16 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern, like all other concerns submitted on this date, was from a location immediately downwind of another known odor source with frequent uncontrolled and unregulated off-site odor emissions and well outside the downwind pathway of the Bridgeton Landfill. Clearly not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 10, 2015, at 5:27 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern, like all other concerns submitted on this date, was from a location immediately downwind of another known odor source with frequent uncontrolled and unregulated off-site

odor emissions and well outside the downwind pathway of the Bridgeton Landfill. Clearly not a Bridgeton Landfill odor.

Name: MARY MENKE

Message: Odor logged December 11, 2015, at 6:25 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern the location specified was directly upwind of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Tabitha Vaughn

Message: Odor logged December 11, 2015, at 7:03 am strength of 7

Follow-up: The following concern is well outside the geographic area with any potential to experience Bridgeton Landfill related odor.

Name: NA

Message: Odor logged December 11, 2015, at 7:59 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern the location specified was directly upwind of the Bridgeton Landfill and directly downwind of another known odor source. This was not a Bridgeton Landfill odor.

Name: Amanda Cooper

Message: Odor logged December 11, 2015, at 9:15 am strength of 6

Follow-up: The following concern is well outside the geographic area with any potential to experience Bridgeton Landfill related odor.

Name: NA

Message: Odor logged December 11, 2015, at 7:30 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. At the time of this concern the location specified was directly upwind of the Bridgeton Landfill and directly downwind and immediately adjacent to another known odor source. This was not a Bridgeton Landfill odor.

Name: NA

Message: Odor logged December 11, 2015, at 3:47 pm strength of 7

Follow-up: The following concern is well outside the geographic area with any potential to experience Bridgeton Landfill related odor.

All other odor concerns for this month have been reviewed and meet one of the above descriptions with either:

1. No/invalid location data preventing investigation.
2. A location of greater distance than any Bridgeton Landfill or MDNR observed Bridgeton Landfill odor migration in the extensive history of odor monitoring for the site.
3. Located in the immediate vicinity and/or immediately downwind of a nearby odor source with persistent unchecked off-site odor emissions.
4. Were investigated by Bridgeton Landfill staff with no Bridgeton Landfill odor detected at the location in question.

No odor concerns submitted this month contained any evidence to indicate the source of the odor to have been the Bridgeton Landfill.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

December 2015

Liquid Characterization Data

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

Hauled Disposal to MSD – Bissell Point

Date	Waste	Source	Transporter	Quantity
12/1/2015	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	0
12/2/2015				0
12/3/2015				0
12/4/2015				0
12/5/2015				0
12/6/2015				0
12/7/2015				0
12/8/2015				0
12/9/2015				0
12/10/2015				0
12/11/2015				0
12/12/2015				0
12/13/2015				0
12/14/2015				0
12/15/2015				0
12/16/2015				0
12/17/2015				0
12/18/2015				0
12/19/2015				0
12/20/2015				0
12/21/2015				0
12/22/2015				0
12/23/2015				0
12/24/2015				0
12/25/2015				0
12/26/2015				0
12/27/2015				0
12/28/2015				0
12/29/2015				0
12/30/2015				0
12/31/2015				0
			Total=	**0**

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
12/1/2015	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	222,460
12/2/2015			227,756
12/3/2015			226,165
12/4/2015			226,165
12/5/2015			216,808
12/6/2015			204,296
12/7/2015			230,017
12/8/2015			230,017
12/9/2015			222,617
12/10/2015			215,834
12/11/2015			162,417
12/12/2015			114,574
12/13/2015			205,339
12/14/2015			201,495
12/15/2015			150,539
12/16/2015			233,060
12/17/2015			320,248
12/18/2015			225,887
12/19/2015			229,252
12/20/2015			181,704
12/21/2015			111,434
12/22/2015			106,183
12/23/2015			205,382
12/24/2015			215,821
12/25/2015			200,630
12/26/2015			207,587
12/27/2015			192,534
12/28/2015			164,878
12/29/2015			179,543
12/30/2015			188,087
12/31/2015			164,878
		Total =	**6,183,607**

ATTACHMENT I

LOW FILL PROJECT AREA

LEGEND

- SOLID WASTE BOUNDARY
- Q — QUARRY WALL
- FILL BOUNDRIES

0 200 400 Feet

BRIDGETON LANDFILL, LLC 13570 ST. CHARLES ROCK ROAD BRIDGETON, MISSOURI 63044	JAN 2016 FILL BOUNDRIES	FEEZOR ENGINEERING, INC. Engineering for a Better World	DESIGNED BY: APPROVED BY:	DRAWING NO.: 001
FULL SITE PLAN VIEW W/ AERIAL				
PROJECT NO: BT-057	FILE PATH: c:\Users\Paul\Dropbox\Bridgeton\BT-057\drawings\Infrastructure Site Plan 2014 Q1 - CAD\arch\Title Block 42x30 XREF - TEMPLATE.dwg		REVISION	DATE