Bridgeton Landfill, LLC

Monthly Data Submittals

June 2016

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

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Provided Separately:

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

July 20, 2016

Commentary on Data

July 20, 2016

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

Gas Volume

- As seen in Attachment B-1, the gas collection volumetric rate in for this month averaged 2,588 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-1 contains vertical wells which had oxygen levels over 5% at one (1) or more weekly monitoring events during this reporting period. These consisted of 41 GEW wells that are experiencing low or restricted flows, and five (5) 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 of these wells 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. With the exception of GEW-1A, all of 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. In July, a dewatering sump will be installed adjacent to GEW-1A in hopes of lowering the liquid level in the gas well. This project is expected to improve gas collection and reduce ambient air intrusion from the wellhead.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Four (4) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, 13 vertical wells (excluding GIW wells) increased by 30°F or more. All 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.

- A detailed review of the gas extraction wells in the neck area was conducted. Well GEW-162 exhibited a wellhead temperature increase greater than 30°F. Well GEW-162 was installed in December 2015 within the south quarry area/neck area and vacuum has been adjusted over time as part of normal GCCS operations. The wellhead temperatures at GEW-162 are similar as the wellhead temperatures of nearby wells. Maximum temperatures are consistent with previous months in each of the gas extraction wells in vicinity to the neck.

- All wells in the North Quarry during this reporting period exhibited a maximum wellhead temperature under 145°F with the exception of GEW-054. Well GEW-054 had a maximum well head temperature of 154°F which is consistent with historic readings. Carbon monoxide (CO) results showed non-detect (ND) for all other North quarry wells, with the exception of GEW-053 (68 ppm) and GEW-054 (42 ppm).

- 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 1.395 feet over 31 days for this reporting period (see Attachment F); 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 with respect to landfill activities.

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 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 May on a region of differential settlement located in the southeast portions 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 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 with the following monthly report.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in June 2016

Gas Collection and Control System

- Continued operation and maintenance of GCCS System and GIW wells.
- Continued header realignment project to improve condensate management and header vacuum distribution.

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.
- Permeate continued to be discharged directly to MSD – Bissell Point Facility or other approved disposal facilities as determined by MSD.
- Completed final heat exchanger unit plate.

Other Projects

- Continued acceptance of clean fill.
- Completed stormwater enhancements around the Simpson asphalt facility.
- Upgrades to Outfall 007.
- Demolition of buildings in the Southwest portion of the property.
- Abandonment of GC-5 and installation of SEW-3.

Work Planned for July 2016

Gas Collection and Control System

- Continue operation and maintenance of GCCS system.
- Continue upgrades to GCCS system as necessary.
- Installation of GEW-1B and GEW-177.

Alternative Heat Extraction System

- Continue operation and maintenance of the HES.
- Begin installation of Neck HEB.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.
- Complete work on West Lift Station including the replacement of flow meters and valves.

Pre-Treatment Facility

- Continue ongoing operation of facility.
- Continue to optimize operation efficiency of pre-treatment facility.
- Continue to discharge permeate directly to MSD – Bissell Point Facility or other approved disposal facilities as determined by MSD.
- Begin installation of new Cationic Polymer system equipment.
- Begin installation of permanent Soda Ash system equipment.
- Commission new Dissolved Oxygen instruments for the Aeration Tanks.
- Begin installation of new pressure and temperature instruments for Heat Exchanger Units.

Other Projects:

- Continue acceptance of clean fill materials for future fill projects.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
June 2016

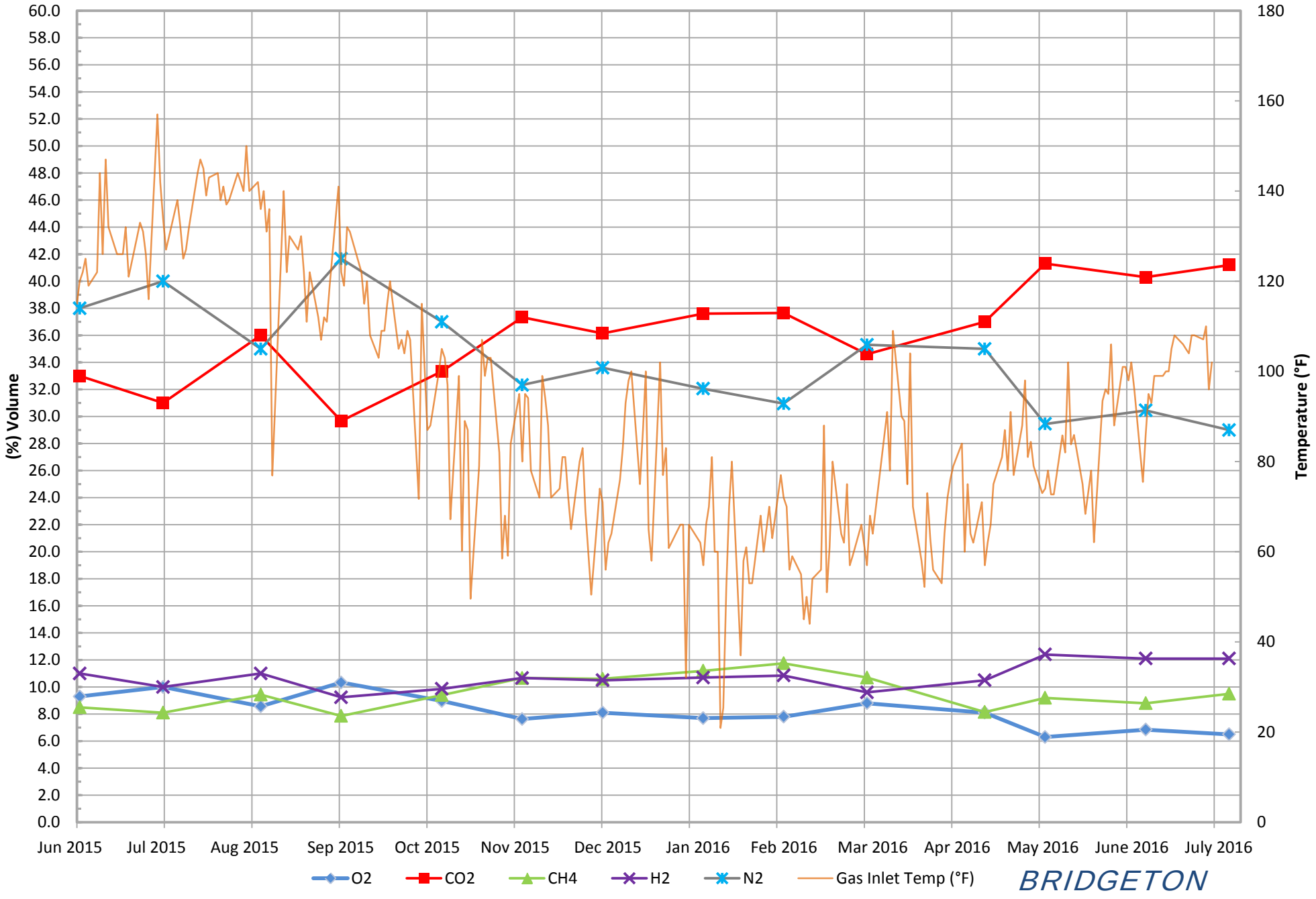
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	Aux. Utility Flare***	
6/1/2016	0	0	2,506	330	2,836
6/2/2016	0	0	2,365	292	2,657
6/3/2016	0	0	2,257	289	2,546
6/4/2016	0	0	2,237	292	2,529
6/5/2016	0	0	2,236	292	2,528
6/6/2016	0	0	2,279	294	2,573
6/7/2016	0	0	2,296	293	2,589
6/8/2016	0	0	2,279	309	2,588
6/9/2016	0	0	2,305	314	2,619
6/10/2016	0	0	2,260	315	2,574
6/11/2016	0	0	2,209	319	2,528
6/12/2016	0	0	2,202	317	2,519
6/13/2016	0	0	2,158	319	2,477
6/14/2016	0	0	2,198	324	2,521
6/15/2016	0	0	2,229	323	2,552
6/16/2016	0	0	2,380	322	2,701
6/17/2016	0	0	2,326	315	2,640
6/18/2016	0	0	2,351	315	2,667
6/19/2016	0	0	2,346	320	2,666
6/20/2016	0	0	2,357	311	2,668
6/21/2016	0	0	2,306	300	2,606
6/22/2016	0	0	2,354	288	2,641
6/23/2016	0	0	2,359	279	2,638
6/24/2016	0	0	2,337	279	2,616
6/25/2016	0	0	2,270	276	2,546
6/26/2016	0	0	2,216	276	2,492
6/27/2016	0	0	2,237	287	2,524
6/28/2016	0	0	2,188	290	2,477
6/29/2016	0	0	2,275	288	2,563
6/30/2016	0	1,215	1,050	287	2,552
				Average	**2,588**

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

ATTACHMENT B-2

FLOW DATA GRAPHS

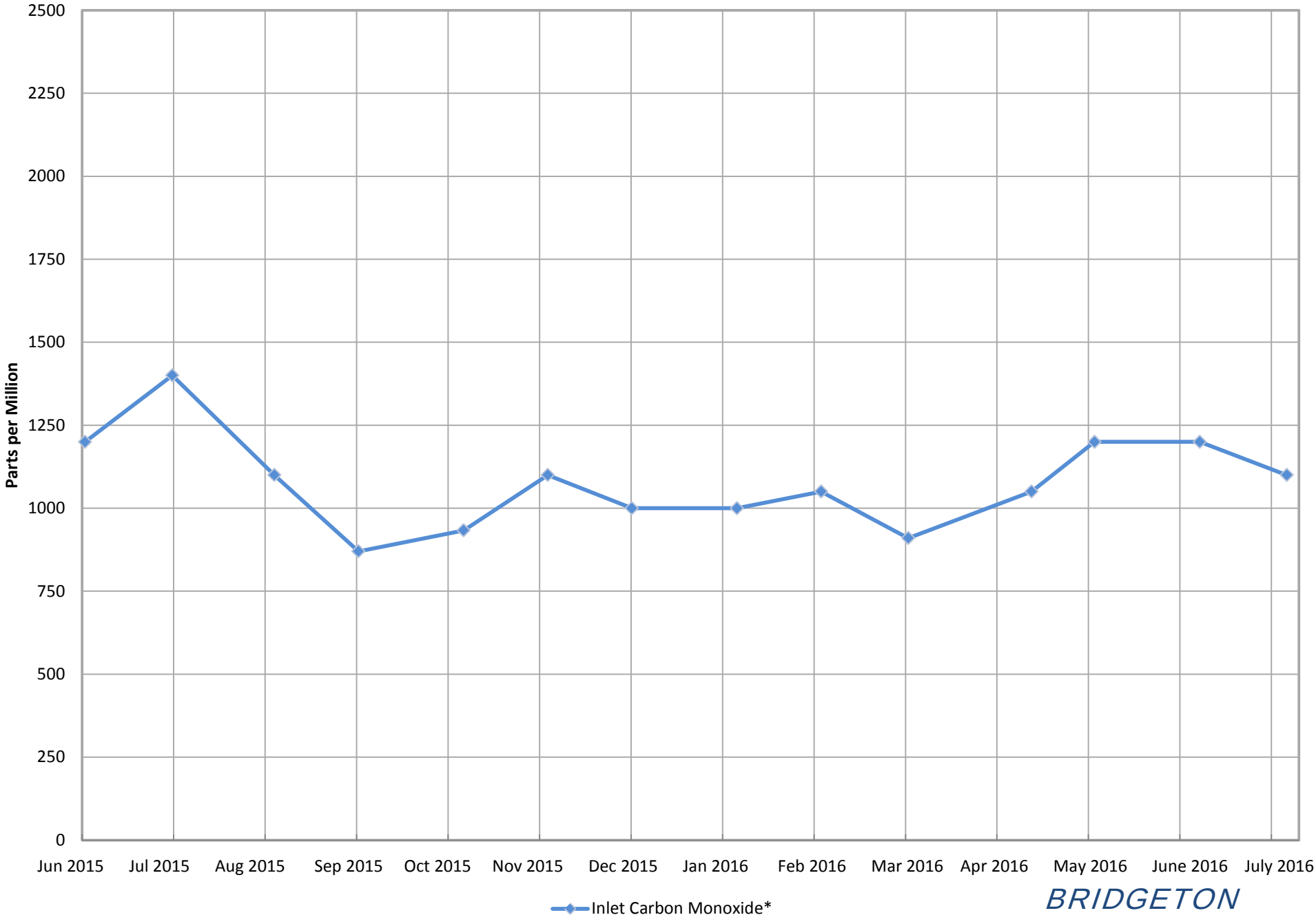
Inlet Gas and Temperature*



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

BRIDGETON LANDFILL

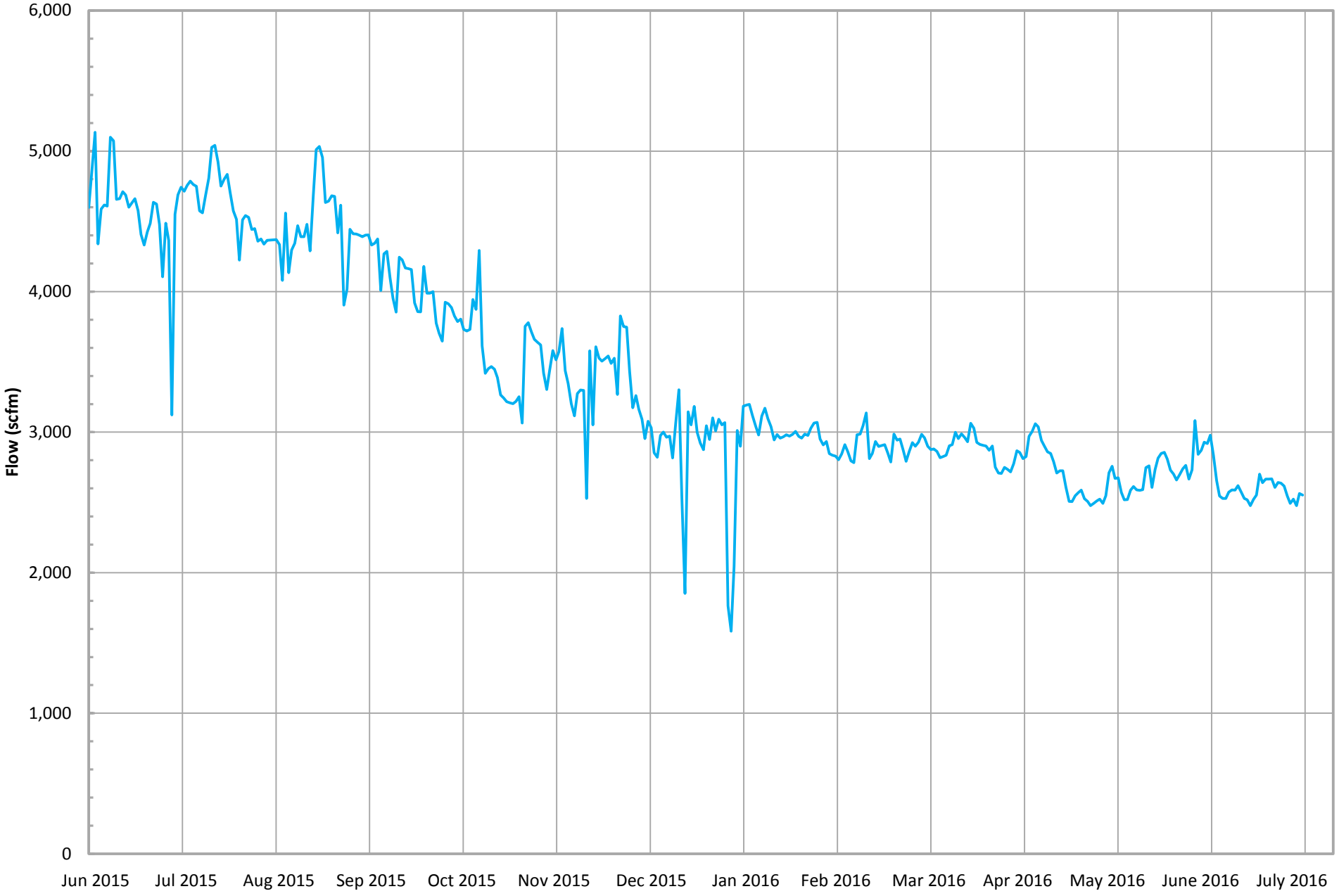
Inlet Carbon Monoxide*



*Data collected from Laboratory Reports.

BRIDGETON LANDFILL

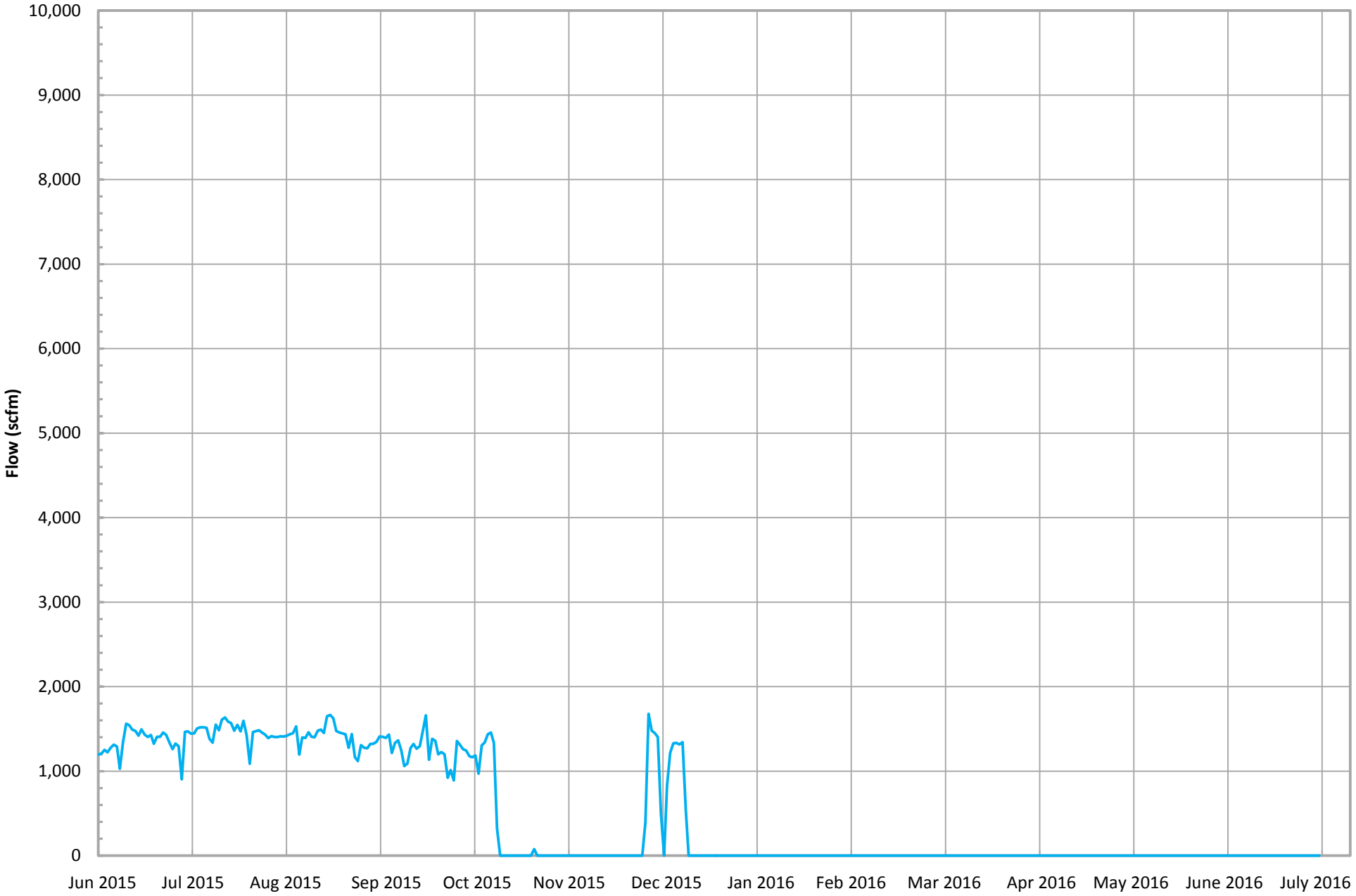
Total Combined Flow (scfm)*



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

BRIDGETON LANDFILL

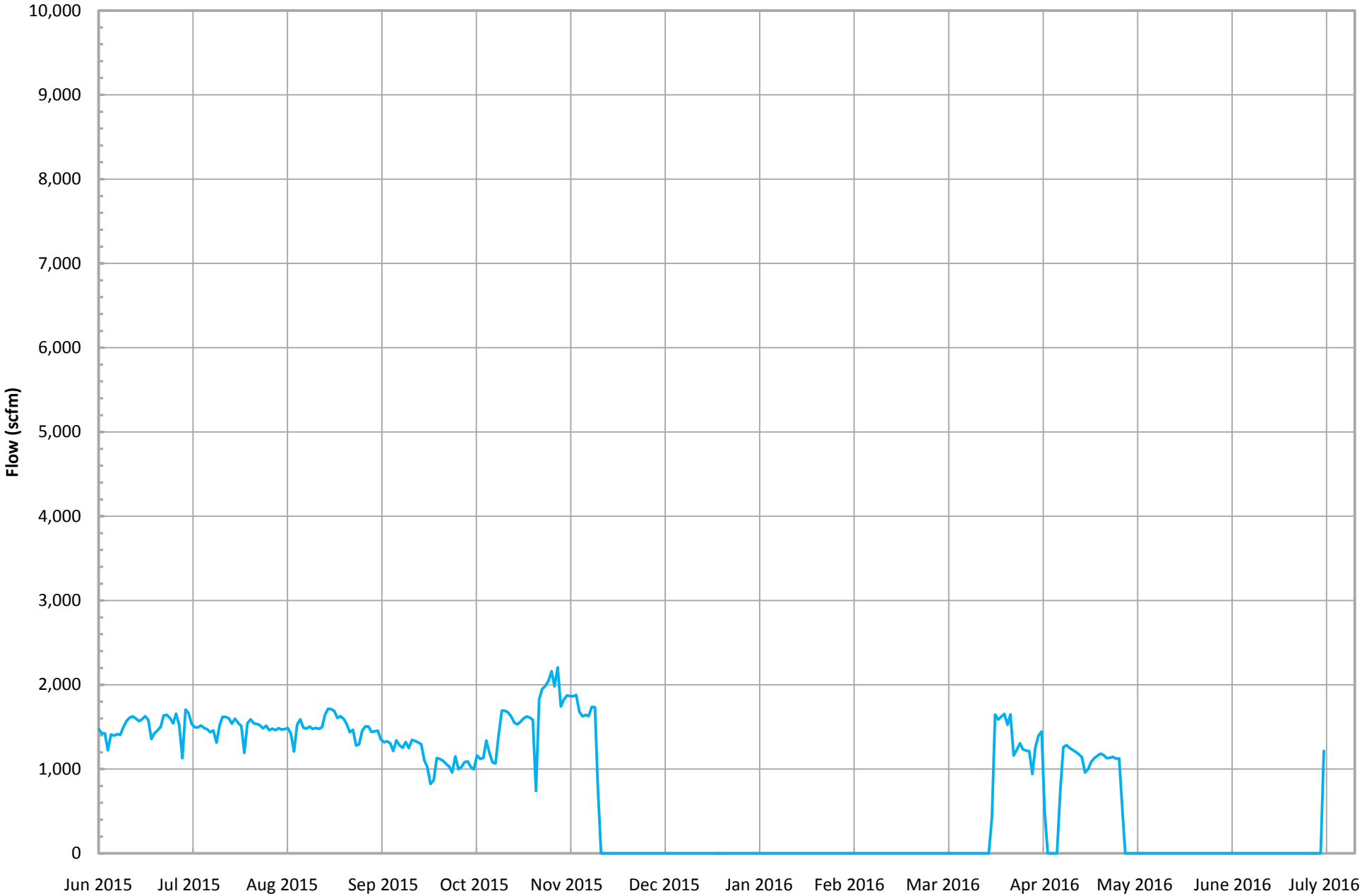
Candlestick Flare (FL-100) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

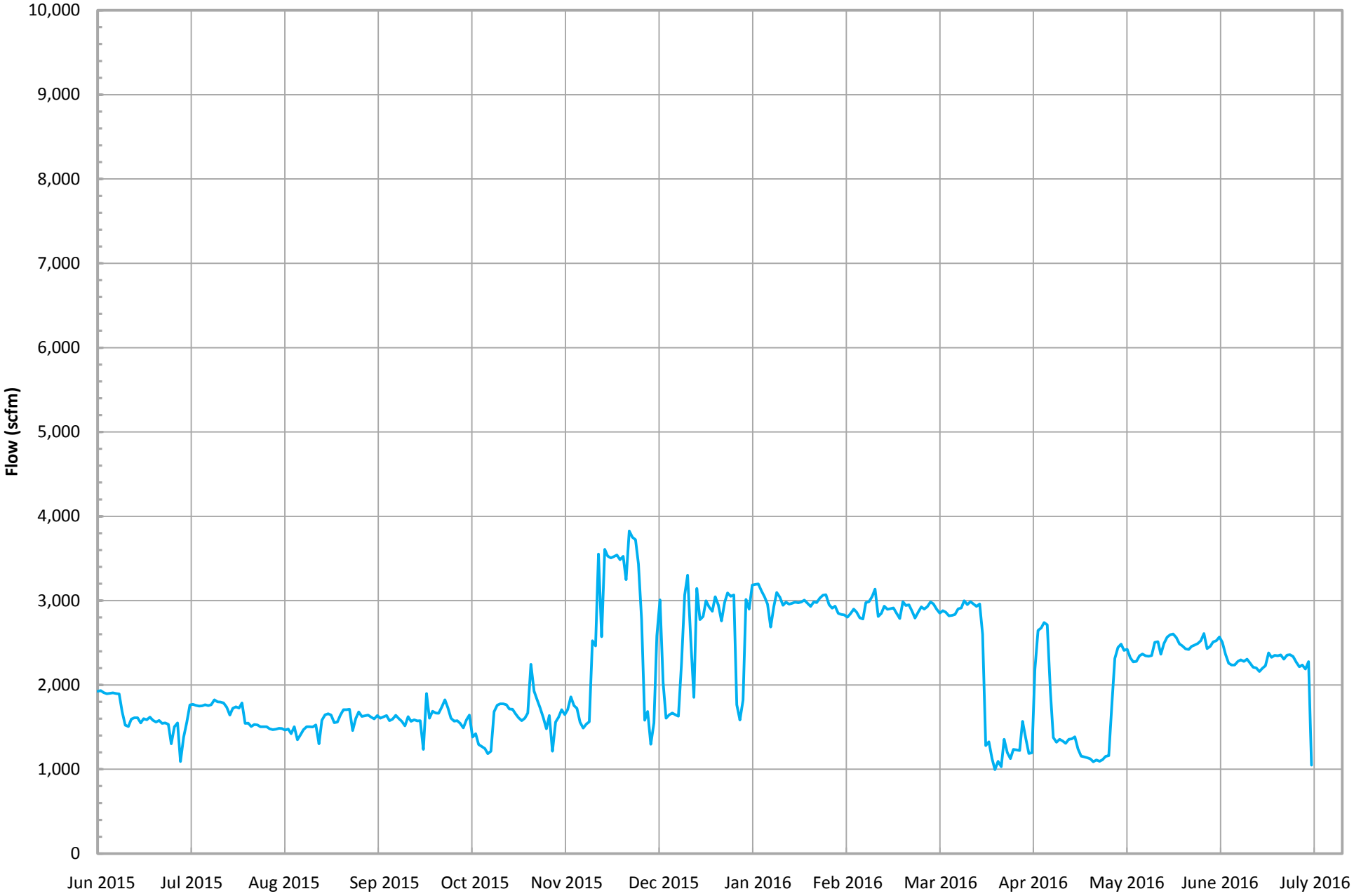
Candlestick Flare (FL-120) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

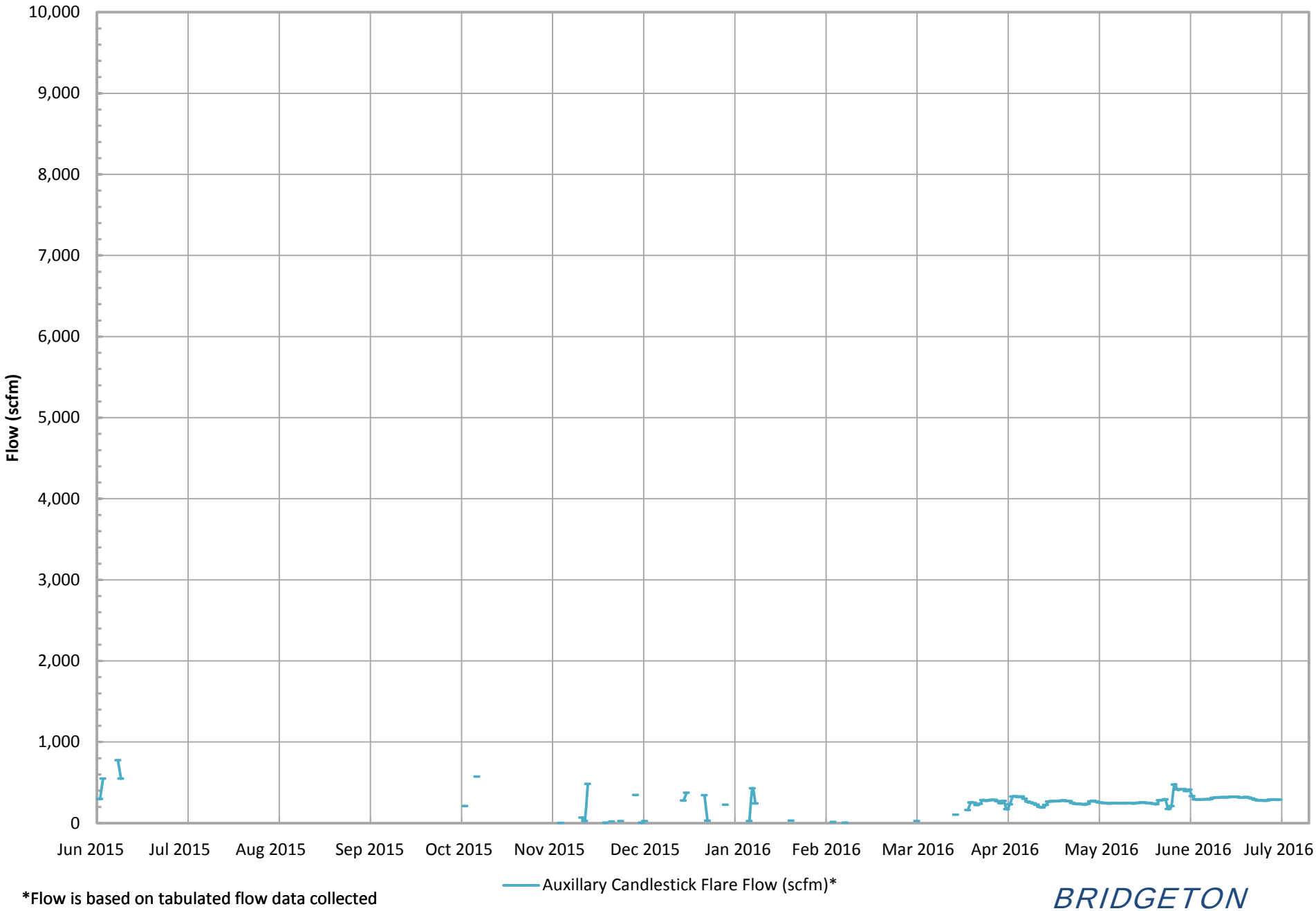
Candlestick Flare (FL-140) Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

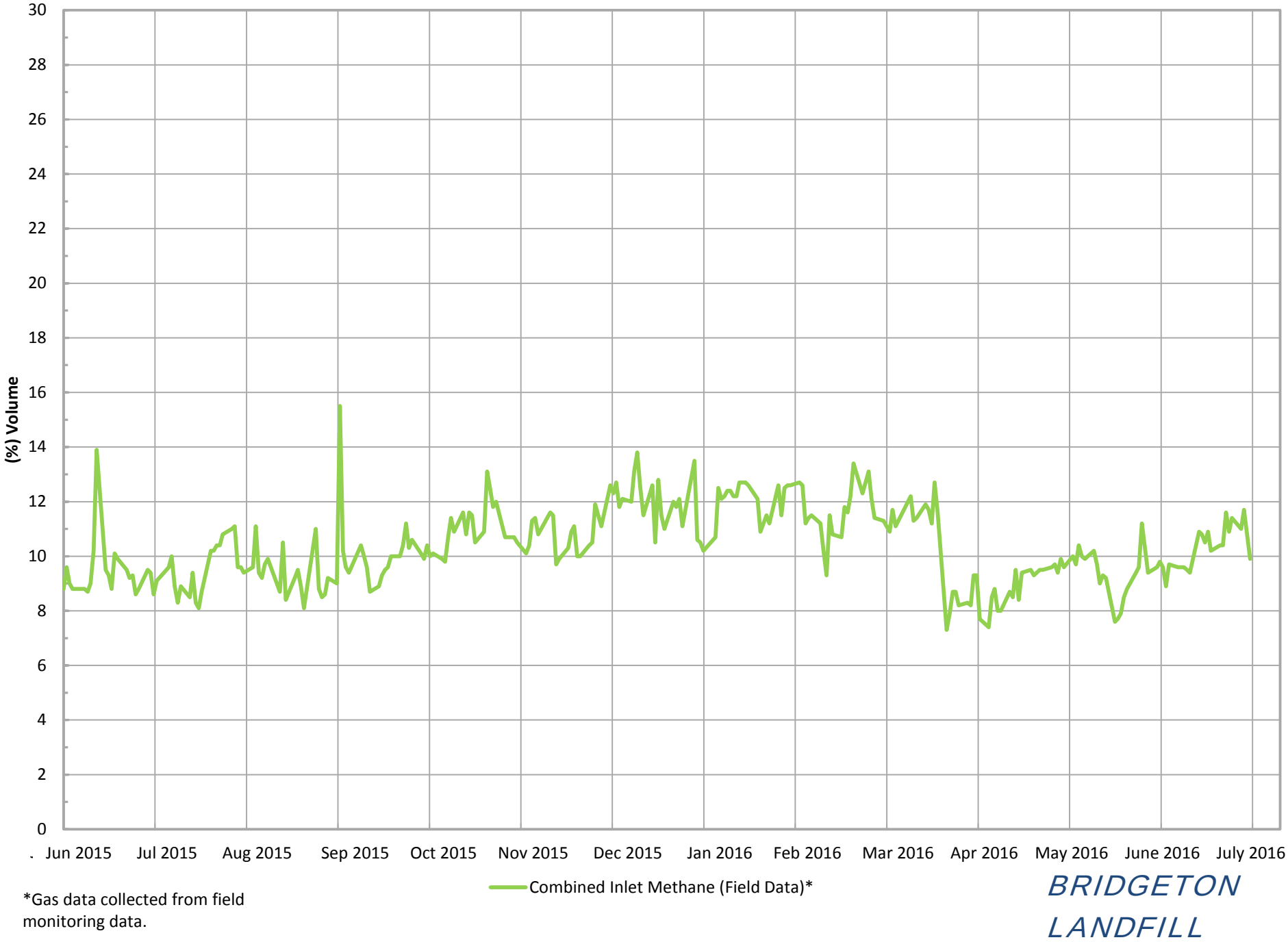
Auxillary Candlestick Flare Flow (scfm)*



*Flow is based on tabulated flow data collected daily.

BRIDGETON LANDFILL

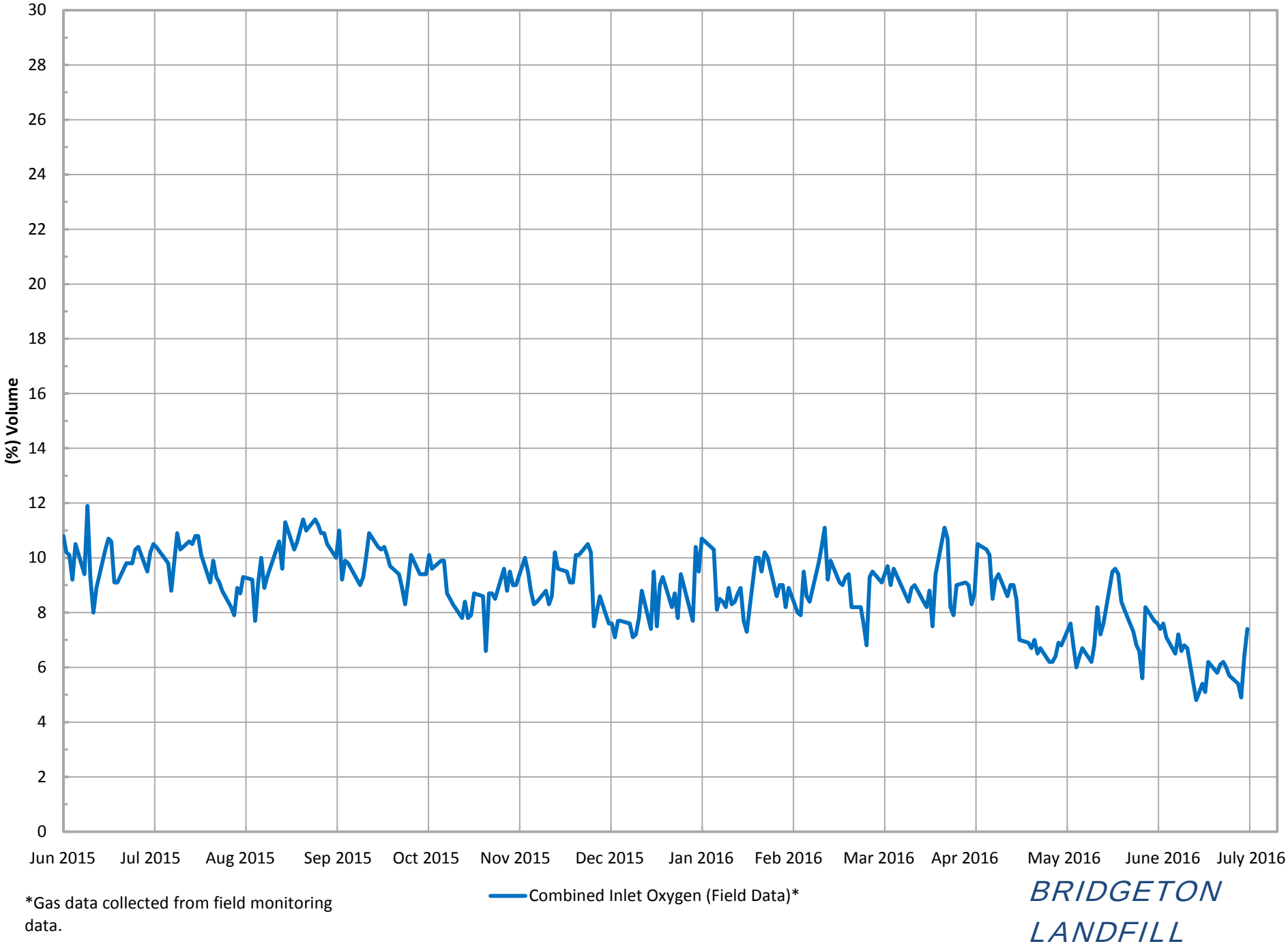
Combined Inlet Methane (Field Data)*



*Gas data collected from field monitoring data.

BRIDGETON LANDFILL

Combined Inlet Oxygen (Field Data)*

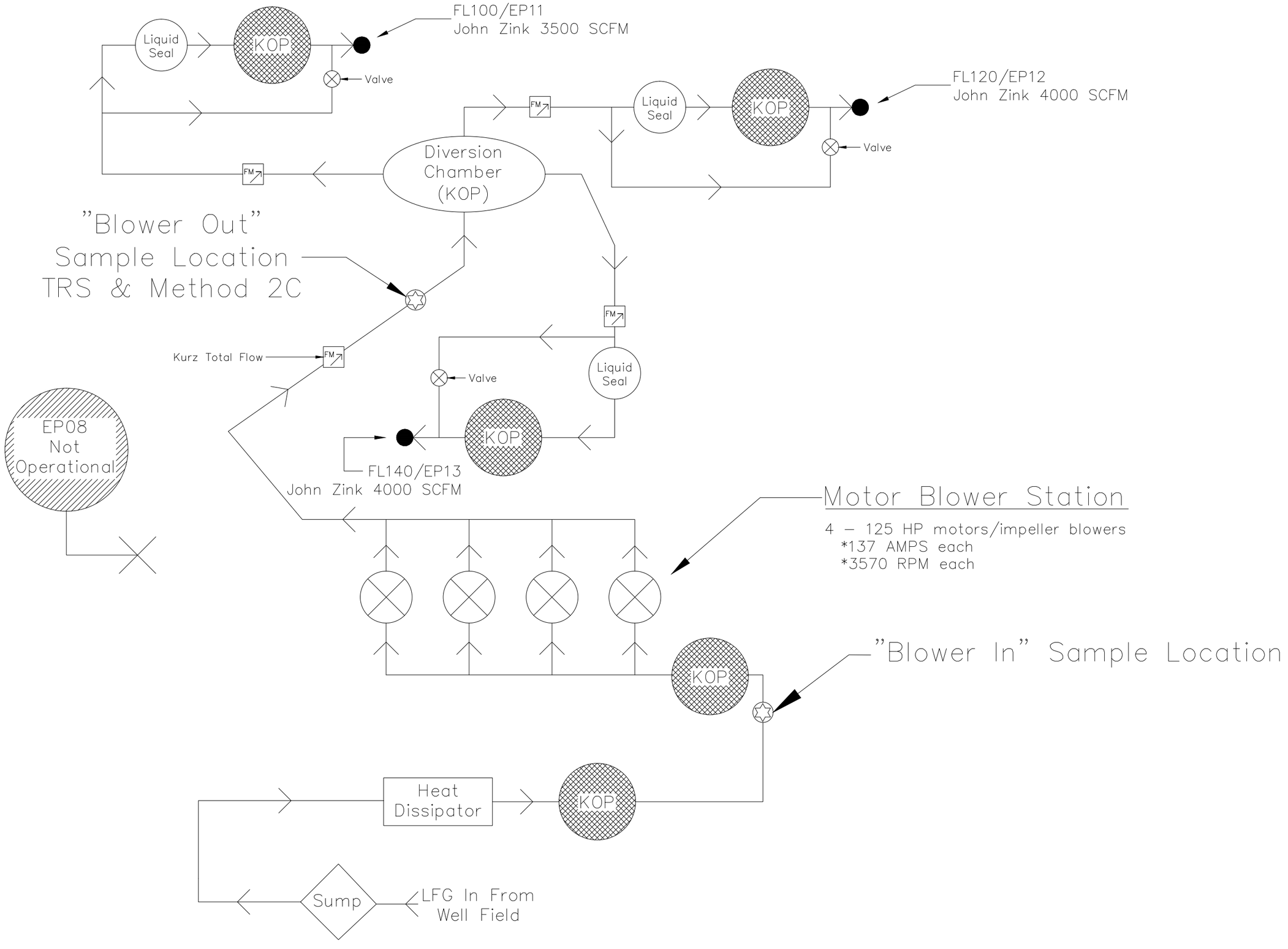


*Gas data collected from field monitoring data.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



I:\PROJECTS\120\131 Bridgeton\Bridgeton Air Compliance 2015\TRS Assistance\Figure 1 - Flow Diagram - REV.dwg ,dthoenen;May 20, 2015

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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

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

SHEET 1 OF 1

TABLE 1 **Bridgeton Landfill, LLC.**

Summary of Key LFG Tested Parameters **June 7, 2016 to July 5, 2016**

Flare Compound: *Blower Outlet*

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
70-27[1]	7/5/2016	28.80	2078	N/A[3]
				1300
69-26[2]	6/28/2016	24.74	2004	1600
				1800
68-25[2]	6/21/2016	26.54	2150	1400
				1500
67-24[2]	6/14/2016	25.37	2055	1500
				1700
66-23[1]	6/7/2016	26.76	2073	1700
				1600
65-22[2]	6/1/2016	30.75	2491	1100
				1500

Notes:

[1] Indicates velocity/flow determined by EPA Method 2

[2] Indicates velocity/flow determined by KURZ

[3] Initial vacuum requirement not met, no sample

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 70-27
07/05/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120)		
Date	Test Date	7/5/16
Start	Run Start Time	8:15
	Run Finish Time	9:42
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:27:40
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.56
% H_2O	Moisture Content of LFG, %	7.53
% RH	Relative Humidity, %	68.40
M_{fd}	Dry Mole Fraction	0.925
%CH_4	Methane, %	9.50
%CO_2	Carbon Dioxide, %	41.20
%O_2	Oxygen, %	6.50
%Balance	Assumed as Nitrogen, %	29.00
%H_2	Hydrogen, %	12.10
%CO	Carbon Monoxide, %	0.11
M_d	Dry Molecular Weight, lb/lb-Mole	30.94
M_s	Wet Molecular weight, lb/lb-Mole	29.97
P_g	Flue Gas Static Pressure, inches of H_2O	28.29
P_s	Absolute Flue Gas Pressure, inches of Mercury	31.64
t_s	Average Stack Gas Temperature, °F	121
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.189
v_s	Average LFG Velocity, feet/second	28.80
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	2,078
Q_s	Standard Volumetric Flow Rate, scfm	2,234
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	2,338
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	10,012
NHV	Net Heating Value, Btu/scf	160
LFG_{CH4}	Methane, lb/hr	493.3
	Methane, grains/dscf	27.70
LFG_{CO2}	Carbon Dioxide, lb/hr	5,869.0
	Carbon Dioxide, grains/dscf	329.52
LFG_{O2}	Oxygen, lb/hr	673.2
	Oxygen, grains/dscf	37.80
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,629.6
	Balance gas as Nitrogen, grains/dscf	147.64
LFG_{H4}	Hydrogen, lb/hr	79.0
	Hydrogen, grains/dscf	4.43
LFG_{CO}	Carbon Monoxide, lb/hr	10.0
	Carbon Monoxide, grains/dscf	0.56

	Minimum vacuum requirement of -18" Hg not met so cannister was not used - no sample	**Outlet A**	**Outlet B**
H_2S	Hydrogen Sulfide Concentration, ppmd		0.58
	Hydrogen Sulfide Rate, lb/hr	0.00	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd		0.58
	Carboynl Sulfide Rate, lb/hr	0.00	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.000	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd		47.00
	Methyl Mercaptan Rate, lb/hr	0.00	0.73
	Methyl Mercaptan Rate, grains/dscf	0.000	0.041
C_2H_6S	Ethyl Mercaptan Concentration, ppmd		1.00
	Ethyl Mercaptan Rate, lb/hr	0.00	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.000	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd		970.00
	Dimethyl Sulfide Rate, lb/hr	0.00	19.51
	Dimethyl Sulfide Rate, grains/dscf	0.000	1.095
CS_2	Carbon Disulfide Concentration, ppmd		1.20
	Carbon Disulfide Rate, lb/hr	0.00	0.03
	Carbon Disulfide Rate, grains/dscf	0.000	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd		160.00
	Dimethyl Disulfide Rate, lb/hr	0.00	3.94
	Dimethyl Disulfide Rate, grains/dscf	0.000	0.221
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd		1,300.00
	TRS-->SO2 Emission Rate, lb/hr	0.00	26.96
	TRS-->SO2 Emission Rate, grains/dscf	0.000	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, July 05, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	8:15	2,234	2,111	2,279	5.5%	-2.0%	7.3%

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 70-27
07/05/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	7/5/16
Start	Run Start Time	7:52
	Run Finish Time	8:50
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	0:57:50
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.50
% H_2O	Moisture Content of LFG, %	3.84
% RH	Relative Humidity, %	76.80
M_{fd}	Dry Mole Fraction	0.962
%CH_4	Methane, %	47.25
%CO_2	Carbon Dioxide, %	36.20
%O_2	Oxygen, %	2.75
%Balance	Assumed as Nitrogen, %	13.30
%H_2	Hydrogen, %	2.80
%CO	Carbon Monoxide, %	0.0028
M_d	Dry Molecular Weight, lb/lb-Mole	28.05
M_s	Wet Molecular weight, lb/lb-Mole	27.67
P_g	Flue Gas Static Pressure, inches of H_2O	1.09
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.58
t_s	Average Stack Gas Temperature, °F	92
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.022
v_s	Average LFG Velocity, feet/second	10.31
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	289
Q_s	Standard Volumetric Flow Rate, scfm	300
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	317
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,261
NHV	Net Heating Value, Btu/scf	429.8
LFG_{CH4}	Methane, lb/hr	340.9
	Methane, grains/dscf	137.76
LFG_{CO2}	Carbon Dioxide, lb/hr	716.4
	Carbon Dioxide, grains/dscf	289.53
LFG_{O2}	Oxygen, lb/hr	39.6
	Oxygen, grains/dscf	15.99
LFG_{N2}	Balance gas as Nitrogen, lb/hr	167.5
	Balance gas as Nitrogen, grains/dscf	67.71
LFG_{H4}	Hydrogen, lb/hr	2.5
	Hydrogen, grains/dscf	1.03
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.01

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	39.00	33.00
	Hydrogen Sulfide Rate, lb/hr	0.06	0.05
	Hydrogen Sulfide Rate, grains/dscf	0.024	0.020
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.50	1.10
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	5.10	4.80
	Dimethyl Sulfide Rate, lb/hr	0.01	0.01
	Dimethyl Sulfide Rate, grains/dscf	0.006	0.005
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	48.00	40.00
	TRS-->SO2 Emission Rate, lb/hr	0.14	0.12
	TRS-->SO2 Emission Rate, grains/dscf	0.056	0.047

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, July 05, 2016

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ LFG	7:52	300	306	-2.2%

Air TECHNOLOGY Laboratories, Inc.

July 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H070601-01/03

Enclosed are results for sample(s) received 7/06/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 7/07/16.

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.

Air TECHNOLOGY 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 LF Monthly Permit Flare LFG Testing
Report To:	Nick Bauers/Ryans Ayers/David Randall
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	NBauer@republicservices.com

BILLING

P.O. No.:	PO4862452 5881099
Bill to:	Republic Services
	Attn: Nick Bauer
	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	ASTM 1946 (fixed gases, CH4, CO2, O2, & N2), + CO, H2, & Btu	EPA Method 15/16 + TRS	ASTM 1946 + H2, CO, BTU by GHT only			
H070601-GHT	4435				Blower Outlet A	7/5/2016										
-01	1302	-20.44	-2.91	-3.5	Blower Outlet B	7/5/2016	916	C -6L	LFG	He	X	X				
-02	1296	-20.44	-3	-3	NQ EP14 A	7/5/2016	754	C -6L	LFG	He	X	X	X			
-03	5978	-21	-3	-3	NQ EP14 B	7/5/2016	821	C -6L	LFG	He	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
[signature]	7-5-16 1000		
Fed Ex		[signature]	7/6/16 1051

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

COMMENTS: Canister 4435 had low initial pressure. No sample taken.

* ANALYTICAL INST REVISIONS CONF'D VIA EMAIL FROM DRANDALL 7/6/16 1536

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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/09/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H070601-01		H070601-02		H070601-03			
Client Sample I.D.:	Blower Outlet B		NQ EP14 A		NQ EP14 B			
Date/Time Sampled:	7/5/16 9:16		7/5/16 7:54		7/5/16 8:21			
Date/Time Analyzed:	7/7/16 11:42		7/7/16 12:07		7/7/16 12:34			
QC Batch No.:	160707GC3A1		160707GC3A1		160707GC3A1			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	2.9		2.8		2.8			
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv		
Hydrogen Sulfide	ND	0.58	39 d	5.6	33 d	5.6		
Carbonyl Sulfide	ND	0.58	ND	0.56	ND	0.56		
Methyl Mercaptan	47 d	5.8	2.5	0.56	1.1	0.56		
Ethyl Mercaptan	1.0	0.58	0.59	0.56	0.63	0.56		
Dimethyl Sulfide	970 d	58.0	5.1	0.56	4.8	0.56		
Carbon Disulfide	1.2	0.58	ND	0.56	ND	0.56		
Dimethyl Disulfide	160 d	5.8	ND	0.56	ND	0.56		
Total Reduced Sulfur	1,300	0.58	48	0.56	40	0.56		

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

Reviewed/Approved By: _____ Date 7/7/16
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:	7/7/16 10:08		7/7/16 8:52		7/7/16 9:04			
Analyst Initials:	AS		AS		AS			
Datafile:	07jul008		07jul002		07jul003			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	94	70-130%	94	70-130%	0.2	<30
Carbonyl Sulfide	ND	0.20	99	70-130%	99	70-130%	0.2	<30
Methyl Mercaptan	ND	0.20	98	70-130%	96	70-130%	2.4	<30
Ethyl Mercaptan	ND	0.20	85	70-130%	106	70-130%	21.6	<30
Dimethyl Sulfide	ND	0.20	94	70-130%	92	70-130%	2.7	<30
Carbon Disulfide	ND	0.20	94	70-130%	103	70-130%	9.6	<30
Dimethyl Disulfide	ND	0.20	115	70-130%	113	70-130%	2.0	<30

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/09/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H070601-01							
Client Sample I.D.:	Blower Outlet B							
Date/Time Sampled:	7/5/16 9:16							
Date/Time Analyzed:	7/6/16 17:44							
QC Batch No.:	160706GC8A2							
Analyst Initials:	AS							
Dilution Factor:	2.9							
ANALYTE	**Result % v/v**	**RL % v/v**						
Hydrogen	12.1	2.9						
Carbon Dioxide	41.2	0.029						
Oxygen/Argon	6.5	1.4						
Nitrogen	29.0	2.9						
Methane	9.5	0.0029						
Carbon Monoxide	0.11	0.0029						
Net Heating Value (BTU/ft3)	159.8	2.9						
Gross Heating Value (BTU/ft3)	181.1	2.9						

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 7/7/16
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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 07/09/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H070601-02		H070601-03					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	7/5/16 7:54		7/5/16 8:21					
Date/Time Analyzed:	7/6/16 17:59		7/6/16 18:14					
QC Batch No.:	160706GC8A2		160706GC8A2					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	2.8	ND	2.8				
Carbon Dioxide	36.2	0.028	36.2	0.028				
Oxygen/Argon	2.7	1.4	2.8	1.4				
Nitrogen	13.3	2.8	13.3	2.8				
Methane	47.2	0.0028	47.3	0.0028				
Carbon Monoxide	ND	0.0028	ND	0.0028				
Net Heating Value (BTU/ft3) methane only	429.6	2.8	430.0	2.8				
Gross Heating Value (BTU/ft3) methane only	477.2	2.8	477.6	2.8				

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

Reviewed/Approved By: _____ Date 7/7/16
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.: 160706GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/6/16 17:30		7/6/16 15:46		7/6/16 16:00			
Analyst Initials:	AS		AS		AS			
Datafile:	06jul035		06jul028		06jul029			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	106	70-130%	106	70-130%	0.2	<30
Carbon Dioxide	ND	0.010	106	70-130%	105	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	105	70-130%	104	70-130%	0.1	<30
Nitrogen	ND	1.0	105	70-130%	105	70-130%	0.3	<30
Methane	ND	0.0010	101	70-130%	97	70-130%	3.1	<30

ND = Not Detected (Below RL)

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

Mark J. Johnson
Operations Manager

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

QC Batch No.: 160706GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	7/6/16 17:30		7/6/16 16:17		7/6/16 16:31			
Analyst Initials:	AS		AS		AS			
Datafile:	06jul035		06jul030		06jul031			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Carbon Monoxide	ND	0.0010	110	70-130%	110	70-130%	0.1	<30

ND = Not Detected (Below RL)

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

Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 69-26
06/28/2016

Kurz FM =	**2,109**	**scfm**	
Fleetzoom Total =	**2,153**	**scfm**	**Δ = 2.0%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120 & FL140)			
Date	Test Date		6/28/16
Time	Start	8:56	9:11
***%CH_4**	Methane, %	11.70	11.90
***%CO_2**	Carbon Dioxide, %	46.60	46.80
***'%O_2**	Oxygen, %	4.90	4.90
***%Balance**	Assumed as Nitrogen, %	36.80	36.40
P_g	Flue Gas Static Pressure, inches of H_2O	19.66	20.02
t_s	Blower Outlet LFG Temperature, °F	110	114
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,004	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,109	
LFG_{CH4}	Methane, lb/hr	585.8	595.8
	Methane, grains/dscf	34.11	34.69
LFG_{CO2}	Carbon Dioxide, lb/hr	6,401.0	6,428.4
	Carbon Dioxide, grains/dscf	372.71	374.31
LFG_{O2}	Oxygen, lb/hr	489.4	489.4
	Oxygen, grains/dscf	28.49	28.49
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,217.6	3,182.6
	Balance gas as Nitrogen, grains/dscf	187.35	185.31

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	9.00	21.00
	Hydrogen Sulfide Rate, lb/hr	0.10	0.22
	Hydrogen Sulfide Rate, grains/dscf	0.006	0.013
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	150.00	250.00
	Methyl Mercaptan Rate, lb/hr	2.25	3.75
	Methyl Mercaptan Rate, grains/dscf	0.131	0.219
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.90	2.90
	Ethyl Mercaptan Rate, lb/hr	0.04	0.06
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,200.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	23.27	23.27
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.30	1.30
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	120.00	120.00
	Dimethyl Disulfide Rate, lb/hr	3.53	3.53
	Dimethyl Disulfide Rate, grains/dscf	0.205	0.205
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,600.00	1,800.00
	TRS-->SO2 Emission Rate, lb/hr	31.99	35.99
	TRS-->SO2 Emission Rate, grains/dscf	1.863	2.096
	TPY =	140.13	157.64

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 69-26
06/28/2016

Fleetzoom Total = 285 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		6/28/16
Time	Start	9:50	10:01
***%CH_4**	Methane, %	45.90	49.90
***%CO_2**	Carbon Dioxide, %	35.50	35.40
***'%O_2**	Oxygen, %	2.90	2.50
***%Balance**	Assumed as Nitrogen, %	15.70	12.20
P_g	Flue Gas Static Pressure, inches of H_2O	0.66	1.07
t_s	Blower Outlet LFG Temperature, °F	102.30	103.80
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	271	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	285	
LFG_{CH4}	Methane, lb/hr	310.3	337.3
	Methane, grains/dscf	133.82	145.48
LFG_{CO2}	Carbon Dioxide, lb/hr	658.3	656.5
	Carbon Dioxide, grains/dscf	283.93	283.13
LFG_{O2}	Oxygen, lb/hr	39.1	33.7
	Oxygen, grains/dscf	16.86	14.54
LFG_{N2}	Balance gas as Nitrogen, lb/hr	185.3	144.0
	Balance gas as Nitrogen, grains/dscf	79.93	62.11

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	1.50	0.63
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.001	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.63
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.70	1.70
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	4.90	5.40
	Dimethyl Sulfide Rate, lb/hr	0.01	0.01
	Dimethyl Sulfide Rate, grains/dscf	0.006	0.006
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.72	1.50
	Dimethyl Disulfide Rate, lb/hr	0.00	0.01
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.003
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	11.00	11.00
	TRS-->SO2 Emission Rate, lb/hr	0.03	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.013	0.013
	TPY =	0.13	0.13

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

Air TECHNOLOGY Laboratories, Inc.

July 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H062904-01/04

Enclosed are results for sample(s) received 6/29/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 7/01/16.

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:	Nick Bauer
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	Nbauer@republicservices.com

BILLING

P.O. No.:	PO4862452 5581091
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION (QUARRY BD CLOSURE)	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS					
	Canister ID	Sample Start	Sample End	Lab Receive												
HQ62904-01	1533	-19.75	-3.5	-4	South Quary Outlet 1	6/28/2016	856	C	LFG	NA	X					
-02	1619	-19.45	-3.5	-4	South Quary Outlet 2	6/28/2016	911	C	LFG	NA	X					
-03	1618	-20	-3	-4	North Quary Outlet 1	6/28/2016	950	C	LFG	NA	X					
-04	1531	-19.85	-3.5	-5	North Quary Outlet 2	6/28/2016	1001	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey McMillen 6/28/16	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FedEx	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE/ RECEIVED BY: 6/29/16 0852	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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/29/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H062904-01		H062904-02		H062904-03		H062904-04	
Client Sample I.D.:	South Quarry Outlet 1		South Quarry Outlet 2		North Quarry Outlet 1		North Quarry Outlet 2	
Date/Time Sampled:	6/28/16 8:56		6/28/16 9:11		6/28/16 9:50		6/28/16 10:01	
Date/Time Analyzed:	6/29/16 14:38		6/29/16 15:40		6/29/16 16:29		6/29/16 17:09	
QC Batch No.:	160629GC3A1		160629GC3A1		160629GC3A1		160629GC3A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		3.0		3.2	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	9.0	0.59	21 d	5.9	1.5	0.59	ND	0.63
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.59	ND	0.63
Methyl Mercaptan	150 d	5.9	250 d	5.9	2.7	0.59	1.7	0.63
Ethyl Mercaptan	1.9	0.59	2.9	0.59	ND	0.59	ND	0.63
Dimethyl Sulfide	1,200 d	59.0	1,200 d	59.0	4.9	0.59	5.4	0.63
Carbon Disulfide	1.3	0.59	1.3	0.59	ND	0.59	ND	0.63
Dimethyl Disulfide	120 d	5.9	120 d	5.9	0.72	0.59	1.5	0.63
Total Reduced Sulfur	1,600	0.59	1,800	0.59	11	0.59	11	0.63

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

Reviewed/Approved By: _____ Date 7-1-16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160629GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/29/16 10:30		6/29/16 11:56		6/29/16 12:08			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	29jun002		29jun007		29jun008			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	97	70-130%	97	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	109	70-130%	108	70-130%	1.1	<30
Methyl Mercaptan	ND	0.20	91	70-130%	92	70-130%	1.5	<30
Ethyl Mercaptan	ND	0.20	119	70-130%	118	70-130%	1.0	<30
Dimethyl Sulfide	ND	0.20	95	70-130%	95	70-130%	0.2	<30
Carbon Disulfide	ND	0.20	92	70-130%	90	70-130%	2.5	<30
Dimethyl Disulfide	ND	0.20	105	70-130%	101	70-130%	4.0	<30

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

Reviewed/Approved By: _____ Date: 7-1-16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 68-25
06/21/2016

Kurz FM =	**2,263**	**scfm**	
Fleetzoom Total =	**2,290**	**scfm**	**Δ = 1.2%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120 & FL140)			
Date	Test Date		6/21/16
Time	Start	9:06	9:17
***%CH_4**	Methane, %	10.40	10.30
***%CO_2**	Carbon Dioxide, %	42.10	42.60
***'%O_2**	Oxygen, %	6.10	5.90
***%Balance**	Assumed as Nitrogen, %	41.40	41.20
P_g	Flue Gas Static Pressure, inches of H_2O	23.09	22.47
t_s	Blower Outlet LFG Temperature, °F	105	105
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,150	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,263	
LFG_{CH4}	Methane, lb/hr	558.7	553.3
	Methane, grains/dscf	30.32	30.03
LFG_{CO2}	Carbon Dioxide, lb/hr	6,204.2	6,277.9
	Carbon Dioxide, grains/dscf	336.72	340.72
LFG_{O2}	Oxygen, lb/hr	653.6	632.2
	Oxygen, grains/dscf	35.47	34.31
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,883.5	3,864.8
	Balance gas as Nitrogen, grains/dscf	210.77	209.75

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	35.00	37.00
	Hydrogen Sulfide Rate, lb/hr	0.40	0.42
	Hydrogen Sulfide Rate, grains/dscf	0.022	0.023
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	180.00	230.00
	Methyl Mercaptan Rate, lb/hr	2.90	3.71
	Methyl Mercaptan Rate, grains/dscf	0.157	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.60	2.70
	Ethyl Mercaptan Rate, lb/hr	0.05	0.06
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,000.00	1,000.00
	Dimethyl Sulfide Rate, lb/hr	20.81	20.81
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.129
CS_2	Carbon Disulfide Concentration, ppmd	1.10	1.20
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	110.00	100.00
	Dimethyl Disulfide Rate, lb/hr	3.47	3.15
	Dimethyl Disulfide Rate, grains/dscf	0.188	0.171
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,400.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	30.03	32.18
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.746
	TPY =	131.55	140.94

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 68-25
06/21/2016

Fleetzoom Total = **298** scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		6/21/16
Time	Start	9:58	10:08
***%CH_4**	Methane, %	47.00	46.80
***%CO_2**	Carbon Dioxide, %	36.60	35.70
***'%O_2**	Oxygen, %	2.40	2.50
***%Balance**	Assumed as Nitrogen, %	14.00	15.00
P_g	Flue Gas Static Pressure, inches of H_2O	1.11	0.98
t_s	Blower Outlet LFG Temperature, °F	89.40	89.30
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	284	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	298	
LFG_{CH4}	Methane, lb/hr	333.0	331.6
	Methane, grains/dscf	137.03	136.44
LFG_{CO2}	Carbon Dioxide, lb/hr	711.4	694.0
	Carbon Dioxide, grains/dscf	292.73	285.53
LFG_{O2}	Oxygen, lb/hr	33.9	35.3
	Oxygen, grains/dscf	13.96	14.54
LFG_{N2}	Balance gas as Nitrogen, lb/hr	173.2	185.6
	Balance gas as Nitrogen, grains/dscf	71.27	76.36

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	32.00	46.00
	Hydrogen Sulfide Rate, lb/hr	0.05	0.07
	Hydrogen Sulfide Rate, grains/dscf	0.020	0.028
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	1.60	1.70
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	6.80	6.80
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.008	0.008
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.59
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.59	0.59
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	41.00	57.00
	TRS-->SO2 Emission Rate, lb/hr	0.12	0.16
	TRS-->SO2 Emission Rate, grains/dscf	0.048	0.066
	TPY =	0.51	0.71

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

Air TECHNOLOGY
Laboratories, Inc.

June 24, 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H062201-01/04

Enclosed are results for sample(s) received 6/22/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 6/24/16.

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:	Nick Bauer
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	Nbauer@republicservices.com

BILLING	
P.O. No.:	PO4862452 ~~5851094~~
Bill to:	Republic Services
	Attn: Nick Bauer
	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
	Canister ID	Sample Start	Sample End	Lab Receive							
H062201-01	1620	-19.75	-3.3	-4	South Quary Outlet 1	6/21/2016	906	C	LFG	NA	X
-02	J1723	-19.3	-3.2	-4	South Quary Outlet 2	6/21/2016	917	C	LFG	NA	X
-03	J1717	-20.2	-3.5	-4	North Quary Outlet 1	6/21/2016	958	C	LFG	NA	X
-04	J1721	-19.95	-3.5	-4	North Quary Outlet 2	6/21/2016	1008	C	LFG	NA	X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Corey McMillen		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Corey Mueller	6/21/16	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx		DATE/ RECEIVED BY: Dan J	6/22/16 0850 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*

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/22/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H062201-01		H062201-02		H062201-03		H062201-04	
Client Sample I.D.:	South Quarry Outlet 1		South Quarry Outlet 2		North Quarry Outlet 1		North Quarry Outlet 2	
Date/Time Sampled:	6/21/16 9:06		6/21/16 9:17		6/21/16 9:58		6/21/16 10:08	
Date/Time Analyzed:	6/22/16 10:10		6/22/16 10:56		6/22/16 11:33		6/22/16 11:59	
QC Batch No.:	160622GC3A1		160622GC3A1		160622GC3A1		160622GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	35 d	5.9	37 d	5.9	32 d	5.9	46 d	5.9
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.59	ND	0.59
Methyl Mercaptan	180 d	5.9	230 d	5.9	1.6	0.59	1.7	0.59
Ethyl Mercaptan	2.6	0.59	2.7	0.59	ND	0.59	ND	0.59
Dimethyl Sulfide	1,000 d	59.0	1,000 d	59.0	6.8	0.59	6.8	0.59
Carbon Disulfide	1.1	0.59	1.2	0.59	ND	0.59	ND	0.59
Dimethyl Disulfide	110 d	5.9	100 d	5.9	ND	0.59	ND	0.59
Total Reduced Sulfur	1,400	0.59	1,500	0.59	41	0.59	57	0.59

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

Reviewed/Approved By: _____ Date 6-24-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160622GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/22/16 9:54		6/22/16 9:29		6/22/16 9:41			
Analyst Initials:	AS		AS		AS			
Datafile:	22jun003		22jun001		22jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	95	70-130%	94	70-130%	0.6	<30
Carbonyl Sulfide	ND	0.20	95	70-130%	96	70-130%	1.2	<30
Methyl Mercaptan	ND	0.20	90	70-130%	92	70-130%	1.4	<30
Ethyl Mercaptan	ND	0.20	110	70-130%	108	70-130%	2.3	<30
Dimethyl Sulfide	ND	0.20	95	70-130%	96	70-130%	0.5	<30
Carbon Disulfide	ND	0.20	92	70-130%	93	70-130%	0.5	<30
Dimethyl Disulfide	ND	0.20	103	70-130%	104	70-130%	0.5	<30

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

Reviewed/Approved By: _____ Date: 6-24-16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 67-24
06/14/2016

Kurz FM =	**2,163**	**scfm**	
Fleetzoom Total =	**2,187**	**scfm**	**Δ = 1.1%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120 & FL140)			
Date	Test Date		6/14/16
Time	Start	8:49	9:00
***%CH_4**	Methane, %	10.60	10.90
***%CO_2**	Carbon Dioxide, %	45.30	45.90
***'%O_2**	Oxygen, %	5.20	4.90
***%Balance**	Assumed as Nitrogen, %	38.90	38.30
P_g	Flue Gas Static Pressure, inches of H_2O	20.85	20.76
t_s	Blower Outlet LFG Temperature, °F	103	106
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,055	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,163	
LFG_{CH4}	Methane, lb/hr	544.4	559.8
	Methane, grains/dscf	30.90	31.78
LFG_{CO2}	Carbon Dioxide, lb/hr	6,382.1	6,466.6
	Carbon Dioxide, grains/dscf	362.31	367.11
LFG_{O2}	Oxygen, lb/hr	532.7	501.9
	Oxygen, grains/dscf	30.24	28.49
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,488.4	3,434.6
	Balance gas as Nitrogen, grains/dscf	198.04	194.98

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.63	0.63
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.63
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	120.00	80.00
	Methyl Mercaptan Rate, lb/hr	1.85	1.23
	Methyl Mercaptan Rate, grains/dscf	0.105	0.070
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.80	1.00
	Ethyl Mercaptan Rate, lb/hr	0.04	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	21.88	23.87
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.30	1.30
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	160.00	190.00
	Dimethyl Disulfide Rate, lb/hr	4.82	5.73
	Dimethyl Disulfide Rate, grains/dscf	0.274	0.325
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,500.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	30.76	34.86
	TRS-->SO2 Emission Rate, grains/dscf	1.746	1.979
	TPY =	134.74	152.70

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 67-24
06/14/2016

Fleetzoom Total = 320 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
	EP14 NORTH QUARRY LFG ONLY		
Date	Test Date		6/14/16
Time	Start	9:32	9:43
***%CH_4**	Methane, %	43.60	43.90
***%CO_2**	Carbon Dioxide, %	36.60	36.20
***'%O_2**	Oxygen, %	2.40	2.40
***%Balance**	Assumed as Nitrogen, %	17.40	17.50
P_g	Flue Gas Static Pressure, inches of H_2O	1.29	1.00
t_s	Blower Outlet LFG Temperature, °F	102.60	103.80
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	304	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	320	
LFG_{CH4}	Methane, lb/hr	331.1	333.3
	Methane, grains/dscf	127.11	127.99
LFG_{CO2}	Carbon Dioxide, lb/hr	762.4	754.1
	Carbon Dioxide, grains/dscf	292.73	289.53
LFG_{O2}	Oxygen, lb/hr	36.3	36.3
	Oxygen, grains/dscf	13.96	13.96
LFG_{N2}	Balance gas as Nitrogen, lb/hr	230.7	232.0
	Balance gas as Nitrogen, grains/dscf	88.58	89.09

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.63	0.63
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.63
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	0.63	0.63
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	7.20	7.30
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.008	0.008
CS_2	Carbon Disulfide Concentration, ppmd	0.63	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.63	0.68
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	9.70	10.00
	TRS-->SO2 Emission Rate, lb/hr	0.03	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.011	0.012
	TPY =	0.13	0.13

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

Air TECHNOLOGY
Laboratories, Inc.

June 17, 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H061501-01/04

Enclosed are results for sample(s) received 6/15/16 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.
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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:	Nick Bauer
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	Nbauer@republicservices.com

BILLING

P.O. No.:	~~PO4862452~~
Bill to:	Republic Services
	Attn: Nick Bauer
	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					
	Canister ID	Sample Start	Sample End	Lab Receive												
H061501-01	1613	-19.8	-3.5	5" Hg	South Quary Outlet 1	6/14/2016	849	C	LFG	NA	X					
-02	J1720	-19.7	-3.35	5" Hg	South Quary Outlet 2	6/14/2016	900	C	LFG	NA	X					
-03	1535	-19.85	-3.4	5" Hg	North Quary Outlet 1	6/14/2016	932	C	LFG	NA	X					
-04	1612	-19.7	-3.4	5" Hg	North Quary Outlet 2	6/14/2016	943	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey McMillen 6/14/16	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FEDEX 6/15/16 1405	DATE/ RECEIVED BY [illegible] ATL	DATE/TIME 6/15/16 1405	
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:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/15/16**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	H061501-01		H061501-02		H061501-03		H061501-04	
Client Sample I.D.:	South Quarry Outlet 1		South Quarry Outlet 2		North Quarry Outlet 1		North Quarry Outlet 2	
Date/Time Sampled:	6/14/16 8:49		6/14/16 9:00		6/14/16 9:32		6/14/16 9:43	
Date/Time Analyzed:	6/16/16 9:54		6/16/16 10:41		6/16/16 11:22		6/16/16 11:35	
QC Batch No.:	160616GC3A1		160616GC3A1		160616GC3A1		160616GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.63	ND	0.63	ND	0.63	ND	0.63
Carbonyl Sulfide	ND	0.63	ND	0.63	ND	0.63	ND	0.63
Methyl Mercaptan	120 d	6.3	80 d	6.3	ND	0.63	ND	0.63
Ethyl Mercaptan	1.8	0.63	1.0	0.63	ND	0.63	ND	0.63
Dimethyl Sulfide	1,100 d	63.0	1,200 d	63.0	7.2	0.63	7.3	0.63
Carbon Disulfide	1.3	0.63	1.3	0.63	ND	0.63	ND	0.63
Dimethyl Disulfide	160 d	6.3	190 d	6.3	ND	0.63	0.68	0.63
Total Reduced Sulfur	1,500	0.63	1,700	0.63	9.7	0.63	10	0.63

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

Reviewed/Approved By: _____ **Date** 6-17-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160616GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/16/16 8:58		6/16/16 8:33		6/16/16 8:45			
Analyst Initials:	AS		AS		AS			
Datafile:	16jun003		16jun001		16jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	100	70-130%	99	70-130%	0.8	<30
Carbonyl Sulfide	ND	0.20	112	70-130%	112	70-130%	0.2	<30
Methyl Mercaptan	ND	0.20	93	70-130%	91	70-130%	2.1	<30
Ethyl Mercaptan	ND	0.20	120	70-130%	119	70-130%	0.5	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	95	70-130%	4.9	<30
Carbon Disulfide	ND	0.20	95	70-130%	93	70-130%	2.0	<30
Dimethyl Disulfide	ND	0.20	111	70-130%	109	70-130%	2.3	<30

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

Reviewed/Approved By: _____ Date: 6-17-16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 66-23
06/07/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)		
Date	Test Date	6/7/16
Start	Run Start Time	8:00
	Run Finish Time	9:46
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:45:35
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.47
% H_2O	Moisture Content of LFG, %	3.50
% RH	Relative Humidity, %	65.00
M_{fd}	Dry Mole Fraction	0.965
%CH_4	Methane, %	8.80
%CO_2	Carbon Dioxide, %	40.30
%O_2	Oxygen, %	6.85
%Balance	Assumed as Nitrogen, %	30.45
%H_2	Hydrogen, %	12.10
%CO	Carbon Monoxide, %	0.12
M_d	Dry Molecular Weight, lb/lb-Mole	31.16
M_s	Wet Molecular weight, lb/lb-Mole	30.70
P_g	Flue Gas Static Pressure, inches of H_2O	23.39
P_s	Absolute Flue Gas Pressure, inches of Mercury	31.19
t_s	Average Stack Gas Temperature, °F	97
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.172
v_s	Average LFG Velocity, feet/second	26.76
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	2,073
Q_s	Standard Volumetric Flow Rate, scfm	2,146
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	2,172
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	10,061
NHV	Net Heating Value, Btu/scf	149
LFG_{CH4}	Methane, lb/hr	455.9
	Methane, grains/dscf	25.66
LFG_{CO2}	Carbon Dioxide, lb/hr	5,727.8
	Carbon Dioxide, grains/dscf	322.32
LFG_{O2}	Oxygen, lb/hr	707.9
	Oxygen, grains/dscf	39.83
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,754.8
	Balance gas as Nitrogen, grains/dscf	155.02
LFG_{H4}	Hydrogen, lb/hr	78.8
	Hydrogen, grains/dscf	4.43
LFG_{CO}	Carbon Monoxide, lb/hr	10.9
	Carbon Monoxide, grains/dscf	0.61

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	29.00	22.00
	Hydrogen Sulfide Rate, lb/hr	0.32	0.24
	Hydrogen Sulfide Rate, grains/dscf	0.018	0.014
COS	Carbonyl Sulfide Concentration, ppmd	0.59	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	250.00	230.00
	Methyl Mercaptan Rate, lb/hr	3.88	3.57
	Methyl Mercaptan Rate, grains/dscf	0.219	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	3.00	3.00
	Ethyl Mercaptan Rate, lb/hr	0.06	0.06
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,200.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	24.08	24.08
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.00	1.10
	Carbon Disulfide Rate, lb/hr	0.02	0.03
	Carbon Disulfide Rate, grains/dscf	0.001	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	110.00	110.00
	Dimethyl Disulfide Rate, lb/hr	3.35	2.70
	Dimethyl Disulfide Rate, grains/dscf	0.188	0.152

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,600.00
	TRS-->SO2 Emission Rate, lb/hr	35.17	33.10
	TRS-->SO2 Emission Rate, grains/dscf	1.979	1.863

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

Tuesday, June 07, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	8:00	2,146	2,456	2,241	-14.5%	-4.4%	-9.6%

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 66-23
06/07/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	6/7/16
Start	Run Start Time	7:39
	Run Finish Time	9:20
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:41:00
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.47
% H_2O	Moisture Content of LFG, %	1.08
% RH	Relative Humidity, %	41.00
M_{fd}	Dry Mole Fraction	0.989
%CH_4	Methane, %	40.95
%CO_2	Carbon Dioxide, %	33.10
%O_2	Oxygen, %	3.45
%Balance	Assumed as Nitrogen, %	21.50
%H_2	Hydrogen, %	3.05
%CO	Carbon Monoxide, %	0.00305
M_d	Dry Molecular Weight, lb/lb-Mole	28.47
M_s	Wet Molecular weight, lb/lb-Mole	28.36
P_g	Flue Gas Static Pressure, inches of H_2O	1.36
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.57
t_s	Average Stack Gas Temperature, °F	83
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.027
v_s	Average LFG Velocity, feet/second	11.19
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	328
Q_s	Standard Volumetric Flow Rate, scfm	331
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	344
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,453
NHV	Net Heating Value, Btu/scf	372.7
LFG_{CH4}	Methane, lb/hr	335.4
	Methane, grains/dscf	119.39
LFG_{CO2}	Carbon Dioxide, lb/hr	743.6
	Carbon Dioxide, grains/dscf	264.73
LFG_{O2}	Oxygen, lb/hr	56.4
	Oxygen, grains/dscf	20.06
LFG_{N2}	Balance gas as Nitrogen, lb/hr	307.5
	Balance gas as Nitrogen, grains/dscf	109.46
LFG_{H4}	Hydrogen, lb/hr	3.1
	Hydrogen, grains/dscf	1.12
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	12.00	53.00
	Hydrogen Sulfide Rate, lb/hr	0.02	0.09
	Hydrogen Sulfide Rate, grains/dscf	0.007	0.033
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.61
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	1.50	1.80
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.002
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.76	0.61
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	7.90	8.10
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.009	0.009
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.61
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.59	0.61
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001

❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	24.00	63.00
	TRS-->SO2 Emission Rate, lb/hr	0.08	0.21
	TRS-->SO2 Emission Rate, grains/dscf	0.028	0.073

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

Tuesday, June 07, 2016

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ GAS	**7:39**	**331**	**296**	**10.6%**

FM vs M2 = 5.4%

Air TECHNOLOGY Laboratories, Inc.

June 15, 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H060802-01/04

Enclosed are results for sample(s) received 6/08/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 6/10/16.

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.

H060802

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: 1 OF 1

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

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

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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	EPA 15/16 + TRS	ASTM 1946 +H2 + CO & BTU/SCF		ASTM 1946 +H2 + CO & BTU/SCF (by CH4 ONLY)		
H060802-01	1296	-20.24	-3.69	-4	Blower Outlet 1	6/7/2016	800	C	LFG	NA	X	X				
-02	6009	-20.05	-2.5	-3	Blower Outlet 2	6/7/2016	829	C	LFG	NA	X	X				
-03	1295	-20.45	-3.5	-4	NQ EP14 1	6/7/2016	800	C	LFG	NA	X			X		
-04	1301	-18.88	-3.42	-4.5	NQ EP14 2	6/7/2016	824	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 — DATE: 6-7-16 — TIME: 1300 — RECEIVED BY: FED EX — DATE/TIME

RELINQUISHED BY: FED EX — DATE — RECEIVED BY: [signature] — DATE: 6/8/16 — TIME: 0914 — 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*

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/08/16**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA 15/16

Lab No.:	H060802-01		H060802-02		H060802-03		H060802-04	
Client Sample I.D.:	Blower Outlet 1		Blower Outlet 2		NQ EP14 1		NQ EP14 2	
Date/Time Sampled:	6/7/16 8:00		6/7/16 8:29		6/7/16 8:00		6/7/16 8:24	
Date/Time Analyzed:	6/8/16 14:49		6/8/16 15:30		6/8/16 16:11		6/9/16 8:02	
QC Batch No.:	160608GC3A1		160608GC3A1		160608GC3A1		160608GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		2.8		3.0		3.1	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	29 d	5.9	22 d	5.6	12	0.59	53 d	6.1
Carbonyl Sulfide	ND	0.59	ND	0.56	ND	0.59	ND	0.61
Methyl Mercaptan	250 d	5.9	230 d	5.6	1.5	0.59	1.8	0.61
Ethyl Mercaptan	3.0	0.59	3.0	0.56	0.76	0.59	ND	0.61
Dimethyl Sulfide	1,200 d	59.0	1,200 d	56.0	7.9	0.59	8.1	0.61
Carbon Disulfide	1.0	0.59	1.1	0.56	ND	0.59	ND	0.61
Dimethyl Disulfide	110 d	5.9	110 d	5.6	ND	0.59	ND	0.61
Total Reduced Sulfur	1,700	0.59	1,600	0.56	24	0.59	63	0.61

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

Reviewed/Approved By: _____ **Date** 6-10-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160608GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/8/16 10:32		6/8/16 10:07		6/8/16 10:19			
Analyst Initials:	AS		AS		AS			
Datafile:	08jun004		08jun002		08jun003			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	90	70-130%	87	70-130%	3.4	<30
Carbonyl Sulfide	ND	0.20	102	70-130%	99	70-130%	3.4	<30
Methyl Mercaptan	ND	0.20	85	70-130%	86	70-130%	0.4	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	113	70-130%	1.8	<30
Dimethyl Sulfide	ND	0.20	96	70-130%	93	70-130%	3.5	<30
Carbon Disulfide	ND	0.20	93	70-130%	91	70-130%	1.7	<30
Dimethyl Disulfide	ND	0.20	105	70-130%	104	70-130%	0.8	<30

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

Reviewed/Approved By: _____ Date: 6-10-16
Mark J. Johnson
Operations Manager

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/08/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H060802-01		H060802-02					
Client Sample I.D.:	Blower Outlet 1		Blower Outlet 2					
Date/Time Sampled:	6/7/16 8:00		6/7/16 8:29					
Date/Time Analyzed:	6/9/16 10:42		6/9/16 10:57					
QC Batch No.:	160609GC8A1		160609GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		2.8					
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**				
Hydrogen	**12.2**	3.0	**12.0**	2.8				
Carbon Dioxide	**40.5**	0.030	**40.1**	0.028				
Oxygen/Argon	**6.8**	1.5	**6.9**	1.4				
Nitrogen	**30.2**	3.0	**30.7**	2.8				
Methane	**8.9**	0.0030	**8.7**	0.0028				
Carbon Monoxide	**0.12**	0.0030	**0.12**	0.0028				
Net Heating Value (BTU/ft3)	**148.9**	3.0	**149.1**	2.8				
Gross Heating Value (BTU/ft3)	**169.2**	3.0	**169.3**	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** 6-10-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/08/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H060802-03		H060802-04					
Client Sample I.D.:	NQ EP14 1		NQ EP14 2					
Date/Time Sampled:	6/7/16 8:00		6/7/16 8:24					
Date/Time Analyzed:	6/9/16 11:12		6/9/16 11:26					
QC Batch No.:	160609GC8A1		160609GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.1					
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**				
Hydrogen	ND	3.0	ND	3.1				
Carbon Dioxide	32.8	0.030	33.4	0.031				
Oxygen/Argon	3.6	1.5	3.3	1.5				
Nitrogen	21.9	3.0	21.1	3.1				
Methane	40.6	0.0030	41.3	0.0031				
Carbon Monoxide	ND	0.0030	ND	0.0031				
Net Heating Value (BTU/ft3) methane only	369.6	3.0	375.8	3.1				
Gross Heating Value (BTU/ft3) methane only	410.5	3.0	417.3	3.1				

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

Reviewed/Approved By: _____ **Date** 6-10-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160609GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/9/16 9:29		6/9/16 8:45		6/9/16 9:00			
Analyst Initials:	AS		AS		AS			
Datafile:	09jun004		09jun001		09jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	109	70-130%	109	70-130%	0.3	<30
Carbon Dioxide	ND	0.010	102	70-130%	101	70-130%	1.2	<30
Oxygen/Argon	ND	0.50	102	70-130%	100	70-130%	1.1	<30
Nitrogen	ND	1.0	103	70-130%	102	70-130%	1.0	<30
Methane	ND	0.0010	105	70-130%	104	70-130%	0.8	<30
Carbon Monoxide	ND	0.0010	120	70-130%	120	70-130%	0.5	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 6-10-16

Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 65-22
06/01/2016

Kurz FM =	**2,622**	**scfm**	
Fleetzoom Total =	**3,279**	**scfm**	**Δ = 20.1%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120 & FL140)			
Date	Test Date		6/1/16
Time	Start	13:52	14:06
***%CH_4**	Methane, %	9.40	10.20
***%CO_2**	Carbon Dioxide, %	39.00	39.90
***'%O_2**	Oxygen, %	6.90	6.60
***%Balance**	Assumed as Nitrogen, %	44.70	43.30
P_g	Flue Gas Static Pressure, inches of H_2O	29.39	30.07
t_s	Blower Outlet LFG Temperature, °F	135	136
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,491	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,622	
LFG_{CH4}	Methane, lb/hr	585.0	634.8
	Methane, grains/dscf	27.41	29.74
LFG_{CO2}	Carbon Dioxide, lb/hr	6,658.8	6,812.4
	Carbon Dioxide, grains/dscf	311.92	319.12
LFG_{O2}	Oxygen, lb/hr	856.6	819.3
	Oxygen, grains/dscf	40.13	38.38
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,858.0	4,705.8
	Balance gas as Nitrogen, grains/dscf	227.57	220.44

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.63	0.63
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.63
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	7.60	97.00
	Methyl Mercaptan Rate, lb/hr	0.14	1.81
	Methyl Mercaptan Rate, grains/dscf	0.007	0.085
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	1.70
	Ethyl Mercaptan Rate, lb/hr	0.02	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,000.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	24.11	28.93
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.355
CS_2	Carbon Disulfide Concentration, ppmd	0.84	0.93
	Carbon Disulfide Rate, lb/hr	0.02	0.03
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	31.00	140.00
	Dimethyl Disulfide Rate, lb/hr	1.13	5.12
	Dimethyl Disulfide Rate, grains/dscf	0.053	0.240
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,100.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	27.34	37.28
	TRS-->SO2 Emission Rate, grains/dscf	1.281	1.746
	TPY =	119.75	163.29

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 65-22
06/01/2016

Fleetzoom Total = **294** **scfm**

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		6/1/16
Time	Start	14:48	15:00
***%CH_4**	Methane, %	41.90	42.80
***%CO_2**	Carbon Dioxide, %	33.20	32.90
***'%O_2**	Oxygen, %	2.90	3.00
***%Balance**	Assumed as Nitrogen, %	22.00	21.30
P_g	Flue Gas Static Pressure, inches of H_2O	1.12	1.08
t_s	Blower Outlet LFG Temperature, °F	110.20	107.00
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	279	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	294	
LFG_{CH4}	Methane, lb/hr	292.6	298.9
	Methane, grains/dscf	122.16	124.78
LFG_{CO2}	Carbon Dioxide, lb/hr	636.1	630.4
	Carbon Dioxide, grains/dscf	265.53	263.13
LFG_{O2}	Oxygen, lb/hr	40.4	41.8
	Oxygen, grains/dscf	16.86	17.45
LFG_{N2}	Balance gas as Nitrogen, lb/hr	268.3	259.8
	Balance gas as Nitrogen, grains/dscf	112.00	108.44

** Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer*

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	27.00	38.00
	Hydrogen Sulfide Rate, lb/hr	0.04	0.06
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.024
COS	Carbonyl Sulfide Concentration, ppmd	0.61	0.63
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	1.70	1.30
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.61	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	5.30	5.40
	Dimethyl Sulfide Rate, lb/hr	0.01	0.01
	Dimethyl Sulfide Rate, grains/dscf	0.006	0.006
CS_2	Carbon Disulfide Concentration, ppmd	0.61	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.61	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	35.00	45.00
	TRS-->SO2 Emission Rate, lb/hr	0.10	0.13
	TRS-->SO2 Emission Rate, grains/dscf	0.041	0.052
	TPY =	0.43	0.55

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

Air TECHNOLOGY Laboratories, Inc.

June 6, 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H060201-01/04

Enclosed are results for sample(s) received 6/02/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 6/06/16.

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

AirTECHNOLOGY Laboratories, Inc.

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

TURNAROUND TIME				DELIVERABLES		PAGE: 1 OF 1
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	☐	Level 4	☐	Chilled _____ deg C

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

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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	EPA 15/16 + TRS					
H060201-01	1539	-19	-3.5	-5	South Quary Outlet 1	6/1/2016	1352	C	LFG	NA	X					
-02	1617	-19	-3.4	-5	South Quary Outlet 2	6/1/2016	1406	C	LFG	NA	X					
-03	J1722	-19.6	-3.5	-4.5	North Quary Outlet 1	6/1/2016	1448	C	LFG	NA	X					
-04	1614	-19.3	-3.5	-5	North Quary Outlet 2	6/1/2016	1500	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey McMillen	DATE: 6/1/16 RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FedEx	DATE: RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE: RECEIVED BY: 6/2/16 0900	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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/02/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H060201-01		H060201-02		H060201-03		H060201-04	
Client Sample I.D.:	South Quarry Outlet 1		South Quarry Outlet 2		North Quarry Outlet 1		North Quarry Outlet 2	
Date/Time Sampled:	6/1/16 13:52		6/1/16 14:06		6/1/16 14:48		6/1/16 15:00	
Date/Time Analyzed:	6/2/16 11:32		6/2/16 11:59		6/2/16 12:43		6/2/16 13:18	
QC Batch No.:	160602GC3A1		160602GC3A1		160602GC3A1		160602GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.1		3.2	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.63	ND	0.63	27 d	6.1	38 d	6.3
Carbonyl Sulfide	ND	0.63	ND	0.63	ND	0.61	ND	0.63
Methyl Mercaptan	7.6	0.63	97 d	6.3	1.7	0.61	1.3	0.63
Ethyl Mercaptan	ND	0.63	1.7	0.63	ND	0.61	ND	0.63
Dimethyl Sulfide	1,000 d	63.0	1,200 d	63.0	5.3	0.61	5.4	0.63
Carbon Disulfide	0.84	0.63	0.93	0.63	ND	0.61	ND	0.63
Dimethyl Disulfide	31	0.63	140 d	6.3	ND	0.61	ND	0.63
Total Reduced Sulfur	1,100	0.63	1,500	0.63	35	0.61	45	0.63

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

Reviewed/Approved By: _____ Date 6/6/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160602GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/2/16 11:19		6/2/16 10:54		6/2/16 11:07			
Analyst Initials:	AS		AS		AS			
Datafile:	02jun003		02Jun001		02jun002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	91	70-130%	89	70-130%	2.8	<30
Carbonyl Sulfide	ND	0.20	86	70-130%	83	70-130%	3.4	<30
Methyl Mercaptan	ND	0.20	91	70-130%	88	70-130%	2.9	<30
Ethyl Mercaptan	ND	0.20	92	70-130%	91	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	88	70-130%	88	70-130%	0.0	<30
Carbon Disulfide	ND	0.20	84	70-130%	81	70-130%	3.9	<30
Dimethyl Disulfide	ND	0.20	95	70-130%	95	70-130%	0.6	<30

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

Reviewed/Approved By: _____ Date: 6/6/16
Mark J. Johnson
Operations Manager

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

ATTACHMENT C

GAS WELL ANALYSIS MAPS

LEGEND

< = Well Location

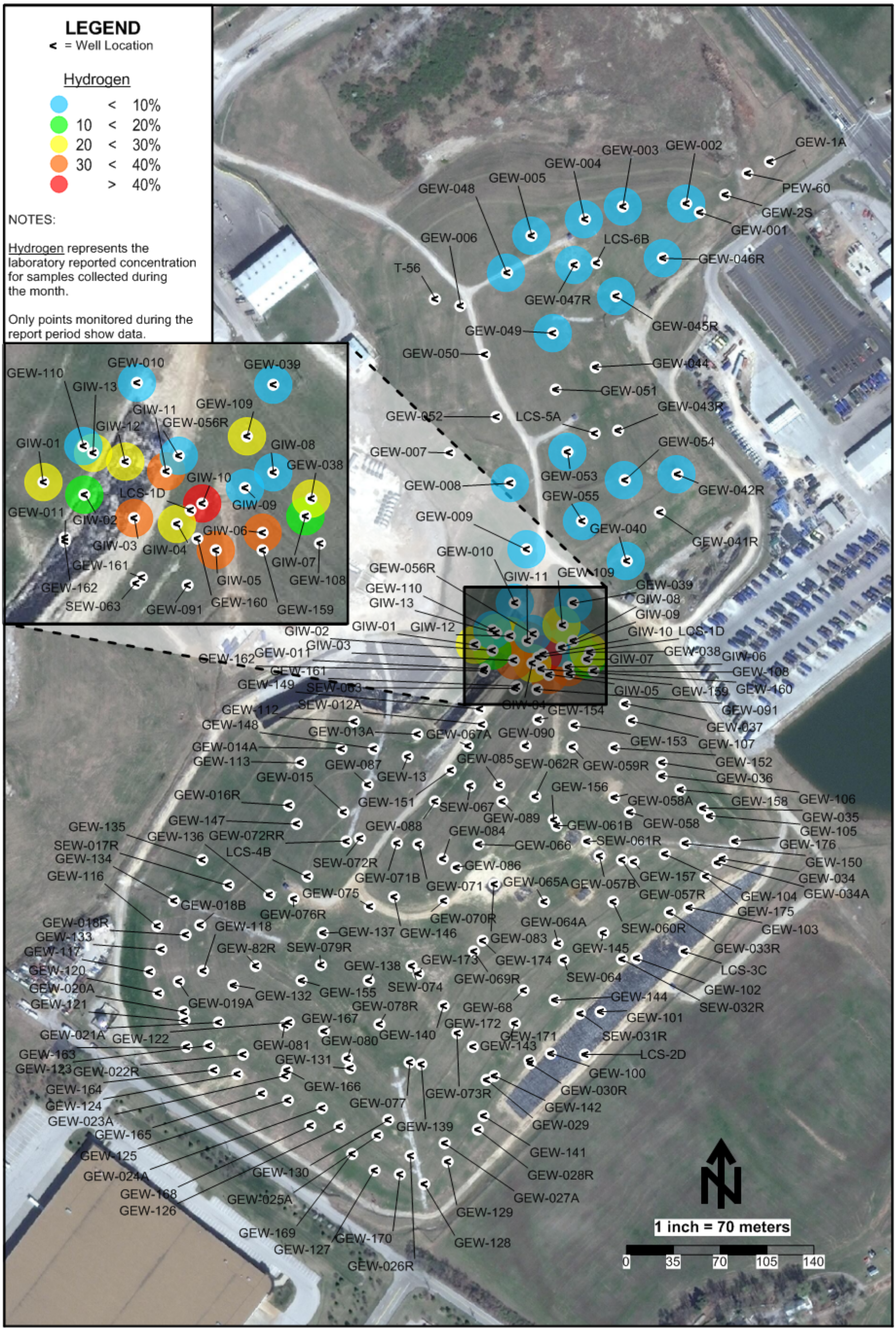
Hydrogen

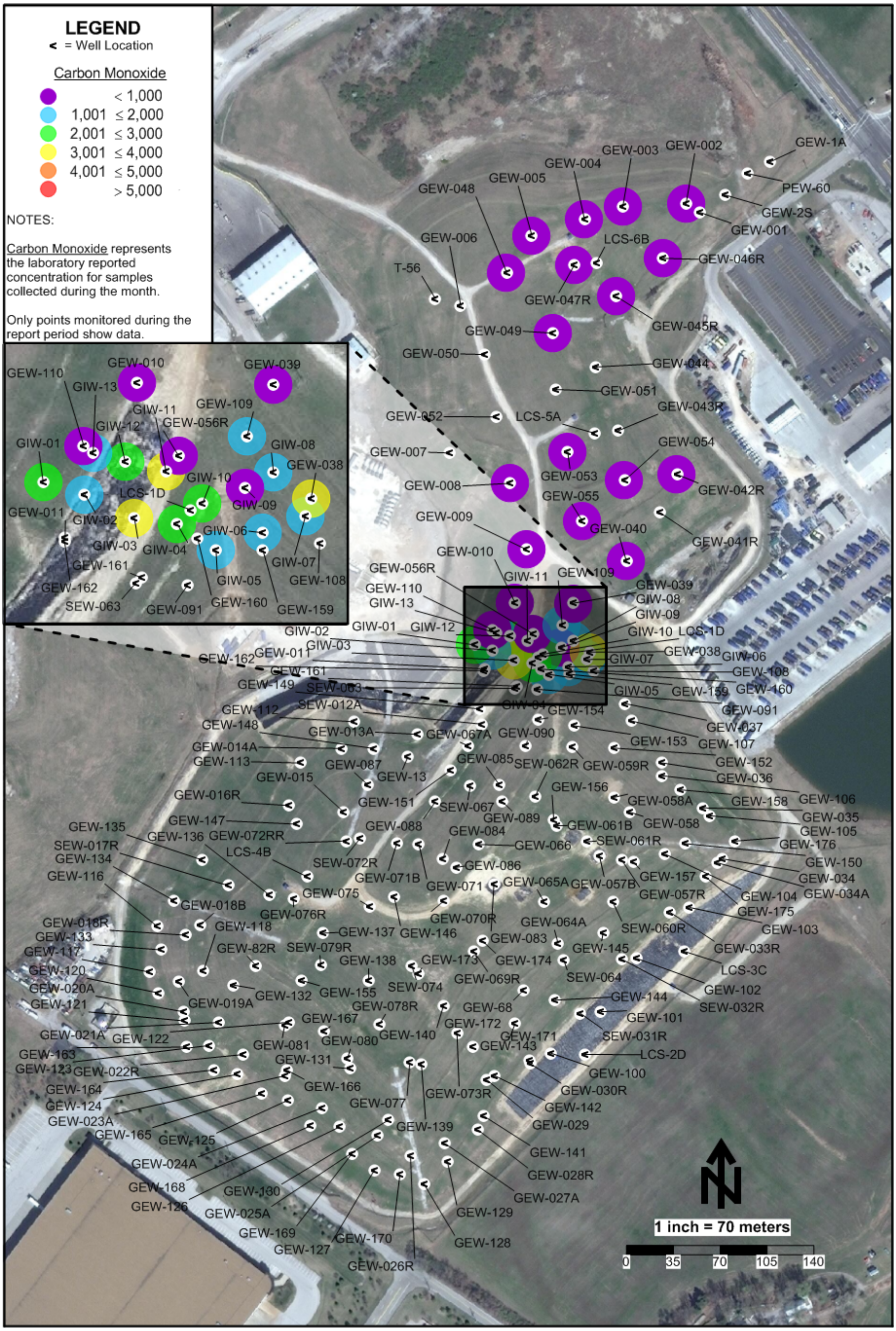
	<	10%
10	<	20%
20	<	30%
30	<	40%
	>	40%

NOTES:

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

Only points monitored during the report period show data.


GEW-1A
GEW-003
GEW-002
GEW-004
GEW-005
GEW-048
PEW-60
GEW-2S
GEW-001
GEW-006
LCS-6B
GEW-046R
T-56
GEW-047R
GEW-045R
GEW-049
GEW-050
GEW-044
GEW-051
GEW-052
LCS-5A
GEW-043R
GEW-054
GEW-007
GEW-053
GEW-042R
GEW-008
GEW-055
GEW-009
GEW-040
GEW-041R
GEW-010
GEW-056R
GEW-011
GEW-109
GEW-039
GEW-110
GIW-08
GIW-13
GIW-09
GIW-01
GIW-12
GIW-10
LCS-1D
GIW-02
GIW-03
GEW-038
GIW-07
GIW-06
GEW-162
GEW-161
GEW-108
GEW-149
SEW-063
GIW-05
GEW-159
GEW-160
GIW-04
GEW-091
GEW-112
SEW-012A
GEW-154
GEW-037
GEW-148
GEW-013A
GEW-067A
GEW-090
GEW-153
GEW-107
GEW-014A
GEW-152
GEW-113
GEW-087
GEW-085
SEW-062R
GEW-059R
GEW-036
GEW-015
GEW-13
GEW-156
GEW-106
GEW-016R
GEW-151
SEW-067
GEW-158
GEW-058A
GEW-035
GEW-147
GEW-089
GEW-088
GEW-061B
GEW-058
GEW-105
GEW-135
GEW-136
GEW-072RR
GEW-084
GEW-176
SEW-017R
LCS-4B
GEW-066
SEW-061R
GEW-150
GEW-134
SEW-072R
GEW-086
GEW-034
GEW-116
GEW-071B
GEW-071
GEW-065A
GEW-057B
GEW-157
GEW-034A
GEW-075
GEW-057R
GEW-104
GEW-018B
GEW-076R
GEW-070R
GEW-175
GEW-018R
GEW-064A
SEW-060R
GEW-103
GEW-118
GEW-137
GEW-146
GEW-133
GEW-083
GEW-033R
GEW-117
GEW-82R
SEW-079R
GEW-145
GEW-173
GEW-174
LCS-3C
GEW-120
GEW-138
GEW-069R
SEW-064
GEW-102
GEW-020A
GEW-074
GEW-132
GEW-155
GEW-144
GEW-019A
GEW-078R
GEW-68
SEW-032R
GEW-121
GEW-167
GEW-172
GEW-101
GEW-021A
GEW-122
GEW-140
GEW-171
SEW-031R
GEW-081
GEW-080
GEW-143
GEW-163
GEW-131
LCS-2D
GEW-123
GEW-022R
GEW-100
GEW-166
GEW-030R
GEW-164
GEW-073R
GEW-124
GEW-077
GEW-142
GEW-023A
GEW-139
GEW-029
GEW-165
GEW-141
GEW-125
GEW-028R
GEW-130
GEW-024A
GEW-027A
GEW-168
GEW-025A
GEW-126
GEW-129
GEW-169
GEW-170
GEW-128
GEW-127
GEW-026R
GEW-010
GEW-039
GIW-13
GIW-11
GEW-109
GEW-056R
GEW-110
GIW-01
GIW-12
GIW-02
GIW-03
GEW-011
GEW-162
GEW-161
GEW-149
SEW-063
GEW-112
SEW-012A
GEW-148
GEW-013A
GEW-014A
GEW-113
GEW-087
GEW-015
GEW-016R
GEW-147
GEW-135
GEW-136
GEW-072RR
SEW-017R
LCS-4B
GEW-134
GEW-116
GEW-018B
GEW-018R
GEW-118
GEW-133
GEW-117
GEW-82R
GEW-120
GEW-020A
GEW-019A
GEW-121
GEW-021A
GEW-122
GEW-163
GEW-123
GEW-022R
GEW-164
GEW-124
GEW-023A
GEW-165
GEW-125
GEW-024A
GEW-168
GEW-126
GEW-169
GEW-127
GEW-170
GEW-026R
GEW-128
GEW-129
GEW-027A
GEW-028R
GEW-141
GEW-029
GEW-139
GEW-077
GEW-142
GEW-030R
GEW-100
GEW-073R
GEW-166
GEW-131
GEW-080
GEW-081
GEW-140
GEW-172
GEW-171
GEW-143
GEW-068
GEW-144
GEW-078R
GEW-167
GEW-069R
GEW-074
GEW-138
GEW-155
GEW-132
GEW-173
GEW-174
GEW-083
GEW-064A
GEW-137
GEW-146
GEW-082R
SEW-079R
GEW-118
GEW-133
GEW-117
GEW-120
GEW-020A
GEW-121
GEW-163
GEW-123
GEW-164
GEW-124
GEW-023A
GEW-165
GEW-125
GEW-024A
GEW-168
GEW-126
GEW-169
GEW-127
GEW-170
GEW-026R
GEW-128
GEW-129
GEW-027A
GEW-028R
GEW-141
GEW-029
GEW-139
GEW-077
GEW-142
GEW-030R
GEW-100
GEW-073R
GEW-166
GEW-131
GEW-080
GEW-081
GEW-140
GEW-172
GEW-171
GEW-143
GEW-068
GEW-144
GEW-078R
GEW-167
GEW-069R
GEW-074
GEW-138
GEW-155
GEW-132
GEW-173
GEW-174
GEW-083
GEW-064A
GEW-137
GEW-146
GEW-082R
SEW-079R
GEW-018R



Carbon Monoxide Data Map - June 2016 - 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.

1 inch = 70 meters

0 35 70 105 140

Initial Temperature Maximums - June 2016 - 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	2/15/2016	52	41	1.7	5.8	ND	ND	See Note 3
GEW-002	3/7/2016	56	42	ND	ND	0.04	ND	
GEW-002	4/14/2016	54	42	ND	3.6	ND	ND	
GEW-002	5/13/2016	52	39	2	6.8	ND	ND	See Note 3
GEW-002	6/8/2016	54	42	ND	ND	ND	ND	
GEW-02S	5/13/2016	60	37	ND	ND	ND	ND	
GEW-003	2/15/2016	56	42	ND	ND	0.1	ND	
GEW-003	3/7/2016	54	40	ND	5	0.1	ND	
GEW-003	4/14/2016	45	37	1.9	16	0.1	ND	See Note 3
GEW-003	5/13/2016	52	39	ND	8.2	0.1	ND	
GEW-003	6/8/2016	51	40	ND	8.8	0.1	ND	
GEW-004	2/15/2016	55	41	ND	3.3	0.1	ND	
GEW-004	3/7/2016	56	41	ND	ND	0.1	ND	
GEW-004	4/14/2016	51	39	ND	8.3	0.1	ND	
GEW-004	5/13/2016	50	39	ND	11	0.1	ND	
GEW-004	6/8/2016	52	39	ND	7.5	0.04	ND	
GEW-005	2/15/2016	54	38	ND	7.6	0.1	ND	
GEW-005	3/7/2016	53	38	ND	8	0.1	ND	
GEW-005	4/14/2016	50	37	ND	12	0.1	ND	
GEW-005	5/13/2016	31	27	4	38	0.03	ND	See Note 3
GEW-005	6/8/2016	51	38	ND	9.7	0.05	ND	
GEW-006	3/7/2016	56	38	ND	5.4	ND	ND	
GEW-006	5/12/2016	50	37	ND	13	ND	ND	
GEW-007	3/7/2016	57	41	ND	ND	ND	ND	
GEW-007	5/12/2016	55	39	ND	4.5	ND	ND	
GEW-008	2/15/2016	50	47	ND	ND	0.7	ND	
GEW-008	3/7/2016	49	47	ND	ND	1.6	ND	
GEW-008	4/18/2016	49	46	ND	ND	ND	ND	
GEW-008	5/12/2016	50	47	ND	ND	1	ND	
GEW-008	6/9/2016	50	46	ND	ND	1	ND	
GEW-009	2/17/2016	54	43	ND	ND	0.7	ND	
GEW-009	3/7/2016	54	43	ND	ND	0.9	ND	
GEW-009	4/18/2016	50	42	ND	5.7	ND	ND	
GEW-009	5/12/2016	54	42	ND	ND	0.7	ND	
GEW-009	6/9/2016	52	42	ND	5.1	0.7	ND	
GEW-040	2/15/2016	55	38	1.4	5.2	ND	ND	See Note 3
GEW-040	3/7/2016	55	38	ND	5	ND	ND	
GEW-040	4/14/2016	57	40	ND	ND	ND	ND	
GEW-040	5/9/2016	58	40	ND	ND	ND	ND	
GEW-040	6/7/2016	57	40	ND	ND	ND	ND	
GEW-041R	3/7/2016	57	41	ND	ND	ND	ND	
GEW-041R	5/9/2016	57	40	ND	ND	ND	ND	
GEW-042R	2/15/2016	56	41	ND	ND	0.04	ND	
GEW-042R	3/7/2016	56	42	ND	ND	ND	ND	
GEW-042R	4/14/2016	55	43	ND	ND	ND	ND	
GEW-042R	5/18/2016	55	42	ND	ND	ND	ND	
GEW-042R	6/7/2016	56	42	ND	ND	ND	ND	
GEW-043R	3/7/2016	55	43	ND	ND	0.05	ND	
GEW-043R	5/9/2016	55	41	ND	3.3	0.2	ND	
GEW-044	3/7/2016	58	40	ND	ND	ND	ND	
GEW-044	5/9/2016	51	35	ND	ND	ND	ND	
GEW-045R	2/15/2016	57	39	ND	ND	ND	ND	
GEW-045R	3/7/2016	58	40	ND	ND	ND	ND	
GEW-045R	4/14/2016	53	43	ND	3.3	ND	ND	
GEW-045R	5/9/2016	53	40	ND	5.5	ND	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-045R	6/7/2016	54	41	ND	4.2	ND	ND	
GEW-046R	2/15/2016	55	40	ND	4.3	0.1	ND	
GEW-046R	3/7/2016	55	40	ND	4.4	0.1	ND	
GEW-046R	4/14/2016	50	39	ND	10	0.1	ND	
GEW-046R	5/13/2016	52	39	ND	7.9	0.1	ND	
GEW-046R	6/7/2016	54	40	ND	4.6	0.1	ND	
GEW-047R	2/15/2016	50	38	ND	11	0.2	ND	
GEW-047R	3/7/2016	52	39	ND	8.1	0.1	ND	
GEW-047R	4/14/2016	54	42	ND	ND	0.1	ND	
GEW-047R	5/13/2016	41	33	3.1	23	0.1	ND	See Note 3
GEW-047R	6/8/2016	51	39	ND	8	ND	ND	
GEW-048	2/15/2016	56	40	ND	3.8	0.03	ND	
GEW-048	3/7/2016	57	40	ND	ND	ND	ND	
GEW-048	4/14/2016	53	38	ND	8.5	ND	ND	
GEW-048	5/13/2016	53	39	ND	7.3	0.04	ND	
GEW-048	6/8/2016	55	39	ND	4.9	ND	ND	
GEW-049	2/15/2016	55	37	ND	6.3	0.1	ND	
GEW-049	3/7/2016	57	40	ND	ND	0.1	ND	
GEW-049	4/14/2016	55	38	ND	5.3	0.1	ND	
GEW-049	5/13/2016	48	36	ND	15.0	0.05	ND	
GEW-049	6/8/2016	51	37	ND	11.0	0.05	ND	
GEW-050	3/7/2016	56	39	ND	4.6	0.1	ND	
GEW-050	5/12/2016	54	37	ND	7.5	ND	ND	
GEW-051	3/7/2016	55	42	ND	ND	1.2	ND	
GEW-051	5/13/2016	55	41	ND	ND	1.1	ND	
GEW-052	3/7/2016	53	38	ND	8.9	0.1	ND	
GEW-052	5/12/2016	54	38	ND	7	0.04	ND	
GEW-053	2/15/2016	50	41	ND	ND	5.8	57	
GEW-053	3/7/2016	49	41	ND	ND	5.7	65	
GEW-053	4/14/2016	49	42	ND	ND	6.1	81	
GEW-053	5/13/2016	50	42	ND	ND	4.7	66	
GEW-053	6/8/2016	50	42	ND	ND	5.6	68	
GEW-054	2/15/2016	51	41	ND	3.4	4.3	ND	
GEW-054	3/7/2016	53	43	ND	ND	3.1	34	
GEW-054	4/14/2016	51	42	ND	ND	4.9	41	
GEW-054	5/13/2016	49	42	ND	ND	5	42	
GEW-054	6/8/2016	51	42	ND	ND	4.9	42	
GEW-055	2/15/2016	54	43	ND	ND	1.4	ND	
GEW-055	3/7/2016	54	43	ND	ND	1.1	ND	
GEW-055	4/14/2016	52	41	ND	4.1	1.2	ND	
GEW-055	5/13/2016	53	43	ND	ND	1.4	ND	
GEW-055	6/8/2016	53	42	ND	ND	1.4	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.

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	2/16/2016	50	41	1.6	6.5	0.2	31	See Note 4
GEW-010	3/3/2016	38	50	ND	9.2	1.7	130	
GEW-010	4/13/2016	41	53	ND	4.3	1	110	
GEW-010	5/12/2016	44	49	ND	5.1	0.6	76	
GEW-010	6/6/2016	53	43	ND	ND	0.2	ND	
GEW-022R	3/9/2016	0.7	65	ND	ND	30	4,300	
GEW-022R	5/10/2016	0.4	56	3.4	12	26	4,000	
GEW-028R	3/9/2016	0.1	61	ND	ND	34	4,300	
GEW-028R	5/10/2016	0.1	45	4.6	17	31	3,800	
GEW-038	2/16/2016	0.3	44	6.6	24	25	2,600	See Note 4
GEW-038	3/3/2016	0.3	44	7.4	27	21	2,500	
GEW-038	4/13/2016	0.4	35	9.6	35	19	2,200	See Note 4
GEW-038	5/12/2016	0.5	49	4.6	17	27	3,100	See Note 4
GEW-038	6/6/2016	0.5	57	3.7	13	24	3,300	See Note 4
GEW-039	2/16/2016	42	55	ND	ND	0.9	75	
GEW-039	3/3/2016	39	56	ND	ND	2	160	
GEW-039	4/13/2016	37	59	ND	ND	2.8	230	
GEW-039	5/12/2016	35	52	ND	10	1.3	120	
GEW-039	6/6/2016	42	54	ND	ND	1.1	91	
GEW-056R	2/16/2016	20	38	ND	30	10	620	
GEW-056R	3/3/2016	17	39	ND	32	11	610	
GEW-056R	4/13/2016	12	39	ND	35	13	750	
GEW-056R	5/12/2016	12	39	ND	36	11	640	
GEW-056R	6/6/2016	16	49	ND	24	9	680	
GEW-057R	5/9/2016	10	48	3.9	24	13	1,400	See Note 4
GEW-058	5/9/2016	5	51	1.7	6.9	34	2,200	See Note 4
GEW-058A	3/9/2016	0.5	43	4.9	18	33	2,100	
GEW-058A	5/9/2016	0.4	38	6.3	23	32	2,000	See Note 4
GEW-059R	3/9/2016	1.3	50	ND	4.4	42	2,000	
GEW-059R	5/9/2016	0.9	50	ND	ND	45	2,600	
GEW-065A	5/9/2016	1.1	17	14	57	9.9	760	See Note 4
GEW-082R	3/9/2016	0.8	54	ND	ND	40	2,000	
GEW-082R	5/10/2016	14	49	ND	ND	33	1,300	
GEW-086	5/10/2016	5.7	48	ND	3.7	41	2,300	
GEW-090	3/9/2016	7.3	49	ND	ND	39	2,100	
GEW-090	5/10/2016	0.9	56	ND	4.1	36	2,100	
GEW-102	3/9/2016	1.3	56	ND	3.4	36	1,400	
GEW-102	5/9/2016	2.4	54	1.7	6	33	1,300	
GEW-107	5/10/2016	0.4	60	ND	3.8	33	3,000	See Note 3
GEW-109	2/16/2016	3.4	63	ND	ND	32	2,300	
GEW-109	3/3/2016	11	46	2.9	21	19	1,100	
GEW-109	4/13/2016	10	52	ND	9.7	26	1,600	
GEW-109	5/12/2016	11	53	ND	13	22	1,100	
GEW-109	6/6/2016	11	63	ND	3.3	20	1,600	
GEW-110	2/16/2016	7	34	9	36	14	810	See Note 4
GEW-110	3/3/2016	2	36	8	32	21	1,200	
GEW-110	4/13/2016	9.7	35	5	38	11	870	See Note 4
GEW-110	5/12/2016	1	12	16	67	4.6	340	See Note 4
GEW-110	6/6/2016	15	36	3.2	42	2.9	300	See Note 4
GEW-116	5/10/2016	3.3	61	2.3	8.4	24	2,200	See Note 4
GEW-117	5/10/2016	7.5	63	ND	4.8	22	2,300	
GEW-118	5/10/2016	1.6	49	1.8	6.2	40	2,200	See Note 3
GEW-120	3/2/2016	13	60	1.6	14	11	950	
GEW-120	5/11/2016	16	59	1.9	14	7.7	470	See Note 4
GEW-121	3/2/2016	4.5	61	ND	ND	31	2,600	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-121	5/11/2016	6.6	56	ND	4.6	30	2,200	
GEW-122	3/2/2016	5.2	56	ND	3.1	34	2,900	
GEW-122	5/11/2016	14	53	ND	8.7	23	2,100	
GEW-123	5/11/2016	4	59	ND	ND	31	3,400	
GEW-124	3/2/2016	7.2	63	ND	2.9	26	1,800	
GEW-124	5/11/2016	0.1	5.9	20	71	2.1	220	See Note 4
GEW-125	5/11/2016	0.5	60	ND	ND	36	3,300	
GEW-126	3/2/2016	10	56	ND	ND	30	3,200	
GEW-126	5/10/2016	11	54	ND	4.3	28	3,200	
GEW-127	3/2/2016	1.3	61	1.6	5.6	29	4,100	
GEW-127	5/10/2016	0.8	65	ND	ND	30	5,100	
GEW-128	3/2/2016	6.5	66	ND	ND	25	2,800	
GEW-128	5/10/2016	3.4	61	ND	ND	32	3,400	
GEW-129	3/2/2016	5.4	59	ND	ND	32	3,000	
GEW-129	5/10/2016	1.8	58	ND	5.8	31	3,400	
GEW-130	5/10/2016	0.3	58	ND	ND	38	4,400	
GEW-131	3/2/2016	10	47	3.4	12	27	2,200	
GEW-131	5/11/2016	20	49	ND	ND	28	2,300	
GEW-132	3/2/2016	7.4	49	3.4	19	20	1,700	
GEW-132	5/11/2016	8.7	45	4.3	29	12	880	
GEW-133	5/11/2016	0.2	12	17	62	8.6	750	See Note 4
GEW-134	5/12/2016	5.7	25	13	52	4.8	400	See Note 4
GEW-135	5/12/2016	4.1	31	9	40	15	910	See Note 4
GEW-136	5/12/2016	3.8	23	12	55	5.9	360	See Note 4
GEW-137	3/4/2016	14	44	ND	39	1	ND	
GEW-137	5/12/2016	11	31	2.2	56	0.1	ND	See Note 3
GEW-138	3/4/2016	14	65	ND	7.8	12	1,300	
GEW-138	5/12/2016	5.1	29	5.0	58	2.5	320	See Note 4
GEW-139	3/4/2016	1	60	ND	ND	35	4,000	
GEW-139	5/12/2016	1.1	41	6.7	26	25	2,700	See Note 4
GEW-140	3/4/2016	9.4	58	ND	3.7	28	2,000	
GEW-140	5/12/2016	7.6	39	6.8	29	17	1,600	See Note 4
GEW-141	3/4/2016	1.3	62	ND	ND	32	3,900	
GEW-141	5/10/2016	0.4	59	ND	ND	34	3,800	
GEW-143	5/18/2016	0.2	37	7.3	27	28	2,800	See Note 4
GEW-144	5/18/2016	0.7	51	3.3	12	31	2,900	See Note 4
GEW-145	3/4/2016	4	56	ND	3.5	35	2,400	
GEW-145	5/18/2016	1.3	54	ND	4.6	37	2,900	
GEW-146	5/12/2016	2.8	14	13	69	0.6	97	See Note 4
GEW-147	3/9/2016	10	49	ND	6.8	32	1,900	
GEW-147	5/12/2016	8.9	50	1.9	8.7	30	1,700	See Note 3
GEW-148	5/12/2016	3.5	46	4.4	16	29	2,400	See Note 3
GEW-149	3/9/2016	6.8	35	8.5	38	11	970	See Note 4
GEW-149	5/12/2016	8	43	5.6	27	15	1,400	See Note 4
GEW-150	3/9/2016	4	27	12	45	11	830	
GEW-150	5/12/2016	10	55	2.9	12	19	1,800	See Note 4
GEW-151	5/12/2016	0.2	6.9	19	68	6.3	570	See Note 4
GEW-152	3/9/2016	6.2	47	2.2	7.9	35	2,800	
GEW-152	5/18/2016	7.4	50	ND	5	36	3,100	
GEW-153	3/9/2016	23	45	ND	12	18	810	
GEW-153	5/13/2016	21	47	ND	7.7	23	1,100	
GEW-154	3/9/2016	14	24	11	45	5.7	270	
GEW-154	5/12/2016	11	27	9.9	40	12	840	See Note 4
GEW-155	3/9/2016	7.9	37	8.9	41	4.8	430	
GEW-155	5/12/2016	4.3	34	6.1	41	4.3	700	See Note 3
GEW-155	5/18/2016	4.4	48	ND	19	27	1,300	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-156	5/12/2016	6.3	20	12	60	1.5	230	See Note 4
GEW-158	5/18/2016	0.8	45	4.9	19	30	1,900	See Note 4
GEW-159	3/9/2016	13	43	ND	35	7.8	660	
GEW-159	5/13/2016	16	51	ND	22	8.2	590	
GEW-160	5/12/2016	3	54	1.8	6.6	33	2,800	See Note 3
GEW-161	5/12/2016	1.3	28	4.3	25	40	3,000	See Note 4
GEW-162	5/12/2016	15	56	3.6	13	11	940	See Note 3
GEW-163	5/11/2016	6.8	47	6.2	27	11	1,300	See Note 4
GEW-164	5/11/2016	6.3	73	1.8	6.6	11	1,800	See Note 4
GEW-165	5/11/2016	1	69	ND	3.9	22	4,400	
GEW-166	5/11/2016	1.4	56	1.8	7	31	3,800	See Note 4
GEW-167	5/11/2016	4.2	35	7.9	34	18	1,600	See Note 4
GEW-168	5/11/2016	0.4	67	ND	ND	27	4,400	
GEW-169	5/10/2016	0.2	63	ND	3.9	30	5,000	
GEW-170	5/10/2016	0.8	65	ND	ND	30	4,500	
GEW-171	5/18/2016	1.3	47	5.2	19	27	2,800	See Note 4
GEW-172	5/18/2016	0.2	47	2.3	8	41	3,500	See Note 4
GEW-173	5/12/2016	12	47	2.9	22	15	1,800	See Note 4
GEW-174	5/12/2016	10	50	ND	17	21	1,700	
GEW-175	5/18/2016	16	50	4.2	19	11	980	See Note 4
GEW-176	5/18/2016	6.5	61	ND	ND	30	2,700	
GIW-01	2/16/2016	1.7	61	2.7	9.8	24	2,500	See Note 4
GIW-01	3/3/2016	2.3	70	ND	ND	23	2,500	
GIW-01	4/13/2016	2	68	ND	ND	26	2,800	
GIW-01	5/10/2016	2.2	67	ND	ND	26	2,700	
GIW-01	6/6/2016	1.7	60	2.7	9.4	25	2,900	See Note 4
GIW-02	2/17/2016	8	40	7.8	33	10	620	See Note 4
GIW-02	3/3/2016	6.3	30	11	48	3.9	290	
GIW-02	4/13/2016	5.5	35	9.2	42	8.6	660	See Note 4
GIW-02	5/10/2016	5.1	42	6.7	31	14	1,200	See Note 4
GIW-02	6/6/2016	7.7	53	3.2	17	19	1,300	See Note 4
GIW-03	2/17/2016	0.3	36	9.3	33	21	2,100	See Note 4
GIW-03	3/3/2016	0.1	8.2	19	69	2.9	460	
GIW-03	4/13/2016	0.6	65	ND	ND	32	3,400	
GIW-03	5/10/2016	0.5	58	3.1	11	26	3,300	See Note 4
GIW-03	6/6/2016	0.5	66	ND	ND	31	4,000	
GIW-04	2/17/2016	0.6	43	4.2	15	36	2,300	See Note 3
GIW-04	3/3/2016	0.4	42	3.5	12	41	1,700	
GIW-04	4/13/2016	0.2	13	17	60	10	690	See Note 4
GIW-04	5/10/2016	0.6	36	6.2	23	33	1,900	See Note 4
GIW-04	6/6/2016	0.4	35	7.7	28	28	2,100	See Note 4
GIW-05	2/16/2016	2.2	57	ND	4.7	34	1,700	
GIW-05	3/3/2016	2.8	56	1.5	5.4	33	1,500	
GIW-05	4/13/2016	4.9	56	ND	5.5	31	1,500	
GIW-05	5/10/2016	1.6	59	ND	ND	36	1,700	
GIW-05	6/6/2016	1.6	59	ND	ND	35	1,800	
GIW-06	2/17/2016	1.1	59	ND	ND	36	1,500	
GIW-06	3/2/2016	1.1	61	ND	4.1	31	1,500	
GIW-06	4/13/2016	1.2	58	ND	4.8	34	1,300	
GIW-06	5/11/2016	1	49	3.6	13	32	1,200	See Note 4
GIW-06	6/6/2016	1.2	56	ND	5.8	34	1,500	
GIW-07	2/17/2016	15	68	ND	ND	15	1,500	
GIW-07	3/2/2016	19	42	6.9	25	7.2	710	
GIW-07	4/13/2016	9.3	42	8.1	30	11	1,300	See Note 4
GIW-07	5/12/2016	9	37	9.8	36	7.5	890	See Note 4
GIW-07	6/6/2016	9.6	60	2.8	10	17	1,800	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-08	2/17/2016	25	62	ND	10	2.2	360	
GIW-08	3/2/2016	19	66	ND	12	1.7	290	
GIW-08	4/13/2016	17	51	ND	28	1.6	250	
GIW-08	5/12/2016	16	70	ND	6.7	6.3	690	
GIW-08	6/6/2016	2.5	51	8.5	31	8.8	1,400	See Note 3
GIW-09	2/17/2016	6.2	17	14	57	4.9	320	See Note 4
GIW-09	3/2/2016	2.4	17	15	60	5.4	400	
GIW-09	4/13/2016	1.4	9.9	17	68	2.7	270	See Note 4
GIW-09	5/12/2016	1.5	25	11	56	5.9	480	See Note 4
GIW-09	6/6/2016	2	20	14	56	7.5	570	See Note 4
GIW-10	2/17/2016	0.4	53	ND	ND	44	3,200	
GIW-10	3/3/2016	5.6	47	ND	15	31	1,700	
GIW-10	4/13/2016	6.8	49	ND	14	29	2,000	
GIW-10	5/12/2016	3.1	50	ND	11	35	2,100	
GIW-10	6/6/2016	0.5	52	ND	ND	44	2,700	
GIW-11	2/16/2016	4.4	39	6	29	21	1,700	See Note 4
GIW-11	3/3/2016	5.7	40	5.2	34	15	1,600	
GIW-11	4/13/2016	4.7	49	4.3	23	18	2,100	See Note 4
GIW-11	5/12/2016	5.5	48	4.3	24	17	1,900	See Note 4
GIW-11	6/6/2016	2.8	64	ND	ND	30	3,100	
GIW-12	2/16/2016	5.3	20	12	60	2.6	240	See Note 4
GIW-12	3/3/2016	8	25	8.5	54	4.3	340	
GIW-12	4/13/2016	8.5	31	6.4	46	6.9	570	See Note 4
GIW-12	5/12/2016	0.7	38	9.5	35	16	1,800	See Note 4
GIW-12	6/6/2016	1.3	56	2.8	13	26	2,500	See Note 4
GIW-13	2/16/2016	13	58	ND	7.6	21	1,500	
GIW-13	3/3/2016	8.7	62	ND	7.6	21	1,700	
GIW-13	4/13/2016	9.9	62	ND	7.7	20	1,600	
GIW-13	5/12/2016	9.5	64	ND	4.6	21	1,500	
GIW-13	6/6/2016	5.7	66	ND	ND	26	2,000	
Flare Station²	2/2/2016	11.8	37.7	7.8	31.0	10.9	1,050	See Note 6
Flare Station²	3/2/2016	10.7	34.6	8.8	35.3	9.6	910	See Note 7
Flare Station²	4/12/2016	8.2	37	8.1	35.0	10.5	1,050	See Note 6
Flare Station²	5/3/2016	9.2	41.3	6.3	29.5	12.4	1,200	See Note 6
Flare Station²	6/7/2016	8.8	40.3	6.9	30.5	12.1	1,200	See Note 6
Flare Station²	7/6/2016	9.5	41.2	6.5	29.0	12.1	1,100	See Note 7

Notes: (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. (6) Flare station gas concentration data is an average of Outlets 1 & 2. (7) Flare station gas concentration based on data from Outlet B.

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.

June 20, 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: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H061006-01/35

Enclosed are results for sample(s) received 6/10/16 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 Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 6/17/16.

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

PAGE: 1 OF 12 (4) 3T

TURNAROUND TIME				DELIVERABLES		Condition upon receipt:
Standard	☐	48 hours	☐	EDD	☒ 6/13/16	Sealed Yes ☐ No ☐
Same Day	☐	72 hours	☐	EDF	☐	Intact Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Chilled _____ deg C
Other:		5 day	■	Level 4	☐	

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

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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	D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
H0610656-01	A8088	-19.7	-5	-6	GEW-39	6/6/2016	1107	C	LFG	NA	X					
-02	5823	-19.8	-5	-6.5	GEW-109	6/6/2016	1121	C	LFG	NA	X					
-03	5905	-19.7	-5	-6	GEW-38	6/6/2016	1136	C	LFG	NA	X					
-04	A7663	-19.7	-5	-6	GIW-8	6/6/2016	1147	C	LFG	NA	X					
-05	3441	-19.5	-5	-6	GEW-110	6/6/2016	1325	C	LFG	NA	X					
-06	5922	-19.8	-5	-6	GEW-56R	6/6/2016	1335	C	LFG	NA	X					
-07	A8067	-19.7	-5	-6	GEW-10	6/6/2016	1345	C	LFG	NA	X					
-08	5813	-19.7	-4.9	-6	GEW-40	6/7/2016	1450	C	LFG	NA	X					
-09	A7773	-19.8	-4.9	-6	GEW-42R	6/7/2016	1514	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey Mcmillen	DATE: 6/9/16	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY	DATE/TIME: 6/10/16 1130
RELINQUISHED BY	DATE:	RECEIVED BY	DATE/TIME

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

COMMENTS
TIME CORRECTIONS PER CAN TAG 9D 6/13/16

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		Condition upon receipt:	
Standard	☐	48 hours	☐	EDD	☐	Sealed Yes ☐	No ☐
Same Day	☐	72 hours	☐	EDF	☐	Intact Yes ☐	No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Chilled _____	deg C
Other:		5 day	■	Level 4	☐		

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

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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												
H061006-10	3436	-19.5	-5	-6	GEW-45R	6/7/2016	1548	C	LFG	NA	X					
-11	6144	-19.8	-4.95	-6	GEW-46R	6/7/2016	1634	C	LFG	NA	X					
-12	3440	-20.1	-5.3	-6	GEW-2	6/8/2016	833	C	LFG	NA	X					
-13	3832	-20	-4.9	-5.5	GEW-3	6/8/2016	905	C	LFG	NA	X					
-14	4658	-19.7	-5	-6	GEW-4	6/8/2016	920	C	LFG	NA	X					
-15	3152	-19.7	-4.65	-5	GEW-47R	6/8/2016	938	C	LFG	NA	X					
-16	3162	-20	-5.1	-6	GEW-5	6/8/2016	952	C	LFG	NA	X					
-17	3126	-19.7	-5	-6	GEW-48	6/8/2016	1033	C	LFG	NA	X					
-18	6154	-19.4	-5	-6	GEW-49	6/8/2016	1106	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Corey McMillen		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Corey Mcmillen	6/9/16	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY		DATE/ RECEIVED BY: [illegible] 6/10/16	DATE/TIME 1130

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

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

4

TURNAROUND TIME				DELIVERABLES		PAGE: 3 OF 12
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:	Nick Bauer
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	Nbauer@republicservices.com

BILLING

P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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	D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
H061006-19	A7798	-19.8	-5	-6	GEW-53	6/8/2016	1127	C	LFG	NA	X					
-20	3837	-20.1	-4.9	-6	GEW-54	6/8/2016	1156	C	LFG	NA	X					
-21	4644	-20	-4.9	-6	GEW-55	6/8/2016	1209	C	LFG	NA	X					
-22	5835	-19.5	-5	-6	GIW-1	6/6/2016	850	C	LFG	NA	X					
-23	A7804	-19.6	-5	-6	GIW-2	6/6/2016	903	C	LFG	NA	X					
-24	A8083	-20	-5	-6	GIW-3	6/6/2016	917	C	LFG	NA	X					
-25	5828	-19.7	-5	-6	GIW-4	6/6/2016	929	C	LFG	NA	X					
-26	A8082	-19.8	-5	-6	GIW-5	6/6/2016	946	C	LFG	NA	X					
-27	A7781	-19.5	-5	-6	GIW-10	6/6/2016	1000	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Corey McMillen		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Corey Mcmillen	6/9/16	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FEDEX		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
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Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		Condition upon receipt:
Standard	☐	48 hours	☐	EDD	☐	Sealed Yes ☐ No ☐
Same Day	☐	72 hours	☐	EDF	☐	Intact Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Chilled _____ deg C
Other:		5 day	■	Level 4	☐	

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

BILLING	
P.O. No.:	PO4862452
Bill to:	Republic Services
	Attn: Nick Bauer
	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												
H060606-28	5921	-20	-5	-6	GIW-13	6/6/2016	1106	C	LFG	NA	X					
-29	A8073	-19.8	-5	-6	GIW-12	6/6/2016	1117	C	LFG	NA	X					
-30	A7808	-19.6	-5	-6	GIW-11	6/6/2016	1129	C	LFG	NA	X					
-31	5310	-19.9	-5	-6	GIW-6	6/6/2016	1144	C	LFG	NA	X					
-32	A7779	-19.5	-5	-6	GIW-7	6/6/2016	1156	C	LFG	NA	X					
-33	5332	-19.9	-5	-6	GIW-9	6/6/2016	1210	C	LFG	NA	X					
-34	5307	-20.8	-5	-5	GEW-8	6/9/2016	910	C	LFG	NA	X					
-35	5931	-20.7	-5	-5	GEW9	6/9/2016	924	C	LFG	NA	X					
								C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey Mcmillen	DATE: 6/9/16	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FEDEX	DATE:	RECEIVED BY: [signature]	DATE/TIME: 6/10/16 1130
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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-01		H061006-02		H061006-03		H061006-04	
Client Sample I.D.:	GEW-39		GEW-109		GEW-38		GIW-8	
Date/Time Sampled:	6/6/16 11:07		6/6/16 11:21		6/6/16 11:36		6/6/16 11:47	
Date/Time Analyzed:	6/15/16 11:38		6/15/16 11:53		6/15/16 12:08		6/15/16 12:22	
QC Batch No.:	160615GC8A1		160615GC8A1		160615GC8A1		160615GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.1		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	1.1 d	0.034	20	3.1	24	3.4	8.8	3.4
Carbon Dioxide	54	0.034	63	0.031	57	0.034	51	0.034
Oxygen/Argon	ND	1.7	ND	1.5	3.7	1.7	8.5	1.7
Nitrogen	ND	3.4	3.3	3.1	13	3.4	31	3.4
Methane	42	0.0034	11	0.0031	0.49	0.0034	2.5	0.0034
Carbon Monoxide	0.0091	0.0034	0.16	0.0031	0.33	0.0034	0.14	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-05		H061006-06		H061006-07		H061006-08	
Client Sample I.D.:	GEW-110		GEW-56R		GEW-10		GEW-40	
Date/Time Sampled:	6/6/16 13:24		6/6/16 13:34		6/6/16 13:44		6/7/16 14:50	
Date/Time Analyzed:	6/15/16 12:37		6/15/16 13:11		6/15/16 13:26		6/15/16 13:40	
QC Batch No.:	160615GC8A1		160615GC8A1		160615GC8A1		160615GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	2.9 d	0.034	9.2	3.4	0.16 d	0.034	ND d	0.034
Carbon Dioxide	36	0.034	49	0.034	43	0.034	40	0.034
Oxygen/Argon	3.2	1.7	ND	1.7	ND	1.7	ND	1.7
Nitrogen	42	3.4	24	3.4	ND	3.4	ND	3.4
Methane	15	0.0034	16	0.0034	53	0.0034	57	0.0034
Carbon Monoxide	0.030	0.0034	0.068	0.0034	ND	0.0034	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-09		H061006-10		H061006-11		H061006-12	
Client Sample I.D.:	GEW-42R		GEW-45R		GEW-46R		GEW-2	
Date/Time Sampled:	6/7/16 15:14		6/7/16 15:48		6/7/16 16:34		6/8/16 8:33	
Date/Time Analyzed:	6/15/16 13:55		6/15/16 14:09		6/15/16 14:24		6/15/16 14:39	
QC Batch No.:	160615GC8A1		160615GC8A1		160615GC8A1		160615GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.034	ND d	0.034	0.078 d	0.034	ND d	0.034
Carbon Dioxide	42	0.034	41	0.034	40	0.034	42	0.034
Oxygen/Argon	ND	1.7	ND	1.7	ND	1.7	ND	1.7
Nitrogen	ND	3.4	4.2	3.4	4.6	3.4	ND	3.4
Methane	56	0.0034	54	0.0034	54	0.0034	54	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-13		H061006-14		H061006-15		H061006-16	
Client Sample I.D.:	GEW-3		GEW-4		GEW-47R		GEW-5	
Date/Time Sampled:	6/8/16 9:05		6/8/16 9:20		6/8/16 9:38		6/8/16 9:52	
Date/Time Analyzed:	6/15/16 16:09		6/15/16 15:25		6/15/16 15:39		6/15/16 15:54	
QC Batch No.:	160615GC8A1		160615GC8A1		160615GC8A1		160615GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.3		3.4		3.2		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.091 d	0.033	0.037 d	0.034	ND d	0.032	0.047 d	0.034
Carbon Dioxide	40	0.033	39	0.034	39	0.032	38	0.034
Oxygen/Argon	ND	1.6	ND	1.7	ND	1.6	ND	1.7
Nitrogen	8.8	3.3	7.5	3.4	8.0	3.2	9.7	3.4
Methane	51	0.0033	52	0.0034	51	0.0032	51	0.0034
Carbon Monoxide	ND	0.0033	ND	0.0034	ND	0.0032	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-17		H061006-18		H061006-19		H061006-20	
Client Sample I.D.:	GEW-48		GEW-49		GEW-53		GEW-54	
Date/Time Sampled:	6/8/16 10:33		6/8/16 11:06		6/8/16 11:27		6/8/16 11:56	
Date/Time Analyzed:	6/15/16 16:24		6/15/16 16:39		6/15/16 16:53		6/15/16 17:08	
QC Batch No.:	160615GC8A1		160615GC8A1		160615GC8A1		160615GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.034	0.053 d	0.034	5.6	3.4	4.9	3.4
Carbon Dioxide	39	0.034	37	0.034	42	0.034	42	0.034
Oxygen/Argon	ND	1.7	ND	1.7	ND	1.7	ND	1.7
Nitrogen	4.9	3.4	11	3.4	ND	3.4	ND	3.4
Methane	55	0.0034	51	0.0034	50	0.0034	51	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0034	0.0068	0.0034	0.0042	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**06/10/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H061006-21		H061006-22		H061006-23		H061006-24	
Client Sample I.D.:	GEW-55		GIW-1		GIW-2		GIW-3	
Date/Time Sampled:	6/8/16 12:09		6/6/16 8:50		6/6/16 9:03		6/6/16 9:17	
Date/Time Analyzed:	6/16/16 8:38		6/16/16 8:52		6/16/16 9:07		6/16/16 9:22	
QC Batch No.:	160616GC8A1		160616GC8A1		160616GC8A1		160616GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**
Hydrogen	1.4 d	0.034	25	3.4	19	3.4	31	3.4
Carbon Dioxide	42	0.034	60	0.034	53	0.034	66	0.034
Oxygen/Argon	ND	1.7	2.7	1.7	3.2	1.7	ND	1.7
Nitrogen	ND	3.4	9.4	3.4	17	3.4	ND	3.4
Methane	53	0.0034	1.7	0.0034	7.7	0.0034	0.50	0.0034
Carbon Monoxide	ND	0.0034	0.29	0.0034	0.13	0.0034	0.40	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ **Date** 6/17/16

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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-25		H061006-26		H061006-27		H061006-28	
Client Sample I.D.:	GIW-4		GIW-5		GIW-10		GIW-13	
Date/Time Sampled:	6/6/16 9:29		6/6/16 9:46		6/6/16 10:00		6/6/16 11:06	
Date/Time Analyzed:	6/16/16 9:36		6/16/16 9:51		6/16/16 10:05		6/16/16 10:20	
QC Batch No.:	160616GC8A1		160616GC8A1		160616GC8A1		160616GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	28	3.4	35	3.4	44	3.4	26	3.4
Carbon Dioxide	35	0.034	59	0.034	52	0.034	66	0.034
Oxygen/Argon	7.7	1.7	ND	1.7	ND	1.7	ND	1.7
Nitrogen	28	3.4	ND	3.4	ND	3.4	ND	3.4
Methane	0.43	0.0034	1.6	0.0034	0.51	0.0034	5.7	0.0034
Carbon Monoxide	0.21	0.0034	0.18	0.0034	0.27	0.0034	0.20	0.0034

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

Reviewed/Approved By: _____ Date 6/17/16
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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-29		H061006-30		H061006-31		H061006-32	
Client Sample I.D.:	GIW-12		GIW-11		GIW-6		GIW-7	
Date/Time Sampled:	6/6/16 11:17		6/6/16 11:29		6/6/16 11:44		6/6/16 11:56	
Date/Time Analyzed:	6/16/16 10:35		6/16/16 10:49		6/16/16 11:04		6/16/16 11:18	
QC Batch No.:	160616GC8A1		160616GC8A1		160616GC8A1		160616GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	26	3.4	30	3.4	34	3.4	17	3.4
Carbon Dioxide	56	0.034	64	0.034	56	0.034	60	0.034
Oxygen/Argon	2.8	1.7	ND	1.7	ND	1.7	2.8	1.7
Nitrogen	13	3.4	ND	3.4	5.8	3.4	10	3.4
Methane	1.3	0.0034	2.8	0.0034	1.2	0.0034	9.6	0.0034
Carbon Monoxide	0.25	0.0034	0.31	0.0034	0.15	0.0034	0.18	0.0034

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

Reviewed/Approved By: _____ Date 6/17/16
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: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 06/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H061006-33		H061006-34		H061006-35			
Client Sample I.D.:	GIW-9		GEW-8		GEW-9			
Date/Time Sampled:	6/6/16 12:10		6/9/16 9:10		6/9/16 9:24			
Date/Time Analyzed:	6/16/16 11:33		6/16/16 11:47		6/16/16 12:02			
QC Batch No.:	160616GC8A1		160616GC8A1		160616GC8A1			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	3.4		3.2		3.2			
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Hydrogen	7.5	3.4	1.0 d	0.032	0.65 d	0.032		
Carbon Dioxide	20	0.034	46	0.032	42	0.032		
Oxygen/Argon	14	1.7	ND	1.6	ND	1.6		
Nitrogen	56	3.4	ND	3.2	5.1	3.2		
Methane	2.0	0.0034	50	0.0032	52	0.0032		
Carbon Monoxide	0.057	0.0034	ND	0.0032	ND	0.0032		

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 160616GC8A2

Reviewed/Approved By: _____ Date 6/17/16
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

QC Batch No.: 160615GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/15/16 11:07		6/15/16 10:23		6/15/16 10:38			
Analyst Initials:	AS		AS		AS			
Datafile:	15jun011		15jun008		15jun009			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	97	70-130%	90	70-130%	7.1	<30
Carbon Dioxide	ND	0.010	104	70-130%	104	70-130%	0.3	<30
Oxygen/Argon	ND	0.50	104	70-130%	103	70-130%	0.3	<30
Nitrogen	ND	1.0	105	70-130%	105	70-130%	0.1	<30
Methane	ND	0.0010	122	70-130%	121	70-130%	0.9	<30
Carbon Monoxide	ND	0.0010	121	70-130%	121	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 6/17/16

Mark J. Johnson
Operations Manager

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

QC Batch No.: 160616GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	6/16/16 8:22		6/15/16 18:06		6/15/16 18:21			
Analyst Initials:	AS		AS		AS			
Datafile:	16jun001		15jun038		15jun039			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	100	70-130%	98	70-130%	1.5	<30
Carbon Dioxide	ND	0.010	92	70-130%	90	70-130%	2.5	<30
Oxygen/Argon	ND	0.50	94	70-130%	92	70-130%	2.1	<30
Nitrogen	ND	1.0	94	70-130%	92	70-130%	2.2	<30
Methane	ND	0.0010	109	70-130%	106	70-130%	2.7	<30
Carbon Monoxide	ND	0.0010	123	70-130%	122	70-130%	0.9	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ for Date: 6/17/16

Mark J. Johnson
Operations Manager

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QC Batch # 160616GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	6/16/2016 14:26		6/16/2016 14:17		6/16/2016 14:22			
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	102	70-130	101	70-130	0.8	<20

ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 6/17/16
Mark Johnson
Operations Manager

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ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

WELLFIELD DATA TABLE

June 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-002	6/8/2016 8:28	53.9	42.1	0.0	4.0	127.8		0	0	-0.1	-0.1	-13.6
GEW-002	6/8/2016 8:36	55.1	41.5	0.0	3.4	127.8		0	0	-0.2	-0.1	-14.0
GEW-002	6/14/2016 11:21	58.6	37.5	0.0	3.9	126.9		28	28	-0.8	-0.9	-12.2
GEW-002	6/20/2016 9:24	55.9	40.0	0.0	4.1	126.1		50	53	-1.1	-1.2	-12.7
GEW-002	6/27/2016 14:42	58.7	36.4	0.2	4.7	125.0		57	60	-1.4	-1.6	-13.4
GEW-003	6/1/2016 9:31	42.7	35.1	0.0	22.2	116.0		72	69	-6.2	-6.2	-9.7
GEW-003	6/1/2016 9:38	44.0	34.1	1.0	20.9	110.5		6	6	-3.0	-3.0	-11.9
GEW-003	6/8/2016 9:00	51.2	41.1	0.0	7.7	110.2		0	0	0.1	0.1	-13.4
GEW-003	6/8/2016 9:08	50.9	40.2	0.0	8.9	116.0		0	0	0.0	0.0	-13.3
GEW-003	6/14/2016 11:26	49.9	39.5	0.0	10.6	117.1		9	9	0.0	0.0	-12.3
GEW-003	6/20/2016 9:40	54.4	41.9	0.0	3.7	93.1		8	8	0.4	0.4	-12.4
GEW-003	6/20/2016 9:43	54.6	41.2	0.0	4.2	95.0		13	13	0.3	0.3	-12.3
GEW-003	6/27/2016 14:47	52.1	41.3	0.3	6.3	115.8		8	9	0.3	0.3	-13.2
GEW-003	6/27/2016 14:49	52.0	40.8	0.3	6.9	117.3		24	31	0.0	0.0	-12.4
GEW-004	6/1/2016 9:41	40.5	33.7	0.0	25.8	120.2		0	4	-2.2	-2.2	-11.9
GEW-004	6/1/2016 9:43	39.3	35.6	0.0	25.1	116.8		3	3	-1.9	-1.9	-12.2
GEW-004	6/8/2016 9:16	52.5	41.2	0.0	6.3	95.0		0	0	0.1	0.1	-13.1
GEW-004	6/8/2016 9:23	53.0	40.3	0.0	6.7	104.0		0	0	0.0	0.0	-12.8
GEW-004	6/14/2016 11:28	53.0	39.8	0.0	7.2	112.0		36	36	0.2	0.2	-12.4
GEW-004	6/14/2016 11:31	54.0	40.5	0.0	5.5	113.7		33	32	-0.1	0.0	-11.7
GEW-004	6/20/2016 9:47	51.0	39.8	0.0	9.2	116.0		8	8	0.2	0.2	-12.6
GEW-004	6/20/2016 9:47	50.8	39.8	0.0	9.4	117.2		10	12	0.1	0.1	-12.6
GEW-004	6/27/2016 14:52	52.6	39.8	0.3	7.3	121.5		0	0	0.2	0.2	-12.1
GEW-004	6/27/2016 14:56	52.5	40.3	0.3	6.9	122.6		0	0	0.0	0.0	-12.6
GEW-005	6/1/2016 9:52	24.2	29.7	0.0	46.1	91.0		22	25	-1.3	-1.3	-11.9
GEW-005	6/1/2016 9:54	24.3	29.1	0.0	46.6	89.6		0	0	-1.0	-0.9	-12.4
GEW-005	6/8/2016 9:47	50.5	39.6	0.0	9.9	86.0		0	0	0.1	0.1	-12.4
GEW-005	6/8/2016 9:55	49.3	39.4	0.0	11.3	96.0		0	0	0.0	0.0	-13.0
GEW-005	6/14/2016 11:41	50.1	38.5	0.0	11.4	96.2		0	0	0.1	0.1	-11.7
GEW-005	6/14/2016 11:43	50.2	38.2	0.0	11.6	97.5		0	0	0.0	-0.1	-12.1
GEW-005	6/20/2016 10:00	48.8	36.3	0.0	14.9	97.9		13	12	0.1	0.1	-12.3
GEW-005	6/20/2016 10:01	48.8	36.3	0.0	14.9	98.2		16	15	0.1	0.1	-12.5
GEW-005	6/27/2016 15:11	49.0	36.7	0.3	14.0	98.7		15	14	0.1	0.0	-13.1
GEW-005	6/27/2016 15:12	49.0	36.5	0.3	14.2	98.7		16	18	0.0	0.0	-12.9
GEW-006	6/1/2016 10:02	45.2	36.6	0.0	18.2	87.3		17	18	-1.1	-1.1	-12.2
GEW-006	6/1/2016 10:04	43.8	35.1	0.0	21.1	86.8		9	12	-0.8	-0.8	-12.5
GEW-006	6/8/2016 10:40	50.5	39.3	0.0	10.2	93.0		12	13	-0.1	-0.1	-12.5
GEW-006	6/14/2016 11:51	55.5	38.5	0.0	6.0	92.8		0	0	0.1	0.1	-11.6
GEW-006	6/14/2016 11:53	56.0	38.6	0.0	5.4	93.1		16	8	0.0	-0.1	-12.0
GEW-006	6/20/2016 10:07	53.8	37.2	0.0	9.0	92.1		15	17	-0.1	-0.1	-12.6
GEW-006	6/27/2016 16:37	55.7	38.4	0.2	5.7	93.9		18	16	-0.1	-0.1	-13.3
GEW-007	6/1/2016 11:24	56.9	40.2	0.0	2.9	97.9		8	8	-2.7	-2.7	-12.9
GEW-007	6/1/2016 11:26	57.1	40.2	0.0	2.7	97.7		8	4	-2.0	-2.0	-12.8

June 2016 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-007	6/8/2016 12:22	55.7	41.5	0.1	2.7	100.0		4	8	-0.9	-0.9	-12.5
GEW-007	6/15/2016 8:38	56.6	40.6	0.0	2.8	97.9		31	31	-1.2	-1.2	-12.5
GEW-007	6/20/2016 8:13	57.7	40.3	0.1	1.9	97.5		11	10	-1.2	-1.2	-13.2
GEW-007	6/27/2016 17:42	55.6	42.3	0.2	1.9	103.4		12	11	-0.8	-0.8	-12.7
GEW-008	6/1/2016 11:30	50.1	43.9	0.0	6.0	113.7		20	22	-1.5	-1.5	-12.9
GEW-008	6/1/2016 11:32	49.5	45.7	0.0	4.8	113.3		12	15	-0.9	-0.9	-12.9
GEW-008	6/9/2016 9:07	50.7	46.1	0.0	3.2	111.6		19	17	-0.3	-0.3	-13.1
GEW-008	6/9/2016 9:14	50.6	46.8	0.0	2.6	111.8		35	34	-0.3	-0.3	-12.6
GEW-008	6/15/2016 8:33	50.1	44.4	0.0	5.5	113.5		16	15	-0.4	-0.4	-12.4
GEW-008	6/20/2016 8:16	50.3	45.7	0.1	3.9	112.5		16	18	-0.4	-0.4	-12.6
GEW-008	6/27/2016 17:39	50.7	44.4	0.3	4.6	114.9		13	17	-0.3	-0.3	-12.7
GEW-009	6/1/2016 11:35	48.8	41.8	0.0	9.4	122.3		35	41	-0.4	-0.4	-17.1
GEW-009	6/1/2016 11:36	49.3	41.8	0.0	8.9	122.3		10	14	-0.4	-0.4	-17.2
GEW-009	6/9/2016 9:20	52.2	43.2	0.0	4.6	122.9		18	18	-0.2	-0.2	-16.6
GEW-009	6/9/2016 9:27	52.6	42.5	0.0	4.9	122.7		13	13	-0.2	-0.2	-16.8
GEW-009	6/15/2016 8:28	52.3	42.0	0.0	5.7	125.3		0	0	-0.3	-0.3	-16.5
GEW-009	6/20/2016 8:20	52.1	42.3	0.0	5.6	123.7		28	30	-0.2	-0.2	-17.3
GEW-009	6/27/2016 17:36	52.2	42.1	0.3	5.4	125.8		13	14	-0.2	-0.2	-18.4
GEW-010	6/6/2016 13:41	55.1	44.9	0.0	0.0	97.5		4	4	-0.8	-0.8	-17.4
GEW-010	6/6/2016 13:46	56.6	43.0	0.0	0.4	97.5		4	4	-0.6	-0.6	-16.3
GEW-010	6/13/2016 9:55	50.5	43.7	0.2	5.6	96.5		1	3	-2.0	-2.0	-15.7
GEW-010	6/13/2016 10:00	51.1	43.2	0.1	5.6	95.8		3	3	-1.0	-1.0	-16.2
GEW-010	6/20/2016 9:10	52.9	45.4	0.3	1.4	89.9		2	2	-1.2	-1.2	-17.3
GEW-010	6/28/2016 9:11	52.5	43.9	0.0	3.6	90.5		2	2	-1.4	-1.4	-17.3
GEW-013A	6/8/2016 10:40	7.9	39.7	4.9	47.5	165.5				-0.8	-1.5	-10.2
GEW-013A	6/8/2016 10:41	8.1	40.8	4.9	46.2	165.5				-0.9	-1.0	-10.1
GEW-022R	6/2/2016 12:18	0.7	55.8	4.1	39.4	193.7		29	31	-1.1	-1.6	-1.5
GEW-022R	6/2/2016 12:19	0.4	52.2	4.2	43.2	193.7		32	21	-1.8	-0.9	-2.0
GEW-028R	6/3/2016 11:19	0.1	50.5	2.8	46.6	83.3				-14.1	-14.0	-14.0
GEW-028R	6/3/2016 11:22	0.2	51.8	2.7	45.3	84.0				-13.9	-14.1	-14.0
GEW-038	6/6/2016 11:33	0.6	53.0	3.4	43.0	98.1		6	8	-1.4	-1.3	-14.1
GEW-038	6/6/2016 11:38	0.2	48.7	3.4	47.7	100.0		10	7	-1.0	-0.9	-14.6
GEW-038	6/13/2016 10:51	0.8	52.3	4.6	42.3	109.2		12	7	-0.5	-0.6	-11.0
GEW-038	6/13/2016 10:53	0.6	51.6	4.4	43.4	110.6		9	7	-0.7	-0.5	-10.7
GEW-038	6/20/2016 8:55	0.8	53.5	4.8	40.9	92.5		6	10	-2.8	-2.7	-11.4
GEW-038	6/28/2016 9:03	0.6	51.5	4.6	43.3	94.0		6	6	-2.8	-2.9	-10.7
GEW-039	6/6/2016 11:04	39.7	51.3	0.0	9.0	135.6				-0.5	-0.5	-16.7
GEW-039	6/6/2016 11:10	42.1	49.2	0.0	8.7	136.0				-0.6	-0.6	-17.7
GEW-039	6/13/2016 11:09	38.1	51.4	0.0	10.5	134.4				-0.7	-0.7	-15.7
GEW-039	6/13/2016 11:11	38.4	50.7	0.0	10.9	134.4				-0.4	-0.4	-17.3
GEW-039	6/20/2016 9:07	32.2	53.9	0.6	13.3	129.0		20	20	-1.4	-1.3	-16.8
GEW-039	6/28/2016 9:08	36.4	50.8	0.1	12.7	129.0		27	24	-1.4	-1.3	-18.4
GEW-040	6/1/2016 8:36	58.1	41.8	0.0	0.1	90.7		5	7	-0.6	-0.6	-11.8

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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-040	6/7/2016 14:47	57.8	40.9	0.0	1.3	93.8		12	12	-0.7	-0.7	-12.4
GEW-040	6/7/2016 14:54	57.8	41.2	0.0	1.0	93.8		42	42	-0.7	-0.7	-12.7
GEW-040	6/14/2016 10:49	57.5	40.0	0.0	2.5	94.8		0	0	-0.6	-0.6	-12.1
GEW-040	6/20/2016 8:40	57.2	40.1	0.0	2.7	94.1		10	11	-0.6	-0.6	-12.9
GEW-040	6/27/2016 13:35	57.9	38.2	0.1	3.8	97.1		17	16	-0.6	-0.6	-12.5
GEW-041R	6/1/2016 8:39	53.5	38.6	0.3	7.6	106.5		13	9	-0.7	-0.6	-7.2
GEW-041R	6/1/2016 8:41	53.0	39.0	0.3	7.7	105.7		16	13	-0.5	-0.6	-9.2
GEW-041R	6/7/2016 14:59	55.5	40.8	0.1	3.6	105.3		17	19	-0.2	-0.2	-7.6
GEW-041R	6/7/2016 15:05	55.8	40.9	0.3	3.0	105.4		23	22	-0.3	-0.3	-9.8
GEW-041R	6/14/2016 10:52	55.2	39.5	0.3	5.0	107.2		0	6	-0.4	-0.4	-8.3
GEW-041R	6/20/2016 8:49	55.1	40.0	0.6	4.3	106.5		0	14	-0.4	-0.3	-8.3
GEW-041R	6/27/2016 13:38	55.2	39.3	0.3	5.2	108.0		10	13	-0.3	-0.3	-9.7
GEW-042R	6/1/2016 8:45	55.4	40.5	0.0	4.1	114.8		11	20	-3.4	-3.4	-3.1
GEW-042R	6/1/2016 8:48	55.4	40.8	0.0	3.8	112.1		23	23	-1.4	-1.4	-3.1
GEW-042R	6/7/2016 15:11	56.7	41.6	0.0	1.7	111.6		27	28	-1.3	-1.4	-3.5
GEW-042R	6/7/2016 15:19	55.9	42.7	0.0	1.4	111.3		11	16	-1.1	-1.1	-3.7
GEW-042R	6/14/2016 10:54	56.3	40.1	0.0	3.6	113.8		0	0	-1.1	-1.0	-3.2
GEW-042R	6/20/2016 8:52	56.2	40.7	0.0	3.1	113.2		19	0	-1.1	-1.1	-3.6
GEW-042R	6/27/2016 13:41	56.0	40.5	0.0	3.5	114.3		22	15	-1.0	-1.0	-3.5
GEW-043R	6/1/2016 8:52	55.3	40.7	0.0	4.0	123.5		12	16	-1.0	-1.0	-11.1
GEW-043R	6/1/2016 8:54	54.9	40.6	0.1	4.4	122.6		10	8	-0.9	-0.9	-11.5
GEW-043R	6/7/2016 15:23	55.9	42.2	0.0	1.9	121.0		3	3	0.1	0.1	-12.5
GEW-043R	6/7/2016 15:29	55.4	43.0	0.0	1.6	122.3		19	11	-0.1	-0.1	-12.5
GEW-043R	6/14/2016 10:58	55.1	41.3	0.1	3.5	122.9		5	11	-0.3	-0.3	-12.0
GEW-043R	6/20/2016 8:55	54.8	40.9	0.2	4.1	123.4		17	14	-0.4	-0.4	-12.6
GEW-043R	6/27/2016 13:45	54.8	41.7	0.1	3.4	124.5		10	6	0.0	0.0	-12.4
GEW-044	6/1/2016 8:58	54.3	39.7	0.0	6.0	90.1		30	33	-2.1	-2.2	-6.4
GEW-044	6/1/2016 9:00	54.3	39.7	0.0	6.0	88.9		18	19	-1.6	-1.6	-5.4
GEW-044	6/7/2016 15:34	55.3	41.1	0.0	3.6	92.8		12	9	-0.4	-0.4	-5.2
GEW-044	6/7/2016 15:41	55.4	40.7	0.0	3.9	92.9		43	43	-0.5	-0.5	-4.9
GEW-044	6/14/2016 11:01	56.1	39.8	0.0	4.1	94.3		0	0	-0.6	-0.6	-6.0
GEW-044	6/20/2016 8:58	55.8	39.8	0.0	4.4	94.5		0	0	-0.9	-0.9	-5.8
GEW-044	6/27/2016 13:49	56.0	40.3	0.1	3.6	97.2		6	8	-0.5	-0.4	-5.7
GEW-045R	6/1/2016 9:04	56.4	41.3	0.0	2.3	91.2		6	8	-1.4	-1.4	-11.4
GEW-045R	6/1/2016 9:06	56.3	41.1	0.0	2.6	91.0		6	5	-1.0	-0.9	-11.6
GEW-045R	6/7/2016 15:45	55.3	42.2	0.0	2.5	96.7		8	6	-0.1	-0.1	-12.5
GEW-045R	6/7/2016 15:51	55.7	42.3	0.0	2.0	100.2		12	11	-0.3	-0.3	-12.5
GEW-045R	6/14/2016 11:05	55.5	40.8	0.0	3.7	97.4		0	0	-0.3	-0.3	-12.4
GEW-045R	6/20/2016 9:03	54.7	41.5	0.3	3.5	99.7		11	10	-0.7	-0.7	-12.6
GEW-045R	6/27/2016 14:02	54.9	41.4	0.2	3.5	105.2		11	10	-0.7	-0.7	-13.2
GEW-046R	6/1/2016 9:10	48.5	38.9	0.0	12.6	91.8		35	36	-1.3	-1.3	-11.7
GEW-046R	6/1/2016 9:12	48.8	38.6	0.0	12.6	90.1		0	0	-1.0	-1.0	-11.3
GEW-046R	6/7/2016 16:31	54.5	42.1	0.0	3.4	96.0		0	0	0.2	0.2	-12.4

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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-046R	6/7/2016 16:39	54.1	41.5	0.0	4.4	102.2		33	32	-0.1	-0.1	-12.8
GEW-046R	6/14/2016 11:08	52.7	40.1	0.0	7.2	101.3		21	22	-0.3	-0.3	-12.3
GEW-046R	6/20/2016 9:06	52.0	39.5	0.0	8.5	101.1		19	19	-0.4	-0.4	-13.0
GEW-046R	6/27/2016 14:07	51.3	39.7	0.2	8.8	101.8		12	14	-0.3	-0.3	-13.0
GEW-047R	6/1/2016 9:46	36.4	33.8	0.0	29.8	110.2		37	38	-1.1	-1.1	-12.1
GEW-047R	6/1/2016 9:48	36.9	34.2	0.0	28.9	106.0		32	32	-0.9	-0.9	-11.9
GEW-047R	6/8/2016 9:34	52.3	42.1	0.0	5.6	106.0		0	0	0.1	0.1	-13.1
GEW-047R	6/8/2016 9:43	51.8	42.0	0.0	6.2	112.0		13	17	0.0	0.0	-12.8
GEW-047R	6/14/2016 11:37	50.8	40.2	0.0	9.0	117.5		0	0	0.1	0.1	-12.0
GEW-047R	6/14/2016 11:39	50.7	39.5	0.0	9.8	118.1		22	16	-0.1	0.0	-11.8
GEW-047R	6/20/2016 9:57	48.7	39.5	0.1	11.7	116.5		12	8	0.0	0.0	-12.7
GEW-047R	6/27/2016 15:06	50.5	40.0	0.3	9.2	117.3		12	12	0.0	0.0	-13.2
GEW-047R	6/27/2016 15:07	50.8	39.3	0.3	9.6	117.7		17	16	0.0	0.0	-13.3
GEW-048	6/1/2016 9:58	50.8	38.4	0.0	10.8	104.7		10	15	-1.2	-1.2	-11.3
GEW-048	6/1/2016 10:00	51.5	38.1	0.0	10.4	103.5		10	10	-0.9	-0.9	-12.6
GEW-048	6/8/2016 10:29	54.0	40.2	0.0	5.8	107.0		9	14	0.0	0.0	-9.4
GEW-048	6/8/2016 10:35	54.1	39.9	0.0	6.0	107.0		0	0	0.0	0.0	-10.4
GEW-048	6/14/2016 11:46	56.6	39.8	0.0	3.6	106.7		5	8	0.1	0.1	-9.7
GEW-048	6/14/2016 11:48	56.8	39.8	0.0	3.4	106.9		21	26	0.0	0.0	-7.9
GEW-048	6/20/2016 10:03	54.6	37.7	0.0	7.7	106.2		32	32	0.0	0.0	-10.8
GEW-048	6/27/2016 15:16	55.6	40.0	0.3	4.1	107.5		15	16	0.0	0.0	-8.7
GEW-049	6/1/2016 10:50	39.6	33.3	0.4	26.7	108.6		12	14	-1.0	-1.0	-5.5
GEW-049	6/1/2016 10:53	40.0	32.7	0.4	26.9	107.7		13	10	-0.9	-0.9	-5.8
GEW-049	6/8/2016 11:02	49.8	39.5	0.0	10.7	115.0		7	4	-0.2	-0.2	-5.6
GEW-049	6/8/2016 11:09	49.9	39.3	0.0	10.8	114.0		0	7	-0.2	-0.2	-5.4
GEW-049	6/14/2016 12:04	54.1	39.1	0.0	6.8	114.0		12	8	0.0	0.0	-4.8
GEW-049	6/20/2016 10:10	50.4	37.1	0.0	12.5	111.5		10	14	-0.1	-0.1	-5.4
GEW-049	6/27/2016 16:51	51.6	38.8	0.2	9.4	113.5		13	6	-0.1	-0.1	-4.9
GEW-050	6/1/2016 10:12	48.6	36.9	0.0	14.5	108.2		23	20	-1.2	-1.2	-8.8
GEW-050	6/1/2016 10:13	48.5	37.1	0.0	14.4	107.0		0	3	-0.8	-0.8	-7.3
GEW-050	6/8/2016 10:44	54.4	40.6	0.0	5.0	110.0		6	0	-0.1	0.0	-8.6
GEW-050	6/14/2016 11:56	57.0	39.1	0.0	3.9	109.2		0	0	0.2	0.2	-6.2
GEW-050	6/14/2016 11:58	57.1	39.9	0.0	3.0	110.0		31	34	0.0	0.0	-7.9
GEW-050	6/20/2016 8:30	55.4	40.1	0.0	4.5	108.6		14	14	-0.3	-0.3	-6.9
GEW-050	6/27/2016 16:40	55.7	39.7	0.2	4.4	110.3		19	15	-0.2	-0.2	-9.1
GEW-051	6/1/2016 10:58	55.6	41.4	0.0	3.0	126.9		24	28	-1.7	-1.7	-11.6
GEW-051	6/1/2016 11:01	56.3	40.7	0.0	3.0	123.1		0	0	-1.0	-1.0	-12.7
GEW-051	6/8/2016 11:13	54.0	41.5	0.0	4.5	127.0		12	12	0.1	0.1	-12.0
GEW-051	6/8/2016 11:16	53.6	42.0	0.0	4.4	130.0		6	10	0.0	0.0	-12.6
GEW-051	6/8/2016 11:18	54.0	42.3	0.0	3.7	130.0		0	8	0.0	0.0	-13.1
GEW-051	6/14/2016 12:07	56.0	40.6	0.0	3.4	129.4		0	0	0.2	0.2	-11.7
GEW-051	6/14/2016 12:09	56.3	41.1	0.0	2.6	130.6		0	0	0.1	0.1	-11.7
GEW-051	6/14/2016 12:10	55.9	41.2	0.0	2.9	131.4		0	0	-0.1	0.0	-11.3

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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-051	6/20/2016 10:23	54.7	40.6	0.0	4.7	127.8		0	0	-0.2	-0.2	-12.0
GEW-051	6/27/2016 16:58	54.0	41.7	0.2	4.1	129.7		6	12	-0.1	-0.1	-12.2
GEW-052	6/1/2016 10:16	51.3	37.3	0.0	11.4	113.5		0	0	-0.7	-0.7	-12.8
GEW-052	6/1/2016 10:18	51.3	37.3	0.0	11.4	113.5		0	0	-0.6	-0.6	-12.9
GEW-052	6/8/2016 10:50	50.7	39.9	0.0	9.4	117.0		16	12	-0.3	-0.3	-12.9
GEW-052	6/14/2016 12:01	54.3	39.4	0.0	6.3	116.8		0	0	-0.1	-0.2	-11.5
GEW-052	6/20/2016 8:34	53.0	38.5	0.0	8.5	114.2		34	33	-0.3	-0.3	-12.7
GEW-052	6/27/2016 16:42	53.0	39.3	0.2	7.5	116.8		3	0	-0.2	-0.2	-12.8
GEW-053	6/1/2016 11:05	52.9	40.2	0.0	6.9	140.6		23	19	-1.7	-1.7	-12.4
GEW-053	6/1/2016 11:07	52.0	41.4	0.0	6.6	136.1		10	9	-1.0	-0.9	-12.8
GEW-053	6/8/2016 11:23	49.1	43.4	0.0	7.5	142.0		8	12	0.0	0.0	-12.9
GEW-053	6/8/2016 11:32	49.7	42.8	0.0	7.5	143.0		14	14	0.0	0.0	-12.6
GEW-053	6/15/2016 8:11	51.0	42.3	0.0	6.7	140.6		9	9	-0.5	-0.4	-12.4
GEW-053	6/15/2016 8:13	51.3	41.9	0.0	6.8	140.0		0	3	-0.5	-0.5	-12.4
GEW-053	6/20/2016 10:25	51.3	39.2	0.0	9.5	139.2		14	12	-0.1	-0.1	-12.4
GEW-053	6/20/2016 10:26	50.4	41.9	0.0	7.7	139.5		14	12	-0.1	-0.1	-12.3
GEW-053	6/27/2016 17:20	48.2	44.3	0.3	7.2	140.9		11	14	0.0	0.0	-12.6
GEW-053	6/27/2016 17:21	48.1	44.2	0.3	7.4	140.9		12	10	0.0	0.0	-12.9
GEW-054	6/1/2016 11:11	51.4	42.3	0.0	6.3	151.8		39	37	-1.4	-1.4	-10.0
GEW-054	6/1/2016 11:13	51.1	42.6	0.0	6.3	151.3		0	0	-0.5	-0.5	-11.9
GEW-054	6/3/2016 15:06	55.1	41.2	0.1	3.6	152.1		24	24	0.4	0.4	-12.0
GEW-054	6/3/2016 15:10	54.3	41.4	0.1	4.2	152.5		39	36	-0.9	-0.8	-10.7
GEW-054	6/8/2016 11:52	50.7	42.4	0.0	6.9	153.0		38	44	-2.0	-2.0	-9.1
GEW-054	6/8/2016 11:59	50.4	42.8	0.0	6.8	154.0		31	42	-2.1	-2.1	-8.8
GEW-054	6/10/2016 9:20	51.2	42.4	0.0	6.4	149.3		39	38	-2.3	-2.3	-10.0
GEW-054	6/10/2016 9:21	51.4	42.5	0.0	6.1	149.5		46	49	-3.0	-3.0	-7.2
GEW-054	6/15/2016 8:19	53.9	40.6	0.0	5.5	148.0		48	45	-3.4	-3.4	-7.8
GEW-054	6/15/2016 8:21	52.2	42.0	0.0	5.8	148.0		38	31	-2.9	-2.9	-8.3
GEW-054	6/20/2016 8:43	52.2	41.4	0.0	6.4	148.8		36	52	-2.3	-2.3	-9.1
GEW-054	6/20/2016 8:44	51.4	42.6	0.0	6.0	148.8		40	42	-2.3	-2.4	-7.5
GEW-054	6/24/2016 9:09	53.8	42.3	0.0	3.9	146.3		44	43	-3.1	-3.2	-8.6
GEW-054	6/24/2016 9:10	53.3	41.6	0.0	5.1	146.3		48	35	-3.1	-3.1	-8.0
GEW-054	6/27/2016 17:28	53.1	40.9	0.2	5.8	147.3		39	42	-2.7	-2.7	-9.7
GEW-054	6/27/2016 17:29	52.1	42.6	0.2	5.1	147.3		39	42	-2.8	-2.7	-8.5
GEW-055	6/1/2016 11:17	54.3	41.6	0.0	4.1	126.9		17	14	-1.4	-1.4	-12.6
GEW-055	6/1/2016 11:19	54.3	41.8	0.0	3.9	125.3		0	0	-1.0	-1.0	-12.8
GEW-055	6/8/2016 12:05	52.4	43.5	0.0	4.1	130.0		16	19	-0.2	-0.3	-12.1
GEW-055	6/8/2016 12:12	52.2	42.9	0.0	4.9	130.0		32	34	-0.2	-0.2	-11.7
GEW-055	6/15/2016 8:24	53.1	41.3	0.0	5.6	127.8		0	0	-0.6	-0.6	-11.8
GEW-055	6/20/2016 10:32	53.0	42.2	0.1	4.7	127.6		10	10	-0.2	-0.2	-11.6
GEW-055	6/27/2016 17:33	52.6	43.2	0.3	3.9	128.7		0	0	-0.2	-0.2	-12.3
GEW-056R	6/6/2016 13:30	17.3	47.5	0.0	35.2	155.4				-3.3	-3.3	-12.1
GEW-056R	6/6/2016 13:36	16.1	45.9	0.0	38.0	155.5				-3.4	-3.4	-12.2

June 2016 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-056R	6/13/2016 10:16	12.3	42.6	0.4	44.7	151.0				-12.9	-14.2	-13.4
GEW-056R	6/13/2016 10:17	12.8	42.2	0.4	44.6	151.0				-13.9	-14.9	-14.4
GEW-056R	6/20/2016 9:17	13.1	36.6	0.6	49.7	149.3		28	26	-15.1	-15.1	-16.5
GEW-056R	6/20/2016 9:18	12.7	38.6	0.6	48.1	149.3		29	25	-15.7	-14.3	-16.8
GEW-056R	6/28/2016 9:21	1.4	54.9	0.0	43.7	93.5		10	10	0.5	-1.1	-17.6
GEW-056R	6/28/2016 9:22	0.7	56.1	0.0	43.2	96.4		11	24	-1.2	-1.5	-17.0
GEW-057B	6/7/2016 13:11	1.4	55.7	0.0	42.9	145.2				-11.9	-11.9	-11.7
GEW-057B	6/7/2016 13:14	1.4	55.3	0.0	43.3	144.9				-11.5	-11.2	-11.4
GEW-057R	6/6/2016 15:09	24.9	44.8	0.9	29.4	131.2				-9.8	-9.8	-12.0
GEW-057R	6/6/2016 15:11	24.6	45.4	0.9	29.1	131.1				-10.2	-10.8	-11.7
GEW-058	6/3/2016 10:50	5.1	35.3	7.6	52.0	146.3				-16.5	-16.9	-16.4
GEW-058	6/3/2016 10:54	4.9	35.7	7.8	51.6	148.0				-16.4	-16.4	-16.5
GEW-058A	6/8/2016 11:04	1.2	41.3	4.2	53.3	99.8				-4.6	-4.3	-4.0
GEW-059R	6/6/2016 15:15	2.0	52.7	0.1	45.2	192.9				1.5	1.5	1.7
GEW-059R	6/6/2016 15:17	2.0	52.3	0.0	45.7	192.9				1.7	1.6	2.0
GEW-059R	6/23/2016 9:58	3.7	52.7	0.4	43.2	186.3		16	16	-15.0	-15.0	-15.9
GEW-059R	6/23/2016 9:59	3.5	53.7	0.4	42.4	186.4		16	16	-15.1	-15.1	-15.4
GEW-065A	6/6/2016 14:58	3.5	18.3	13.9	64.3	97.4				-8.8	-8.5	-8.6
GEW-065A	6/6/2016 15:03	4.0	21.4	12.8	61.8	98.4				-9.1	-9.1	-8.9
GEW-067A	6/8/2016 10:57	4.5	57.1	0.0	38.4	193.7		6	7	-13.2	-15.7	-15.3
GEW-067A	6/8/2016 10:58	3.7	57.5	0.0	38.8	193.1		14	13	-14.4	-14.4	-15.0
GEW-077	6/3/2016 10:33	0.6	59.2	0.4	39.8	120.7		264	264	-14.0	-14.0	-14.0
GEW-078R	6/3/2016 11:44	8.5	50.9	0.4	40.2	190.2				-13.9	-14.1	-13.7
GEW-078R	6/3/2016 11:45	9.1	52.1	0.4	38.4	190.2				-13.5	-13.5	-13.5
GEW-080	6/3/2016 10:38	1.9	17.7	14.3	66.1	81.4				-13.8	-13.7	-13.5
GEW-080	6/3/2016 10:42	2.7	23.2	11.5	62.6	82.3				-18.6	-18.5	-14.0
GEW-081	6/3/2016 11:03	0.5	59.6	0.1	39.8	87.6				46.8	46.8	47.3
GEW-081	6/3/2016 11:03	0.5	61.6	0.0	37.9	85.1				48.6	48.6	49.0
GEW-082R	6/3/2016 11:08	1.9	52.1	1.2	44.8	191.6				-13.2	-13.3	-13.5
GEW-082R	6/3/2016 11:12	2.1	50.9	1.1	45.9	191.6				-11.7	-13.3	-12.1
GEW-086	6/8/2016 10:45	10.8	49.1	0.0	40.1	96.2		4	2	-0.1	-0.1	-15.2
GEW-089	6/8/2016 10:50	5.0	24.3	14.8	55.9	98.9		4	2	-2.2	-2.2	-15.7
GEW-089	6/8/2016 10:51	5.5	19.8	15.3	59.4	99.2		0	3	-2.1	-2.1	-14.9
GEW-090	6/7/2016 12:59	6.0	50.1	0.0	43.9	187.6				-3.9	-3.9	-16.4
GEW-090	6/7/2016 13:03	5.7	51.5	0.0	42.8	189.6				-15.9	-15.9	-15.5
GEW-102	6/7/2016 13:47	2.4	56.0	0.0	41.6	192.3				-14.4	-14.2	-14.8
GEW-102	6/7/2016 13:49	2.4	57.0	0.0	40.6	192.3				-15.1	-15.2	-14.8
GEW-104	6/7/2016 14:02	0.7	56.6	0.0	42.7	102.2				5.0	5.4	5.0
GEW-104	6/7/2016 14:03	0.6	59.6	0.0	39.8	104.5				7.1	7.1	7.1
GEW-105	6/8/2016 11:09	5.1	37.3	10.2	47.4	178.7				-15.1	-15.0	-15.2
GEW-105	6/8/2016 11:10	5.5	34.6	10.3	49.6	178.7				-15.4	-15.0	-15.1
GEW-107	6/8/2016 11:18	0.5	10.8	20.6	68.1	91.1		5	4	-16.2	-16.3	-16.0
GEW-107	6/8/2016 11:19	0.1	2.1	21.8	76.0	92.3		6	7	-15.9	-16.2	-15.7

June 2016 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-108	6/8/2016 11:22	2.5	5.5	18.9	73.1	89.7		8	4	-16.2	-15.9	-15.7
GEW-108	6/8/2016 11:24	5.1	18.3	14.6	62.0	92.8		5	7	-16.3	-15.6	-16.2
GEW-109	6/6/2016 11:18	11.9	56.1	0.1	31.9	95.4		3	5	-0.7	-0.7	-17.8
GEW-109	6/6/2016 11:27	12.7	55.0	0.2	32.1	96.9		2	5	-0.6	-0.6	-18.1
GEW-109	6/13/2016 11:06	11.6	61.0	0.1	27.3	110.8		7	5	-0.1	-0.1	-16.2
GEW-109	6/20/2016 9:04	8.8	61.0	0.2	30.0	95.0		2	2	-0.1	-0.2	-17.3
GEW-109	6/28/2016 9:05	10.3	52.3	0.0	37.4	111.8		5	6	-7.9	-7.8	-17.5
GEW-110	6/6/2016 13:21	16.9	36.5	2.1	44.5	106.0		9	8	-0.1	-0.1	-15.9
GEW-110	6/6/2016 13:26	16.2	36.0	2.6	45.2	107.6		7	7	-0.1	-0.1	-17.3
GEW-110	6/13/2016 9:52	12.5	50.3	0.9	36.3	111.7		8	14	-0.1	-0.1	-15.9
GEW-110	6/20/2016 9:13	10.6	30.2	5.9	53.3	107.0		6	9	-0.1	-0.1	-17.3
GEW-110	6/20/2016 9:14	10.3	29.6	5.9	54.2	107.0		7	9	-0.1	-0.1	-17.4
GEW-110	6/28/2016 9:15	14.2	53.3	0.0	32.5	94.4		1	7	0.0	0.0	-17.6
GEW-110	6/28/2016 9:16	11.0	49.9	0.0	39.1	106.3		8	8	0.0	-0.1	-17.8
GEW-112	6/9/2016 10:09	2.1	47.4	4.2	46.3	93.6				-10.2	-10.2	-11.1
GEW-113	6/9/2016 10:02	7.3	50.7	2.8	39.2	171.6				-10.5	-10.5	-14.1
GEW-113	6/9/2016 10:03	7.4	50.6	2.7	39.3	171.6				-10.5	-10.5	-14.4
GEW-116	6/9/2016 9:18	0.0	1.3	21.3	77.4	87.9		2	4	14.6	14.9	-13.9
GEW-116	6/9/2016 9:24	3.1	56.3	3.1	37.5	90.8		6	5	-5.0	-4.7	-13.4
GEW-117	6/9/2016 9:53	5.1	62.3	0.7	31.9	95.3				-13.2	-13.2	-13.1
GEW-117	6/9/2016 9:55	5.1	62.9	0.5	31.5	95.1				-13.2	-12.9	-13.4
GEW-118	6/9/2016 9:04	1.5	60.1	0.1	38.3	200.1				-10.0	-9.2	-13.3
GEW-118	6/9/2016 9:09	1.5	59.9	0.0	38.6	200.1				-10.2	-10.6	-12.8
GEW-120	6/2/2016 11:38	17.2	53.1	2.4	27.3	130.5				-14.0	-13.7	-14.1
GEW-120	6/2/2016 11:39	16.8	53.0	2.6	27.6	130.8				-14.0	-13.7	-14.1
GEW-120	6/21/2016 8:54	18.2	55.0	0.1	26.7	146.3				-15.6	-15.4	-15.6
GEW-120	6/21/2016 8:54	17.8	55.6	0.1	26.5	146.5				-15.4	-15.5	-15.6
GEW-121	6/2/2016 11:45	4.8	58.6	0.1	36.5	184.5				-11.7	-11.9	-12.5
GEW-121	6/2/2016 11:51	4.9	60.7	0.1	34.3	184.6				-12.6	-11.7	-13.3
GEW-121	6/21/2016 8:57	8.1	51.1	0.1	40.7	180.3		2	28	-11.8	-11.4	-11.7
GEW-121	6/21/2016 8:58	7.7	56.9	0.1	35.3	180.3		12	26	-13.3	-13.5	-13.2
GEW-122	6/2/2016 12:35	8.1	17.2	14.8	59.9	162.3				-13.3	-13.4	-15.2
GEW-122	6/2/2016 12:40	13.2	29.4	9.7	47.7	160.5				-7.9	-7.9	-15.0
GEW-122	6/21/2016 10:56	17.9	50.7	0.3	31.1	180.4				-7.9	-8.0	-15.6
GEW-122	6/21/2016 10:57	18.5	52.5	0.3	28.7	180.3				-8.0	-8.1	-16.1
GEW-123	6/2/2016 12:00	5.8	62.4	0.3	31.5	187.9				-13.6	-13.7	-13.6
GEW-123	6/2/2016 12:03	5.5	61.5	0.3	32.7	187.9				-13.6	-13.6	-13.6
GEW-123	6/21/2016 9:03	6.4	61.2	0.1	32.3	187.0		13	3	-15.8	-15.6	-15.9
GEW-123	6/21/2016 9:04	6.0	61.5	0.1	32.4	187.0		5	16	-15.8	-15.8	-15.7
GEW-124	6/2/2016 13:08	9.1	33.8	10.4	46.7	98.9				-9.9	-10.3	-13.1
GEW-124	6/2/2016 13:11	11.8	45.9	6.3	36.0	98.9				-4.0	-3.9	-12.7
GEW-124	6/21/2016 9:11	7.6	56.5	2.1	33.8	80.2		5	5	-15.8	-15.8	-16.0
GEW-125	6/2/2016 13:15	1.3	61.9	0.4	36.4	196.0				10.7	10.7	-14.4

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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-125	6/2/2016 13:19	1.4	47.7	4.6	46.3	196.0				-3.5	-3.2	-13.7
GEW-125	6/21/2016 9:24	1.6	70.4	1.3	26.7	188.9		28	13	-13.3	-13.4	-15.5
GEW-125	6/21/2016 9:25	1.1	58.2	0.4	40.3	188.9		22	8	-13.5	-13.4	-15.2
GEW-126	6/2/2016 14:47	7.0	24.7	13.2	55.1	185.2				-10.3	-10.4	-12.0
GEW-126	6/2/2016 14:52	8.4	29.0	11.3	51.3	184.6				-8.9	-8.9	-12.6
GEW-126	6/21/2016 9:44	7.5	54.2	2.5	35.8	80.3		10	7	-14.4	-14.4	-14.2
GEW-127	6/2/2016 15:05	2.4	58.7	2.6	36.3	185.7				-11.4	-11.3	-11.9
GEW-127	6/2/2016 15:08	2.2	54.1	2.8	40.9	185.2				-12.3	-11.7	-13.3
GEW-127	6/21/2016 9:52	1.7	65.0	0.4	32.9	188.9		32	32	-14.7	-14.7	-15.5
GEW-127	6/21/2016 9:52	1.4	66.7	0.4	31.5	189.0		29	30	-15.1	-14.7	-15.7
GEW-128	6/2/2016 15:19	8.9	53.2	3.0	34.9	173.1				-13.2	-13.2	-13.2
GEW-128	6/2/2016 15:20	10.1	47.7	2.9	39.3	173.0				-12.8	-13.3	-13.0
GEW-128	6/21/2016 10:04	7.2	57.7	0.0	35.1	174.8				-14.8	-14.7	-14.1
GEW-128	6/21/2016 10:05	7.0	60.8	0.0	32.2	174.7				-15.1	-14.6	-14.6
GEW-129	6/2/2016 15:24	22.0	54.8	4.9	18.3	104.7				-10.8	-11.2	-13.4
GEW-129	6/21/2016 10:09	1.4	41.6	12.1	44.9	82.1		7	9	-16.6	-16.6	-14.8
GEW-129	6/21/2016 10:10	1.4	41.6	11.8	45.2	81.7		5	5	-17.6	-17.6	-15.4
GEW-130	6/2/2016 15:00	3.7	41.1	2.9	52.3	179.2		81	82	-4.1	-4.0	-13.7
GEW-130	6/2/2016 15:01	5.2	51.2	2.7	40.9	179.2		82	75	-4.0	-4.0	-13.1
GEW-130	6/21/2016 10:00	3.6	45.9	7.1	43.4	172.7		72	87	-5.1	-5.0	-15.0
GEW-130	6/21/2016 10:01	3.5	45.7	7.2	43.6	172.6		79	75	-4.9	-4.9	-15.5
GEW-131	6/2/2016 14:42	0.8	56.7	0.5	42.0	183.5				4.5	4.5	5.2
GEW-131	6/2/2016 14:43	0.6	56.4	0.4	42.6	184.1				4.5	4.5	5.2
GEW-131	6/21/2016 10:04	0.7	59.1	0.3	39.9	187.7				1.3	1.4	1.1
GEW-131	6/21/2016 10:04	0.6	58.2	0.4	40.8	187.6				1.5	1.5	1.6
GEW-132	6/2/2016 12:23	7.7	35.7	8.5	48.1	166.9				-7.0	-7.0	-14.4
GEW-132	6/2/2016 12:29	8.5	41.8	6.6	43.1	166.4				-4.5	-4.5	-14.0
GEW-132	6/21/2016 10:59	12.5	46.0	2.9	38.6	165.7				-6.0	-5.9	-14.3
GEW-132	6/21/2016 11:00	11.8	49.4	2.9	35.9	165.7				-5.9	-5.9	-14.3
GEW-133	6/2/2016 15:35	0.2	14.5	17.1	68.2	98.1		2	3	-12.6	-12.7	-13.7
GEW-133	6/2/2016 15:37	0.2	13.5	17.1	69.2	97.9		3	1	-12.4	-12.4	-13.9
GEW-133	6/21/2016 11:04	0.2	14.7	18.9	66.2	79.6		2	3	-15.4	-15.3	-15.1
GEW-133	6/21/2016 11:06	0.1	8.9	19.7	71.3	80.3		5	9	-15.3	-15.1	-15.5
GEW-134	6/2/2016 15:27	9.5	33.5	7.8	49.2	139.3				-12.7	-12.6	-12.7
GEW-134	6/2/2016 15:32	9.4	28.4	7.6	54.6	139.3				-13.2	-13.2	-13.0
GEW-134	6/21/2016 11:08	5.7	16.0	13.9	64.4	138.3				-12.7	-12.9	-14.6
GEW-134	6/21/2016 11:09	5.7	17.6	13.7	63.0	139.8				-11.1	-11.2	-14.9
GEW-135	6/2/2016 15:23	5.3	39.4	6.5	48.8	176.4				-2.8	-2.9	-5.6
GEW-135	6/2/2016 15:24	5.6	40.8	6.4	47.2	176.4				-2.9	-2.8	-8.9
GEW-135	6/21/2016 11:12	5.4	37.4	7.0	50.2	171.6				-4.4	-4.3	-10.6
GEW-135	6/21/2016 11:12	5.0	40.4	6.8	47.8	171.6				-3.6	-3.8	-13.9
GEW-136	6/2/2016 15:19	7.6	32.7	7.2	52.5	122.9				-10.2	-10.6	-10.2
GEW-136	6/2/2016 15:20	7.5	33.4	7.1	52.0	123.9				-9.7	-10.2	-9.4

June 2016 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-136	6/21/2016 11:15	5.7	31.6	10.1	52.6	126.9				-9.8	-9.0	-10.2
GEW-136	6/21/2016 11:16	5.6	31.0	10.1	53.3	126.7				-6.5	-6.4	-6.6
GEW-137	6/2/2016 15:16	12.9	31.3	0.4	55.4	107.5				-8.7	-9.2	-8.6
GEW-137	6/21/2016 11:12	0.2	1.6	22.3	75.9	81.9		13	15	-8.2	-12.2	-7.7
GEW-137	6/21/2016 11:13	0.2	0.6	22.4	76.8	82.5		20	19	-11.5	-11.8	-11.5
GEW-138	6/2/2016 15:08	4.4	33.7	3.8	58.1	135.2				-4.8	-5.3	-7.1
GEW-138	6/2/2016 15:09	4.4	27.9	3.8	63.9	135.3				-5.3	-5.3	-8.0
GEW-138	6/21/2016 11:24	5.4	28.6	5.8	60.2	149.4		44	28	-8.1	-4.0	-13.1
GEW-138	6/21/2016 11:25	6.5	33.4	5.4	54.7	150.5		28	34	-4.3	-4.7	-10.0
GEW-139	6/2/2016 15:04	3.9	51.6	2.4	42.1	180.3				-8.2	-8.2	-11.9
GEW-139	6/2/2016 15:04	3.8	53.7	2.4	40.1	180.3				-8.2	-8.2	-12.0
GEW-139	6/2/2016 15:29	8.1	49.4	4.4	38.1	180.8				-7.5	-7.4	-12.5
GEW-139	6/2/2016 15:31	9.3	49.4	4.4	36.9	180.8				-7.4	-7.4	-12.0
GEW-139	6/21/2016 9:57	2.4	43.0	8.2	46.4	177.7		46	51	-10.8	-8.5	-13.5
GEW-139	6/21/2016 9:58	2.3	42.3	8.1	47.3	177.8		49	47	-9.8	-9.8	-16.0
GEW-140	6/2/2016 14:44	8.0	45.1	4.4	42.5	171.6				-9.4	-9.3	-11.5
GEW-140	6/2/2016 14:45	8.6	47.9	4.2	39.3	171.6				-9.4	-9.6	-11.9
GEW-140	6/21/2016 9:20	8.2	48.0	5.0	38.8	176.2				-10.8	-10.5	-13.5
GEW-140	6/21/2016 9:21	7.9	48.9	5.0	38.2	176.0				-10.7	-10.8	-13.4
GEW-141	6/3/2016 10:10	0.3	57.5	0.3	41.9	143.5				-14.6	-14.5	-14.4
GEW-141	6/3/2016 10:13	0.4	59.5	0.2	39.9	145.6				-14.6	-14.6	-14.5
GEW-141	6/21/2016 9:35	0.2	45.2	0.5	54.1	152.1		6	6	-14.6	-14.2	-14.1
GEW-141	6/21/2016 9:36	0.2	60.4	0.3	39.1	151.3		6	5	-15.1	-15.0	-15.0
GEW-142	6/2/2016 14:31	0.2	35.8	10.8	53.2	95.5				-12.7	-12.7	-12.5
GEW-142	6/2/2016 14:32	0.2	37.7	8.2	53.9	97.9		9	8	-12.9	-13.1	-12.6
GEW-142	6/21/2016 9:31	0.1	35.4	12.4	52.1	84.4		10	13	-14.6	-14.6	-14.3
GEW-142	6/21/2016 9:32	0.3	38.1	10.9	50.7	85.9		10	9	-14.7	-14.7	-14.2
GEW-143	6/2/2016 14:28	0.6	42.6	5.9	50.9	101.2		2	3	-12.7	-12.7	-12.6
GEW-143	6/2/2016 14:29	0.3	45.3	4.9	49.5	104.0		7	7	-12.8	-12.7	-12.6
GEW-143	6/21/2016 9:45	0.1	37.2	10.0	52.7	80.6		11	12	-15.3	-15.2	-14.9
GEW-143	6/21/2016 9:46	0.1	40.0	8.8	51.1	80.6		10	11	-14.9	-14.9	-14.8
GEW-144	6/2/2016 14:25	1.1	46.6	2.8	49.5	94.4		6	8	-11.8	-12.6	-11.9
GEW-144	6/21/2016 9:49	0.5	49.3	4.6	45.6	80.8		32	47	-13.9	-12.5	-14.6
GEW-144	6/21/2016 9:50	0.5	49.0	4.9	45.6	81.0		39	39	-13.3	-13.5	-14.7
GEW-145	6/2/2016 14:20	4.4	45.0	0.3	50.3	165.9				-14.4	-14.3	-14.2
GEW-145	6/2/2016 14:21	1.9	56.4	0.3	41.4	166.1				-14.2	-14.6	-14.2
GEW-145	6/21/2016 8:55	3.1	16.0	16.9	64.0	79.7		7	6	-17.3	-17.3	-17.0
GEW-145	6/21/2016 8:56	2.7	11.5	17.5	68.3	79.9		2	4	-17.8	-17.6	-17.5
GEW-146	6/2/2016 15:46	4.6	10.7	14.7	70.0	101.5				-4.9	-4.8	-15.7
GEW-146	6/2/2016 15:49	6.0	9.7	14.2	70.1	102.1				-3.9	-3.9	-15.7
GEW-146	6/21/2016 11:06	5.2	23.6	14.2	57.0	104.7		52	45	-3.9	-2.7	-17.3
GEW-146	6/21/2016 11:07	6.5	20.7	13.2	59.6	104.5		43	37	-2.9	-2.9	-17.1
GEW-147	6/2/2016 15:43	12.4	49.6	0.3	37.7	190.2				-15.1	-15.1	-14.9

June 2016 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-147	6/2/2016 15:44	11.4	53.5	0.2	34.9	190.2				-14.8	-14.9	-14.6
GEW-147	6/21/2016 11:18	13.2	39.6	1.5	45.7	185.7				-16.2	-16.0	-16.1
GEW-147	6/21/2016 11:19	13.0	51.9	1.6	33.5	185.7				-16.3	-16.0	-16.4
GEW-148	6/2/2016 13:29	10.7	42.4	2.7	44.2	99.0		11	7	-15.1	-15.1	-14.8
GEW-148	6/21/2016 10:59	15.5	53.2	2.0	29.3	82.7		5	5	-16.2	-15.6	-15.9
GEW-148	6/21/2016 11:01	15.9	53.8	1.8	28.5	82.6		5	2	-13.2	-13.2	-16.4
GEW-149	6/2/2016 13:23	10.2	40.2	5.7	43.9	136.8		15	15	-0.4	-0.4	-16.1
GEW-149	6/2/2016 13:24	10.2	41.8	5.7	42.3	137.1		15	16	-0.4	-0.4	-15.9
GEW-149	6/21/2016 10:31	6.7	41.4	7.9	44.0	166.9		15	16	-0.4	-0.4	-18.0
GEW-149	6/21/2016 10:33	7.4	44.4	7.8	40.4	167.2		15	15	-0.4	-0.4	-17.4
GEW-150	6/2/2016 14:01	14.9	44.4	3.5	37.2	146.7				-8.9	-8.9	-13.0
GEW-150	6/2/2016 14:02	14.6	48.2	3.4	33.8	150.3				-8.8	-9.0	-13.3
GEW-150	6/21/2016 8:32	12.8	52.2	3.6	31.4	146.6				-10.5	-10.2	-16.2
GEW-150	6/21/2016 8:33	14.8	50.0	3.6	31.6	150.1				-9.8	-10.1	-15.9
GEW-151	6/3/2016 10:22	12.8	44.5	3.2	39.5	156.9		7	13	-14.6	-14.4	-15.9
GEW-151	6/3/2016 10:25	13.0	43.1	3.2	40.7	157.1		14	13	-15.7	-16.0	-15.4
GEW-151	6/21/2016 10:53	13.1	41.7	3.6	41.6	125.1		11	10	-16.0	-15.2	-15.4
GEW-151	6/21/2016 10:54	13.2	42.6	3.5	40.7	125.1		17	19	-14.9	-14.9	-14.7
GEW-152	6/2/2016 13:52	12.3	45.7	0.3	41.7	176.9				-14.7	-14.8	-16.1
GEW-152	6/2/2016 13:53	10.3	50.2	0.2	39.3	176.9		10	11	-14.6	-14.7	-16.2
GEW-152	6/21/2016 8:21	13.0	51.1	0.0	35.9	182.8		15	15	-15.9	-16.0	-18.2
GEW-152	6/21/2016 8:22	12.0	53.5	0.0	34.5	182.9		12	15	-15.9	-15.9	-18.0
GEW-153	6/2/2016 13:47	23.1	46.3	0.2	30.4	155.6				-10.7	-10.8	-15.0
GEW-153	6/2/2016 13:48	23.5	46.4	0.1	30.0	155.6				-10.9	-10.7	-16.2
GEW-153	6/21/2016 8:17	26.5	45.6	0.0	27.9	146.7		15	16	-10.0	-9.9	-18.1
GEW-153	6/21/2016 8:18	26.9	45.0	0.0	28.1	146.8		11	15	-9.9	-9.8	-17.1
GEW-154	6/2/2016 13:18	2.3	51.7	1.4	44.6	184.5		6	5	-0.4	-0.4	-15.0
GEW-154	6/2/2016 13:19	1.8	51.3	2.2	44.7	186.4		6	5	-0.4	-0.4	-14.9
GEW-154	6/21/2016 10:27	0.1	25.2	19.9	54.8	78.5		5	7	-17.3	-16.9	-15.4
GEW-154	6/21/2016 10:28	0.1	9.9	20.7	69.3	79.1		8	4	-16.9	-16.9	-15.8
GEW-155	6/2/2016 15:12	3.7	23.0	8.5	64.8	126.7				-3.8	-3.8	-4.8
GEW-155	6/2/2016 15:13	3.8	21.3	8.7	66.2	127.8				-3.1	-3.0	-3.8
GEW-155	6/21/2016 11:19	3.4	25.0	8.0	63.6	122.8				-3.4	-3.7	-4.8
GEW-155	6/21/2016 11:21	3.1	23.0	8.1	65.8	122.3				-1.3	-1.0	-11.5
GEW-156	6/2/2016 14:15	7.4	22.4	10.9	59.3	121.5				-5.9	-5.8	-15.7
GEW-156	6/2/2016 14:16	7.9	19.8	10.9	61.4	121.8		36	37	-5.9	-5.8	-16.5
GEW-156	6/21/2016 8:49	4.0	22.8	14.0	59.2	124.8		32	22	-3.7	-2.9	-17.5
GEW-156	6/21/2016 8:51	4.0	19.8	14.1	62.1	124.6		26	27	-2.6	-2.6	-18.5
GEW-157	6/2/2016 14:10	3.1	51.2	0.3	45.4	163.2		11	11	-4.4	-4.6	-4.1
GEW-157	6/2/2016 14:11	1.0	55.7	0.3	43.0	164.3		5	16	-2.6	-4.8	-2.0
GEW-157	6/21/2016 8:27	0.4	55.6	0.8	43.2	81.0		3	5	-0.2	-0.9	-0.3
GEW-158	6/2/2016 13:57	0.6	24.6	13.8	61.0	91.4		3	5	-13.1	-13.0	-12.9
GEW-158	6/2/2016 13:58	0.2	21.9	13.7	64.2	91.0		4	2	-13.3	-13.4	-13.4

June 2016 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-158	6/21/2016 8:35	0.8	60.3	0.0	38.9	81.0		5	10	-9.1	-9.8	-8.8
GEW-159	6/2/2016 13:43	19.4	48.8	0.2	31.6	141.9		10	8	-9.7	-9.7	-9.5
GEW-159	6/2/2016 13:44	19.8	47.0	0.1	33.1	141.9		6	6	-9.7	-9.7	-9.5
GEW-159	6/21/2016 8:13	19.4	50.2	0.0	30.4	154.2		13	21	-11.5	-12.1	-11.8
GEW-159	6/21/2016 8:14	19.1	51.7	0.0	29.2	154.3		14	15	-11.8	-11.8	-11.8
GEW-160	6/2/2016 13:37	3.7	53.3	0.2	42.8	170.5		5	13	-9.3	-9.3	-9.4
GEW-160	6/2/2016 13:38	3.4	56.8	0.2	39.6	171.1		10	4	-9.3	-8.9	-9.0
GEW-160	6/21/2016 10:20	3.6	57.5	0.0	38.9	161.8		11	30	-12.0	-12.1	-12.1
GEW-160	6/21/2016 10:21	3.7	60.0	0.1	36.2	158.8		21	18	-12.0	-11.9	-11.4
GEW-161	6/2/2016 13:39	0.5	57.3	0.2	42.0	109.7		7	5	-9.7	-9.6	-9.4
GEW-161	6/21/2016 10:23	1.3	59.1	0.0	39.6	96.0		7	6	-10.3	-10.2	-11.1
GEW-162	6/2/2016 13:33	15.5	46.6	3.2	34.7	97.4		9	7	-15.7	-15.6	-15.7
GEW-162	6/21/2016 10:36	4.3	35.1	12.6	48.0	179.8		63	67	-9.5	-8.8	-16.7
GEW-162	6/21/2016 10:38	7.3	48.5	6.1	38.1	179.3		53	70	-9.8	-8.5	-16.8
GEW-163	6/2/2016 11:54	10.5	57.9	2.7	28.9	165.9		23	21	-4.3	-4.3	-14.9
GEW-163	6/2/2016 11:58	10.9	58.5	2.6	28.0	165.4		23	26	-5.2	-5.1	-15.9
GEW-163	6/21/2016 9:00	9.2	53.4	4.3	33.1	169.6		43	33	-10.1	-10.0	-15.9
GEW-163	6/21/2016 9:01	9.2	53.1	4.4	33.3	169.9		44	40	-10.0	-10.0	-15.6
GEW-164	6/2/2016 12:07	3.6	36.7	11.2	48.5	161.4		30	30	-12.2	-12.3	-13.4
GEW-164	6/2/2016 12:11	3.6	36.1	11.4	48.9	160.1		31	32	-12.3	-12.2	-13.6
GEW-164	6/21/2016 9:07	5.8	67.0	0.3	26.9	148.4		20	25	-15.1	-15.1	-15.5
GEW-164	6/21/2016 9:08	5.7	71.3	0.2	22.8	149.5		12	16	-15.1	-15.2	-15.0
GEW-165	6/2/2016 12:58	1.0	38.8	10.3	49.9	190.6		26	27	-11.2	-11.7	-12.6
GEW-165	6/2/2016 13:03	1.0	42.7	8.8	47.5	190.8		25	25	-9.3	-9.3	-12.8
GEW-165	6/21/2016 9:15	1.5	65.4	0.2	32.9	195.7		42	48	-10.5	-10.7	-15.6
GEW-165	6/21/2016 9:16	1.1	68.4	0.2	30.3	195.7		33	36	-11.1	-11.0	-15.8
GEW-166	6/2/2016 12:50	2.2	43.4	6.5	47.9	188.1		44	41	-5.4	-5.2	-13.3
GEW-166	6/2/2016 12:54	2.2	46.9	5.8	45.1	188.5		41	38	-3.9	-3.9	-14.1
GEW-166	6/21/2016 9:19	4.0	60.1	1.7	34.2	180.9		57	60	-7.3	-7.5	-12.5
GEW-166	6/21/2016 9:20	4.8	58.5	1.7	35.0	180.9		65	64	-7.4	-7.5	-14.3
GEW-167	6/2/2016 12:43	5.2	41.4	6.5	46.9	178.7		35	27	-1.6	-1.6	-13.7
GEW-167	6/2/2016 12:46	4.7	42.9	6.1	46.3	180.3		25	27	-1.2	-1.2	-15.1
GEW-167	6/21/2016 10:07	4.8	43.9	6.1	45.2	179.5		68	62	-1.8	-1.8	-16.7
GEW-167	6/21/2016 10:08	5.1	43.4	6.2	45.3	178.6		61	64	-1.8	-1.8	-16.0
GEW-168	6/2/2016 13:24	1.1	36.1	9.1	53.7	190.8		25	26	-9.8	-9.9	-11.3
GEW-168	6/2/2016 13:26	1.0	41.3	7.7	50.0	190.8		24	24	-7.8	-7.8	-12.9
GEW-168	6/21/2016 9:28	0.0	64.6	0.3	35.1	183.6		9	9	-13.5	-13.4	-14.1
GEW-168	6/21/2016 9:29	0.3	63.8	0.3	35.6	183.9		5	11	-13.4	-13.4	-14.1
GEW-169	6/2/2016 14:55	0.8	28.3	12.9	58.0	192.5		29	29	-11.3	-11.3	-13.2
GEW-169	6/2/2016 15:01	1.0	41.3	8.3	49.4	192.5		23	25	-5.4	-5.4	-13.0
GEW-169	6/21/2016 9:48	3.8	66.5	0.4	29.3	193.6		45	31	-14.8	-14.7	-15.0
GEW-169	6/21/2016 9:49	3.6	67.2	0.4	28.8	193.6		43	39	-14.9	-15.0	-15.5
GEW-170	6/2/2016 15:12	10.2	56.0	2.6	31.2	180.6		46	46	-4.9	-4.9	-13.1

June 2016 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-170	6/2/2016 15:15	10.0	55.1	2.8	32.1	180.3		48	48	-5.4	-5.7	-12.0
GEW-170	6/21/2016 9:55	6.0	64.3	1.8	27.9	172.6		93	86	-10.8	-10.7	-15.1
GEW-170	6/21/2016 9:56	7.8	63.4	1.8	27.0	173.0		81	87	-11.0	-10.9	-15.1
GEW-171	6/2/2016 14:35	1.2	37.4	8.7	52.7	106.5		7	8	-12.7	-12.8	-12.8
GEW-171	6/2/2016 14:37	1.8	46.7	4.1	47.4	107.5		4	10	-12.9	-12.7	-12.7
GEW-171	6/21/2016 9:40	8.1	58.4	1.4	32.1	187.4		32	31	-14.6	-14.7	-14.2
GEW-171	6/21/2016 9:41	8.1	58.8	1.4	31.7	187.4		31	30	-14.6	-14.9	-14.6
GEW-172	6/2/2016 14:40	4.8	55.2	0.3	39.7	192.3		35	33	-3.3	-3.3	-13.0
GEW-172	6/2/2016 14:41	5.2	54.3	0.2	40.3	192.3		39	38	-4.4	-4.4	-12.7
GEW-172	6/21/2016 9:25	5.7	54.9	0.0	39.4	190.2		88	92	-5.8	-5.7	-14.1
GEW-172	6/21/2016 9:26	5.5	56.4	0.0	38.1	190.2		84	92	-5.6	-5.5	-14.4
GEW-173	6/2/2016 14:54	9.3	36.6	3.2	50.9	105.7		22	21	-4.9	-4.9	-15.3
GEW-173	6/21/2016 9:17	11.7	42.4	3.5	42.4	106.1		51	46	-3.5	-3.6	-16.6
GEW-174	6/2/2016 14:49	9.9	45.8	0.7	43.6	173.1		57	57	-6.3	-6.3	-7.5
GEW-174	6/2/2016 14:50	12.2	49.6	0.7	37.5	173.1		58	57	-6.3	-6.2	-7.5
GEW-174	6/21/2016 9:01	10.7	32.3	5.7	51.3	152.4		85	68	-4.5	-4.2	-9.5
GEW-174	6/21/2016 9:03	9.9	41.0	5.6	43.5	152.5		82	72	-3.9	-3.9	-8.3
GEW-175	6/2/2016 14:05	17.8	48.4	2.4	31.4	163.3		58	63	-9.9	-10.2	-13.0
GEW-175	6/2/2016 14:07	17.7	50.1	2.3	29.9	163.3		131	141	-9.7	-9.9	-12.5
GEW-175	6/21/2016 8:40	19.0	53.9	1.7	25.4	129.0		105	108	-14.8	-14.9	-16.2
GEW-176	6/2/2016 15:54	21.5	53.7	4.0	20.8	117.9		16	16	-3.3	-3.3	-16.1
GEW-176	6/21/2016 8:44	15.4	57.9	0.1	26.6	120.2		5	3	-0.3	-0.3	-19.1
GEW-1A	6/1/2016 9:17	0.8	8.7	20.2	70.3	80.2		6	7	-0.7	-1.6	-11.8
GEW-1A	6/1/2016 9:18	0.3	2.5	21.3	75.9	80.0		13	7	-1.3	-0.6	-11.8
GEW-1A	6/7/2016 16:44	0.5	5.3	22.3	71.9	99.8		4	3	-1.8	-0.9	-12.7
GEW-1A	6/7/2016 16:45	0.3	1.6	22.9	75.2	99.9		8	7	-1.5	-1.0	-12.4
GEW-1A	6/14/2016 11:13	0.4	2.8	21.6	75.2	97.9		7	10	-2.0	-1.1	-12.3
GEW-1A	6/14/2016 11:14	0.4	1.1	21.7	76.8	97.9		9	7	-0.9	-0.6	-11.9
GEW-1A	6/20/2016 9:10	0.5	5.4	21.6	72.5	93.4		7	7	-2.2	-1.5	-12.6
GEW-1A	6/20/2016 9:11	0.3	1.6	22.1	76.0	93.6		7	2	-0.6	-0.8	-12.7
GEW-1A	6/27/2016 14:35	0.2	1.3	19.9	78.6	113.5		102	100	-0.1	-0.5	-0.4
GEW-1A	6/27/2016 14:36	0.1	0.4	20.0	79.5	113.0		100	98	-0.4	-0.8	-0.5
GEW-2S	6/1/2016 9:24	62.1	35.7	0.0	2.2	88.1		4	6	-0.6	-0.5	-6.5
GEW-2S	6/7/2016 16:48	62.5	34.1	0.0	3.4	96.4		6	4	-0.9	-0.9	-8.0
GEW-2S	6/14/2016 11:17	63.0	33.8	0.0	3.2	97.2		3	6	-0.1	-0.1	-10.4
GEW-2S	6/20/2016 9:19	61.6	34.6	0.0	3.8	100.6		7	0	-0.7	-0.8	-9.1
GEW-2S	6/27/2016 14:39	63.7	32.5	0.1	3.7	108.0		11	4	0.0	0.0	-7.6
GIW-01	6/6/2016 8:46	1.7	60.7	2.4	35.2	168.5		18	28	-16.0	-15.9	-16.1
GIW-01	6/6/2016 8:56	1.8	60.7	2.2	35.3	169.0		43	29	-16.0	-16.2	-16.7
GIW-01	6/13/2016 9:41	1.5	60.4	2.0	36.1	171.1		14	0	-16.2	-16.2	-15.7
GIW-01	6/13/2016 9:45	1.5	61.1	2.0	35.4	171.6		17	17	-16.5	-16.4	-16.4
GIW-01	6/20/2016 8:36	1.6	54.7	2.5	41.2	162.7		13	18	-18.0	-18.1	-17.8
GIW-01	6/20/2016 8:36	1.6	57.0	2.3	39.1	163.2		10	8	-17.9	-18.1	-17.5

June 2016 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-01	6/28/2016 8:32	2.3	53.5	4.9	39.3	158.8		25	24	-17.8	-17.3	-17.8
GIW-01	6/28/2016 8:32	1.6	53.7	4.8	39.9	159.2		18		-17.5		-17.6
GIW-02	6/6/2016 8:59	7.6	54.0	2.9	35.5	88.4		12	12	-0.1	-0.1	-16.6
GIW-02	6/6/2016 9:07	8.1	52.9	2.8	36.2	89.9		14	11	-0.1	-0.1	-16.7
GIW-02	6/13/2016 9:48	5.4	50.0	4.7	39.9	103.8		9	12	-0.1	-0.1	-16.4
GIW-02	6/20/2016 7:58	4.0	39.1	8.9	48.0	92.1		3	3	-0.2	-0.2	-18.2
GIW-02	6/20/2016 8:00	4.0	38.0	9.0	49.0	92.6		2	2	-0.2	-0.2	-17.5
GIW-02	6/28/2016 8:29	7.4	54.2	1.9	36.5	90.0		6	5	-0.1	-0.1	-17.9
GIW-03	6/6/2016 9:13	0.4	65.8	0.0	33.8	81.7		15	12	0.0	-0.1	-13.1
GIW-03	6/6/2016 9:20	0.4	64.0	0.3	35.3	82.5		11	11	-0.2	-0.1	-13.6
GIW-03	6/13/2016 10:24	0.5	63.2	0.0	36.3	101.0		11	6	1.0	1.0	-10.7
GIW-03	6/13/2016 10:29	0.4	64.7	0.0	34.9	100.4		6	6	-0.3	-0.3	-10.0
GIW-03	6/20/2016 7:53	0.4	54.3	4.6	40.7	85.9		6	1	-1.6	-1.2	-12.2
GIW-03	6/20/2016 7:55	0.5	53.0	4.0	42.5	86.1		3	3	-0.7	-0.7	-11.0
GIW-03	6/28/2016 8:26	0.6	61.6	0.0	37.8	83.8		1	2	-0.3	-0.3	-10.9
GIW-04	6/6/2016 9:25	0.4	41.0	7.0	51.6	87.4		14	13	-7.8	-7.7	-14.1
GIW-04	6/6/2016 9:35	0.5	40.0	8.1	51.4	88.0		12	9	-6.6	-6.4	-12.7
GIW-04	6/13/2016 10:33	0.6	47.1	3.9	48.4	106.5		9	9	-3.9	-3.9	-10.3
GIW-04	6/20/2016 7:49	0.9	57.2	0.0	41.9	89.6		2	2	2.8	-0.9	-12.4
GIW-04	6/20/2016 7:50	0.8	56.9	0.0	42.3	89.0		2	2	-0.9	-0.9	-11.0
GIW-04	6/28/2016 8:20	0.5	54.4	0.0	45.1	92.6		4	2	2.3	-5.3	-10.8
GIW-04	6/28/2016 8:21	0.5	56.8	0.1	42.6	92.6		4	6	-5.9	-5.8	-10.4
GIW-05	6/6/2016 9:42	2.0	60.0	0.4	37.6	85.2		12	14	-3.0	-3.0	-12.7
GIW-05	6/6/2016 9:52	2.3	59.6	0.4	37.7	85.5		7	12	-1.1	-1.1	-13.6
GIW-05	6/13/2016 10:40	1.7	57.9	0.0	40.4	102.1		5	6	0.6	0.6	-10.4
GIW-05	6/13/2016 10:42	2.0	60.2	0.0	37.8	105.5		8	8	-0.8	-0.8	-10.7
GIW-05	6/20/2016 7:44	1.8	53.2	0.1	44.9	85.8		9	9	-0.2	-0.2	-11.9
GIW-05	6/27/2016 8:12	2.0	57.3	0.0	40.7	91.0		6	6	1.5	-3.7	-10.5
GIW-05	6/27/2016 8:13	1.9	60.2	0.0	37.9	91.9		0	0	-4.4	-4.5	-11.0
GIW-06	6/6/2016 11:40	2.3	55.3	1.8	40.6	94.5		252	253	-11.9	-12.0	-13.1
GIW-06	6/6/2016 11:48	2.8	57.3	1.0	38.9	96.2		201	201	-7.1	-7.1	-13.1
GIW-06	6/13/2016 10:45	2.1	50.7	4.0	43.2	103.5		222	222	-9.5	-9.5	-10.0
GIW-06	6/20/2016 9:01	3.4	53.2	1.3	42.1	90.5				-11.2	-11.0	-11.4
GIW-06	6/28/2016 8:58	3.2	55.7	1.2	39.9	91.9				-10.4	-10.4	-11.1
GIW-07	6/6/2016 11:51	14.3	58.1	2.4	25.2	93.1		8	10	-1.0	-1.0	-12.4
GIW-07	6/6/2016 11:59	15.4	57.7	2.0	24.9	95.0		9	11	-0.2	-0.2	-13.5
GIW-07	6/13/2016 10:48	13.9	58.7	2.1	25.3	107.7		6	7	-0.7	-0.7	-10.7
GIW-07	6/20/2016 8:59	10.6	54.6	4.6	30.2	92.9		2	2	-1.2	-1.2	-11.4
GIW-07	6/28/2016 8:56	9.5	54.4	4.8	31.3	95.2		6	6	-1.4	-1.4	-11.1
GIW-08	6/6/2016 11:43	4.5	61.5	2.5	31.5	95.8		4	4	-0.9	-0.9	-14.3
GIW-08	6/6/2016 11:48	3.1	47.7	7.2	42.0	97.1		3	3	-0.8	-0.8	-14.1
GIW-08	6/13/2016 10:57	2.0	29.2	14.5	54.3	106.7				-0.7	-0.7	-10.5
GIW-08	6/13/2016 10:59	2.8	36.4	12.4	48.4	108.2				-0.7	-0.7	-10.9

June 2016 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-08	6/20/2016 8:53	4.1	56.3	3.8	35.8	88.4		3	2	-0.9	-0.8	-12.9
GIW-08	6/28/2016 8:53	3.2	57.4	4.7	34.7	93.3		6	5	-0.9	-0.9	-10.1
GIW-09	6/6/2016 12:06	2.9	20.6	14.8	61.7	92.9				-0.3	-0.3	-13.1
GIW-09	6/6/2016 12:12	4.2	25.9	13.4	56.5	93.4				-0.3	-0.3	-13.1
GIW-09	6/13/2016 11:02	1.1	20.8	16.4	61.7	102.8				-0.3	-0.3	-10.4
GIW-09	6/13/2016 11:03	1.2	22.2	15.8	60.8	103.8				-0.3	-0.3	-10.4
GIW-09	6/20/2016 8:51	2.4	50.3	4.7	42.6	90.5				-0.6	-0.6	-12.2
GIW-09	6/28/2016 8:50	2.8	50.8	4.3	42.1	89.8				-0.6	-0.6	-10.8
GIW-10	6/6/2016 9:56	0.7	56.3	0.0	43.0	91.4		11	12	-0.3	-0.3	-13.4
GIW-10	6/6/2016 10:02	1.5	44.1	0.1	54.3	91.5		17	14	0.0	0.0	-13.1
GIW-10	6/13/2016 10:36	0.4	55.4	0.0	44.2	105.3		8	9	0.1	0.1	-10.4
GIW-10	6/13/2016 10:37	0.4	55.7	0.0	43.9	106.9		0	0	-0.1	-0.1	-9.7
GIW-10	6/20/2016 8:48	0.3	56.5	0.1	43.1	89.0		2	2	-0.8	-0.8	-11.9
GIW-10	6/28/2016 8:46	0.4	56.5	0.0	43.1	86.3		6	5	-0.3	-0.3	-11.4
GIW-11	6/6/2016 11:23	4.3	63.0	0.1	32.6	92.0				-0.1	-0.1	-16.2
GIW-11	6/6/2016 11:33	4.3	63.4	0.1	32.2	95.0				-0.1	-0.1	-16.4
GIW-11	6/13/2016 10:19	1.9	60.5	1.0	36.6	103.5				-0.5	-0.5	-16.4
GIW-11	6/13/2016 10:22	2.0	60.4	1.0	36.6	104.7				-0.3	-0.3	-17.4
GIW-11	6/20/2016 8:45	1.7	56.4	1.5	40.4	96.6				-0.6	-0.6	-17.4
GIW-11	6/28/2016 8:42	2.9	64.3	0.0	32.8	90.5				0.1	-0.7	-17.5
GIW-11	6/28/2016 8:43	2.8	64.5	0.0	32.7	90.1				-0.8	-0.8	-17.7
GIW-12	6/6/2016 11:14	2.4	59.0	1.5	37.1	94.1				-0.1	-0.1	-16.4
GIW-12	6/6/2016 11:20	2.4	59.1	1.4	37.1	95.3				-0.1	-0.1	-15.2
GIW-12	6/13/2016 10:09	0.8	42.3	8.1	48.8	101.1				-0.3	-0.3	-14.4
GIW-12	6/13/2016 10:13	0.7	40.0	9.5	49.8	99.2				-0.2	-0.2	-15.7
GIW-12	6/20/2016 8:42	1.0	52.2	4.8	42.0	92.2				-0.3	-0.3	-17.2
GIW-12	6/28/2016 8:39	1.6	64.5	0.0	33.9	86.7				-0.1	-0.1	-13.1
GIW-13	6/6/2016 11:02	8.4	63.6	0.1	27.9	90.7				-0.8	-0.8	-12.7
GIW-13	6/6/2016 11:10	8.6	62.9	0.1	28.4	91.5				-0.2	-0.2	-13.1
GIW-13	6/13/2016 10:04	6.5	62.3	0.0	31.2	106.2				-1.1	-1.1	-12.3
GIW-13	6/13/2016 10:06	6.7	62.6	0.0	30.7	106.0				-0.4	-0.4	-12.1
GIW-13	6/20/2016 8:39	6.2	60.2	0.2	33.4	91.9				-0.9	-0.9	-12.4
GIW-13	6/28/2016 8:35	11.1	58.9	0.0	30.0	89.9				-4.1	-4.1	-11.8
LCS-5A	6/8/2016 11:35	56.7	40.6	0.0	2.7	98.0				-11.2	-11.2	-12.0
LCS-5A	6/15/2016 8:16	57.5	40.4	0.0	2.1	94.6				-12.5	-12.6	-11.7
LCS-5A	6/20/2016 10:28	54.5	42.0	0.1	3.4	95.7				-11.8	-12.2	-11.8
LCS-5A	6/27/2016 17:23	57.5	40.0	0.2	2.3	98.7				-12.3	-12.3	-12.4
LCS-6B	6/8/2016 9:29	52.5	40.8	0.3	6.4	89.0		0	7	-0.5	-0.5	-13.1
LCS-6B	6/14/2016 11:33	55.2	40.3	0.0	4.5	104.8		0	0	0.0	0.0	-12.4
LCS-6B	6/14/2016 11:35	55.4	42.3	0.0	2.3	105.2		0	0	-0.1	-0.1	-12.1
LCS-6B	6/20/2016 9:54	53.9	41.3	0.1	4.7	99.9		9	9	-0.2	-0.2	-12.5
LCS-6B	6/27/2016 14:59	54.2	41.3	0.3	4.2	109.5		10	10	0.1	0.1	-13.2
LCS-6B	6/27/2016 15:03	53.8	42.8	0.3	3.1	110.2		9	9	-0.5	-0.5	-13.2

June 2016 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	6/1/2016 9:21	62.1	37.2	0.0	0.7	78.0		6	9	-6.1	-6.2	-6.4
SEW-002	6/8/2016 11:29	0.9	2.0	19.7	77.4	91.1		3	5	-4.8	-4.9	-12.1
SEW-002	6/8/2016 11:31	1.2	2.8	18.9	77.1	93.2		8	3	-7.1	-7.3	-12.6
T-56	6/1/2016 10:06	39.9	33.0	1.6	25.5	71.6		16	18	-0.1	-0.1	-12.4
T-56	6/1/2016 10:08	40.5	31.8	1.6	26.1	72.3		16	14	0.0	0.0	-13.3

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
	March 2016	April 2016	May 2016	June 2016		
GEW-001	--	--	--	--		
GEW-002	124.2	125.4	128.1	127.8		
GEW-003	115.2	121.5	117.3	117.3		
GEW-004	116.5	119.1	122.0	122.6		
GEW-005	94.0	97.6	95.0	98.7		
GEW-006	91.1	93.1	90.8	93.9		
GEW-007	92.1	94.0	97.1	103.4		
GEW-008	113.2	112.5	114.3	114.9		
GEW-009	126.4	124.9	128.6	125.8		
GEW-010	94.6	103.0	98.9	97.5		
GEW-011	--	--	--	--		
GEW-013A	152.2	160.1	156.6	165.5		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	--		
GEW-018B	--	--	--	--		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	193.1	192.5	190.2	193.7		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	192.1	189.1	83.4	84.0		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	79.5	102.2	105.2	110.6		
GEW-039	133.4	134.7	134.4	136.0		
GEW-040	87.3	92.7	91.7	97.1		
GEW-041R	109.0	105.8	107.1	108.0		
GEW-042R	110.0	110.6	113.7	114.8		
GEW-043R	134.3	137.6	131.0	124.5		
GEW-044	85.3	90.4	90.4	97.2		

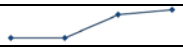
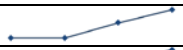
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	March 2016	April 2016	May 2016	June 2016		
GEW-045R	84.7	98.5	91.3	105.2		
GEW-046R	99.6	98.0	100.4	102.2		
GEW-047R	115.2	116.5	114.8	118.1		
GEW-048	106.0	105.1	105.5	107.5		
GEW-049	116.4	110.9	113.8	115.0		
GEW-050	108.5	108.4	107.3	110.3		
GEW-051	128.9	124.3	129.8	131.4		
GEW-052	117.4	113.5	117.1	117.0		
GEW-053	140.0	142.2	142.0	143.0		
GEW-054	147.7	154.9	155.0	154.0		
GEW-055	125.8	128.1	130.0	130.0		
GEW-056R	158.8	157.0	156.5	155.5		
GEW-057B	113.0	127.8	89.3	145.2		
GEW-057R	148.9	146.6	133.7	131.2		
GEW-058	177.2	183.5	179.8	148.0		
GEW-058A	154.5	89.9	79.2	99.8		
GEW-059R	189.1	191.3	189.6	192.9		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	96.1	92.9	81.9	98.4		
GEW-066	--	--	--	--		
GEW-067A	125.0	84.9	179.7	193.7		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	--	--	111.6	120.7		
GEW-078R	--	--	191.6	190.2		
GEW-080	--	--	95.0	82.3		
GEW-081	--	--	125.8	87.6		
GEW-082R	196.5	194.2	192.1	191.6		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	84.1	81.7	64.6	96.2		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	March 2016	April 2016	May 2016	June 2016		
GEW-089	74.8	72.4	71.7	99.2		
GEW-090	183.5	185.2	183.0	189.6		
GEW-091	--	--	--	--		
GEW-100	--	--	--	--		
GEW-101	--	--	--	--		
GEW-102	184.1	193.7	192.5	192.3		
GEW-103	--	--	--	--		
GEW-104	--	--	110.0	104.5		
GEW-105	--	--	69.6	178.7		
GEW-106	--	--	--	--		
GEW-107	69.5	92.1	77.8	92.3		
GEW-108	--	76.9	78.5	92.8		
GEW-109	117.0	139.7	103.8	111.8		
GEW-110	101.1	113.5	108.2	111.7		
GEW-112	--	--	75.5	93.6		
GEW-113	--	--	184.7	171.6		
GEW-116	71.0	70.4	71.4	90.8		
GEW-117	105.0	102.1	87.0	95.3		
GEW-118	--	194.3	194.8	200.1		
GEW-120	175.2	165.5	160.6	146.5		
GEW-121	189.6	175.7	197.9	184.6		
GEW-122	181.9	188.5	168.8	180.4		
GEW-123	190.8	114.2	187.9	187.9		
GEW-124	129.3	67.8	88.1	98.9		
GEW-125	52.3	190.1	190.5	196.0		
GEW-126	190.8	95.6	186.7	185.2		
GEW-127	189.8	178.2	184.1	189.0		
GEW-128	179.9	174.6	177.2	174.8		
GEW-129	167.9	176.2	176.7	104.7		
GEW-130	--	182.7	193.7	179.2		
GEW-131	173.1	175.2	181.9	187.7		
GEW-132	169.2	172.7	169.7	166.9		
GEW-133	51.8	60.5	98.3	98.1		
GEW-134	118.6	118.3	135.6	139.8		
GEW-135	172.7	144.4	166.4	176.4		
GEW-136	109.9	112.3	120.2	126.9		
GEW-137	104.7	89.6	103.3	107.5		
GEW-138	145.1	151.7	137.3	150.5		
GEW-139	187.9	190.2	185.2	180.8		
GEW-140	174.1	161.4	163.6	176.2		
GEW-141	116.0	69.7	104.3	152.1		
GEW-142	38.8	67.1	94.6	97.9		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	March 2016	April 2016	May 2016	June 2016		
GEW-143	54.9	64.8	91.1	104.0		
GEW-144	92.7	64.0	102.8	94.4		
GEW-145	179.8	173.1	163.6	166.1		
GEW-146	78.0	79.9	94.1	104.7		
GEW-147	169.7	191.6	189.6	190.2		
GEW-148	66.4	55.5	92.5	99.0		
GEW-149	116.3	131.5	167.4	167.2		
GEW-150	152.5	150.1	159.2	150.3		
GEW-151	135.7	165.9	93.1	157.1		
GEW-152	168.1	175.7	167.8	182.9		
GEW-153	160.1	151.4	157.9	155.6		
GEW-154	147.5	130.2	151.0	186.4		
GEW-155	117.0	112.5	185.1	127.8		
GEW-156	95.4	88.9	122.1	124.8		
GEW-157	191.3	66.0	93.6	164.3		
GEW-158	71.2	65.7	88.6	91.4		
GEW-159	161.4	154.1	154.1	154.3		
GEW-160	72.4	60.0	186.3	171.1		
GEW-161	73.2	59.0	96.7	109.7		
GEW-162	78.0	178.2	94.8	179.8		
GEW-163	--	--	170.0	169.9		
GEW-164	--	--	171.6	161.4		
GEW-165	--	--	191.6	195.7		
GEW-166	--	--	174.7	188.5		
GEW-167	--	--	179.8	180.3		
GEW-168	--	--	157.0	190.8		
GEW-169	--	--	191.4	193.6		
GEW-170	--	--	185.8	180.6		
GEW-171	--	--	100.4	187.4		
GEW-172	--	--	119.9	192.3		
GEW-173	--	--	102.6	106.1		
GEW-174	--	--	174.6	173.1		
GEW-175	--	--	127.8	163.3		
GEW-176	--	--	89.5	120.2		
GEW-1A	--	--	95.9	113.5		
GEW-2S	--	--	99.9	108.0		
GIW-01	186.8	183.5	184.6	171.6		
GIW-02	73.7	84.0	98.4	103.8		
GIW-03	75.5	86.0	94.6	101.0		
GIW-04	77.5	88.4	99.1	106.5		
GIW-05	83.0	86.9	96.0	105.5		
GIW-06	81.0	88.0	99.7	103.5		

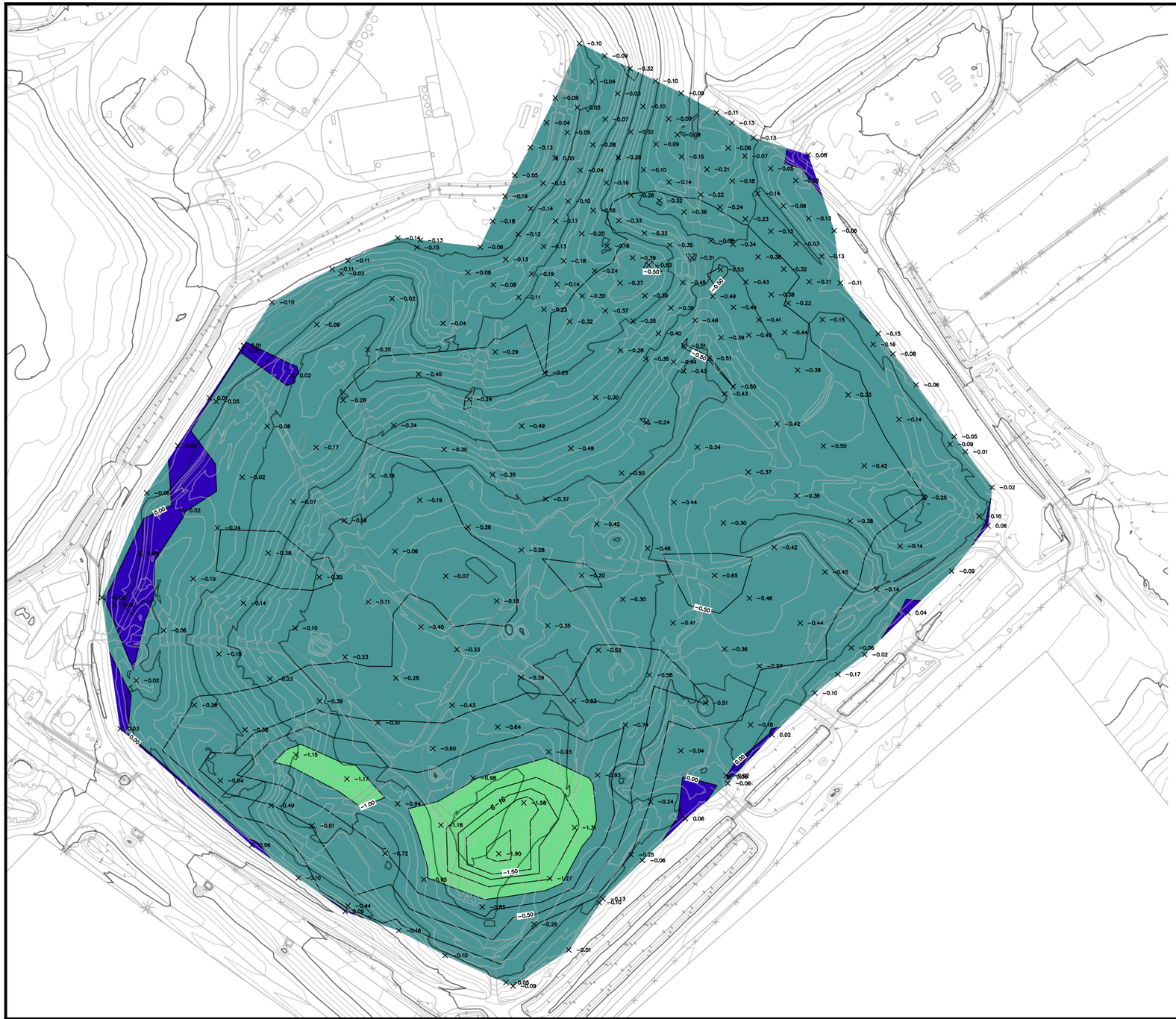
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	March 2016	April 2016	May 2016	June 2016		
GIW-07	78.0	90.1	97.9	107.7		
GIW-08	77.9	92.9	101.8	108.2		
GIW-09	79.0	72.2	106.6	103.8		
GIW-10	81.9	90.3	101.3	106.9		
GIW-11	86.9	96.0	107.7	104.7		
GIW-12	87.1	91.9	99.4	101.1		
GIW-13	78.4	99.4	96.7	106.2		
LCS-1D	--	--	--	--		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	93.6	95.9	95.8	98.7		
LCS-6B	93.9	88.6	96.7	110.2		
PGW-60	76.4	77.5	88.6	78.0		
SEW-002	69.8	85.2	74.3	93.2		
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	47.1	60.8	70.0	72.3		

-- = 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 5-16-16 FROM SPOT ELEVATIONS SURVEYED ON 6-16-16.
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 (6-16-16 TO 5-16-16)
	MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
−0.50	MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
6−16	SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.35' PER 30 DAYS FOR CURRENT PERIOD OF DAYS (AREA REPRESENTS 1.395' OVER 31 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	67121.29	
5	−1.00	0.00	1424867.72	
6	0.00	1.00	38290.07	

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

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BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
MAY 16, 2016 THROUGH JUNE 16, 2016

DRAWN BY:	ORC	APPROVED BY:	DJD	PROJ. NO.:	155162	DATE:	JULY 2016

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

June 1, 2016 – June 30, 2016 / MDNR ODOR COMPLAINTS

Name: Jaime Wittmaier

Message: Odor logged June 1, 2016, at 7:20 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Shortly after this concern a Bridgeton Landfill odor patrol was performed. No odor with the potential to have been observed at this location was observed. The concern location cited is directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Tara Black

Message: Odor logged June 1, 2016, at 7:08 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 2, 2016, at 4:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Prior to the time specified in this odor concern, winds were of a south southwest origin. Winds then transitioned to calm in the hours surrounding the time specified in this odor concern. Odor patrols performed before and after the time specified in this concern did not observe any odor related to Bridgeton Landfill in the vicinity of the location referenced. There is no evidence to suggest this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 2, 2016, at 7:05 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 2, 2016, at 7:05 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 2, 2016, at 7:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 2, 2016, at 8:05 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The following concern cites two conflicting non-specific addresses and is therefore invalid.

Name: Rhonda Steelman

Message: Odor logged June 2, 2016, at 6:26 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of substantial distance from the Bridgeton Landfill. The concern location cited was not downwind of Bridgeton Landfill at the time with winds of a north northeast origin. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 3:16 am strength of 5

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

Name: Liz Spector

Message: Odor logged June 3, 2016, at 7:20 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: David Hinners

Message: Odor logged June 3, 2016, at 7:29 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 8:05 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 7:07 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 7:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 7:05 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 7:20 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 8:09 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location provided is in close proximity another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 3, 2016, at 7:19 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: MaryAnne Sanderson

Message: Odor logged June 3, 2016, at 5:43 pm strength of 10

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

Name: Meredith Ford

Message: Odor logged June 3, 2016, at 6:46 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern is located of significant distance from the Bridgeton Landfill. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kathy Luther

Message: Odor logged June 5, 2016, at 8:30 pm strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within one hour of the time cited in this concern, no off-site odor was observed from the Bridgeton Landfill at that time. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 5, 2016, at 10:21 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe any odor related to the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Meghan

Message: Odor logged June 5, 2016, at 11:13 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: No date, time, or odor strength was provided.

Follow-up: The following concern lacked essential date, time, and location information and is therefore invalid.

Name: Greg Wortham

Message: Odor logged June 6, 2016, at 8:30 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor at observation points between this location and the Bridgeton Landfill. At the time given in this concern winds were of a west southwestern origin, placing this location upwind of the Bridgeton Landfill. There was not a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged June 6, 2016, at 8:30 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor at observation points between this location and the Bridgeton Landfill. At the time given in this concern winds were of a west southwestern origin, placing this location upwind of the Bridgeton Landfill. There was not a Bridgeton Landfill odor.

Name: David Sontheimer

Message: Odor logged June 6, 2016, at 8:25 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Katie Keeven

Message: Odor logged June 6, 2016, at 9:00 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within an hour of time cited in this concern, no odor related to the Bridgeton Landfill was observed. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: James Reilly

Message: Odor logged June 6, 2016, at 9:00 pm strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within an hour of time cited in this concern, no odor related to the

Bridgeton Landfill was observed. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged June 7, 2016, at 11:21 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time specified in this concern did not observe any odor related to Bridgeton Landfill in the vicinity of the location referenced.

Name: Michael Dailey

Message: Odor logged June 7, 2016, at 11:22 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time specified in this concern did not observe any odor related to Bridgeton Landfill in the vicinity of the location referenced.

Name: Syndi Sills

Message: Odor logged June 7, 2016, at 98:05 am strength of 10

Follow-up: The following concern lacks a valid time and therefore cannot be investigated.

Name: N/A

Message: No date, time, or odor strength was provided.

Follow-up: The following concern lacks a valid date and time and is therefore invalid.

Name: Jan Huber

Message: Odor logged June 7, 2016, at 2:00 pm strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to suggest that this concern is related to the Bridgeton Landfill.

Name: Gary Meister

Message: Odor logged June 7, 2016, at 4:45 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 7, 2016, at 5:23 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Becky Vik

Message: Odor logged June 6, 2016, at 9:00 pm strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within one hour of the time cited in this concern, no off-site odor was observed from the Bridgeton Landfill at that time. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: John Black

Message: Odor logged June 7, 2016, at 8:20 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: MaryAnne Sanderson

Message: Odor logged June 7, 2016, at 9:14 pm strength of 8

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

Name: N/A

Message: Odor logged June 8, 2016, at 5:02 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 8, 2016, at 6:23 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 8, 2016, at 7:10 am strength of 9

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

Name: N/A

Message: Odor logged June 8, 2016, at 8:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe any odor related to the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 8, 2016, at 8:37 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed before and after the time cited in this concern did not observe Bridgeton Landfill odor at observation points between this location and the Bridgeton Landfill.

Name: Greg and Ellen Wortham

Message: Odor logged June 7, 2016, at 9:45 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor at observation points between this location and the Bridgeton Landfill.

Name: Kathy Baumann

Message: Odor logged June 7, 2016, at 6:30 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed before and after the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between this location and the Bridgeton Landfill. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Sheila Thomas

Message: Odor logged June 9, 2016, at 5:15 pm strength of 10

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

Name: Kathy Bell

Message: Odor logged June 11, 2016, at 10:44 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged June 11, 2016, at 7:54 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged June 11, 2016, at 7:55 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 11, 2016, at 8:41 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 11, 2016, at 8:58 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged June 11, 2016, at 8:50 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Liz Spector

Message: Odor logged June 13, 2016, at 6:33 am strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: David Blackwell

Message: Odor logged June 11, 2016, at 7:30 am strength of 3

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 13, 2016, at 6:40 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time specified in this concern did not observe any odor related to Bridgeton Landfill in the vicinity of the location referenced.

Name: Kathy Luther

Message: Odor logged June 13, 2016, at 8:00 am strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within one hour of the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. At the time given in this concern winds were of a eastern origin, placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Melanie Shedd

Message: Odor logged June 16, 2016, at 7:34 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum

historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:40 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:39 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:43 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 7:44 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 16, 2016, at 8:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 17, 2016, at 7:17 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. At the time of this concern winds were of an east northeast origin placing this location outside the downwind pathway of the Bridgeton Landfill. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jason Reynolds

Message: Odor logged June 19, 2016, at 6:30 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. There was no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Mel Leib

Message: Odor logged June 19, 2016, at 7:38 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. At the time of this concern winds were of a southern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jan Huber

Message: Odor logged June 20, 2016, at 9:24 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 22, 2016, at 6:45 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol was performed within one hour of the time cited in this concern, no off-site odor was observed from the Bridgeton Landfill at that time. At the time given in this concern winds were of a southwestern origin, placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged June 22, 2016, at 11:15 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. At the time given in this concern winds were of a west southwestern origin, placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Greg Wortham

Message: Odor logged June 22, 2016, at 11:15 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. At the time given in this concern winds were of a west southwestern origin, placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Erin

Message: Odor logged June 23, 2016, at 09:57 am strength of 10

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

Name: N/A

Message: Odor logged June 23, 2016, at 11:16 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. At the time of this concern winds were of a western origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jennifer Shakhnovich

Message: Odor logged June 23, 2016, at 8:49 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another

known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Elizabeth Spector

Message: Odor logged June 23, 2016, at 8:10 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Kevin R. Toal

Message: Odor logged June 23, 2016, at 11:31 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern is located of significant distance from the Bridgeton Landfill. Odor patrols performed before and after the time cited in this concern did not observe any odor related to the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 24, 2016, at 6:35 am strength of 5

Follow-up: An odor patrol was performed within one hour of the time cited in this concern, no off-site odor was observed from the Bridgeton Landfill at that time. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Liz Spector

Message: Odor logged June 27, 2016, at 6:22 am strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged June 28, 2016, at 8:38 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. The concern location provided is in close proximity to and immediately downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 27, 2016, at 11:00 am strength of 8

Follow-up: As this concern was submitted over 24 hours after the stated time of observation, this concern could not be investigated by Bridgeton Landfill staff. Odor patrols performed by Bridgeton Landfill staff prior to and after the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to indicate this was a Bridgeton Landfill odor.

Name: Kathy Bell

Message: Odor logged June 28, 2016, at 7:30 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the time specified in this concern did not observe any odor related to Bridgeton Landfill in the vicinity of the location referenced.

Name: N/A

Message: Odor logged June 29, 2016, at 8:46 am strength of 8

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

Name: N/A

Message: Odor logged June 29, 2016, at 8:08 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to indicate this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged June 30, 2016, at 7:29 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed concurrent with the time cited in this concern did not observe odor related to the Bridgeton Landfill at multiple points between this location and the Bridgeton Landfill. There is no evidence to indicate this was a Bridgeton Landfill odor.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

June 2016

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
6/1/2016	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	0
6/2/2016				0
6/3/2016				0
6/4/2016				0
6/5/2016				0
6/6/2016				0
6/7/2016				0
6/8/2016				0
6/9/2016				0
6/10/2016				0
6/11/2016				0
6/12/2016				0
6/13/2016				0
6/14/2016				0
6/15/2016				0
6/16/2016				0
6/17/2016				0
6/18/2016				0
6/19/2016				0
6/20/2016				0
6/21/2016				0
6/22/2016				0
6/23/2016				0
6/24/2016				0
6/25/2016				0
6/26/2016				0
6/27/2016				0
6/28/2016				0
6/29/2016				0
6/30/2016				0
			Total=	**0**

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
6/1/2016	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	270,140
6/2/2016			216,384
6/3/2016			296,112
6/4/2016			294,600
6/5/2016			290,196
6/6/2016			287,416
6/7/2016			173,124
6/8/2016			155,374
6/9/2016			155,776
6/10/2016			156,672
6/11/2016			155,708
6/12/2016			154,946
6/13/2016			218,324
6/14/2016			294,486
6/15/2016			294,340
6/16/2016			294,962
6/17/2016			115,716
6/18/2016			299,708
6/19/2016			299,630
6/20/2016			302,880
6/21/2016			141,920
6/22/2016			141,704
6/23/2016			144,224
6/24/2016			143,004
6/25/2016			139,316
6/26/2016			203,604
6/27/2016			294,896
6/28/2016			299,964
6/29/2016			292,340
6/30/2016			286,452
		Total =	**6,813,918**

ATTACHMENT I

LOW FILL PROJECT AREA



N

0 350'

GRAPHIC SCALE

NOTES

1. SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON AUGUST 1, 2015.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. SURVEY POINTS WERE PERFORMED USING GPS METHODS.

LEGEND

BOUNDARY OF FILL AREA FOR 5-16-16 THROUGH 6-16-16

BOUNDARY OF STOCKPILE AREA FOR 5-16-16 THROUGH 6-16-16

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.
STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

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BRIDGETON LANDFILL
BRIDGETON, MO

LOW FILL AREA BOUNDARY
JUNE 2016

DRAWN BY:	ORC	APPROVED BY:	DJD	PROJ. NO.:	155162	DATE:	JULY 2016