Bridgeton Landfill, LLC

Monthly Data Submittals

November 2016

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

Contents:

Provided Separately:

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

December 19, 2016

Commentary on Data

December 19, 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 1,933 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 35 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.

- Attachment E-1 notes that GEW-1A has an oxygen concentration greater than 5% at one (1) or more weekly monitoring events during the reporting period. This has been the case since it's installation in December 2015. Bridgeton has made MDNR and St Louis County's Air Pollution Control Program aware of this. The area in which GEW-1A is installed is very saturated. Bridgeton has installed a sump in the vicinity of GEW-1A in the hope of lowering the potentiometric surface in the area to improve gas quality and reduce ambient air intrusion at the well.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Twelve (12) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, six (6) 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. Wells GEW-108 and GEW-161 exhibited a wellhead temperature decrease greater than 30°F. These wells are installed within the south quarry area/neck area and the vacuum has been adjusted over time as part of normal GCCS operations. The maximum wellhead temperatures are consistent with previous months in each of the gas extraction wells in the vicinity to the neck.

- All wells in the North Quarry during this reporting period exhibited a maximum wellhead temperature under 145°F. Carbon monoxide (CO) results showed non-detect (ND) for North Quarry wells, with the exception of GEW-053 (59 ppm).

- Review of weekly gas quality in Attachment E reveals that all of the active North Quarry gas wells, with the exception of GEW-1A, continue to have low, if any, oxygen and healthy methane and carbon dioxide levels. These levels indicate normal wellfield conditions for aged waste and are consistent with GCCS wellfield conditions observed in the North Quarry for some time. The area in which GEW-1A is installed is very saturated. Bridgeton has installed a sump in the vicinity of GEW-1A in the hope of lowering the potentiometric surface in the area to improve gas quality and reduce ambient air intrusion at the well.

Settlement

- The South Quarry exhibited monthly maximum settlement up to 0.94 feet over 30 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.

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 4 of this approval is satisfied via the text below and the accompanying figure.

- Low fill maintenance activities commenced October 20, 2016 have continued through November. Enclosed is the fill volume figure for October to November 2016 which depicts that approximately 2,471 cubic yards of fill material was used during that time frame. Therefore approximately 9,572 cubic yards of fill material has been used in 2016.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in November 2016

Gas Collection and Control System (GCCS)

- Continued operation and maintenance of GCCS system.
- Continued upgrades to GCCS system as necessary.

Heat Extraction System (HES)

- Continued operation and maintenance of the HES (pilot and barrier wells).
- Continued installation of automation equipment.
- Switched cooling fluid from water to glycol.

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.
- Continued to discharge permeate directly to St. Louis Metropolitan Sewer District (MSD) – Bissell Point Facility or other approved disposal facilities as determined by MSD.
- Continued testing of new polymer to improve flocculation.

Other Projects

- Continued acceptance of clean fill.
- Completed installation of Temperature Monitoring Probes (TMPs) per ASAOC.
- Continued planning, preparation, and began construction for the North Quarry EVOH capping project.
- Performed clean out and permeability testing of Interception Trench Sumps (ITS) ITS-1 through ITS-7. This will continue on a monthly basis for the near future, but frequency may reduce based on results.

Work Planned for December 2016

Gas Collection and Control System (GCCS)

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

Heat Extraction System (HES)

- Continue operation and maintenance of the HES (pilot and barrier wells).
- Continue upgrades to the HES as necessary.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Continue ongoing operation of facility.
- Continue to optimize operation efficiency of pre-treatment facility.
- Continue to discharge permeate directly to St. Louis Metropolitan Sewer District (MSD) – Bissell Point Facility or other approved disposal facilities as determined by MSD.
- Continue testing of new polymer to improve flocculation.

Other Projects:

- Continue acceptance of clean fill materials for future fill projects.
- Continue installation of Temperature Monitoring Probes (TMPs) per ASAOC.
- Continue construction for the North Quarry EVOH capping project.
- Perform clean out and permeability testing of Interception Trench Sumps ITS-1 through ITS-7. This will continue on a monthly basis for the near future, but frequency may reduce based on results.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
November 2016

Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	EP14 NQ Utility Flare***	
11/1/2016	171	0	1,477	223	1,871
11/2/2016	0	0	1,650	218	1,868
11/3/2016	0	0	1,649	217	1,866
11/4/2016	0	0	1,753	224	1,977
11/5/2016	0	0	1,820	225	2,045
11/6/2016	0	0	1,811	221	2,032
11/7/2016	0	0	1,818	224	2,042
11/8/2016	0	0	1,809	220	2,029
11/9/2016	0	0	1,792	218	2,010
11/10/2016	0	0	1,774	219	1,993
11/11/2016	0	0	1,782	216	1,998
11/12/2016	0	0	1,784	216	2,000
11/13/2016	0	0	1,732	217	1,949
11/14/2016	0	0	1,730	216	1,946
11/15/2016	0	0	1,692	212	1,904
11/16/2016	0	0	1,701	217	1,918
11/17/2016	0	0	1,713	217	1,930
11/18/2016	0	0	1,691	221	1,912
11/19/2016	0	0	1,672	224	1,896
11/20/2016	0	0	1,699	226	1,924
11/21/2016	0	0	1,723	223	1,946
11/22/2016	0	0	1,747	218	1,965
11/23/2016	0	0	1,723	214	1,937
11/24/2016	0	0	1,722	212	1,934
11/25/2016	0	0	1,692	206	1,898
11/26/2016	0	0	1,674	203	1,877
11/27/2016	0	0	1,683	198	1,881
11/28/2016	0	0	1,665	186	1,850
11/29/2016	0	0	1,627	179	1,807
11/30/2016	0	0	1,607	190	1,797
				Average	**1,933**

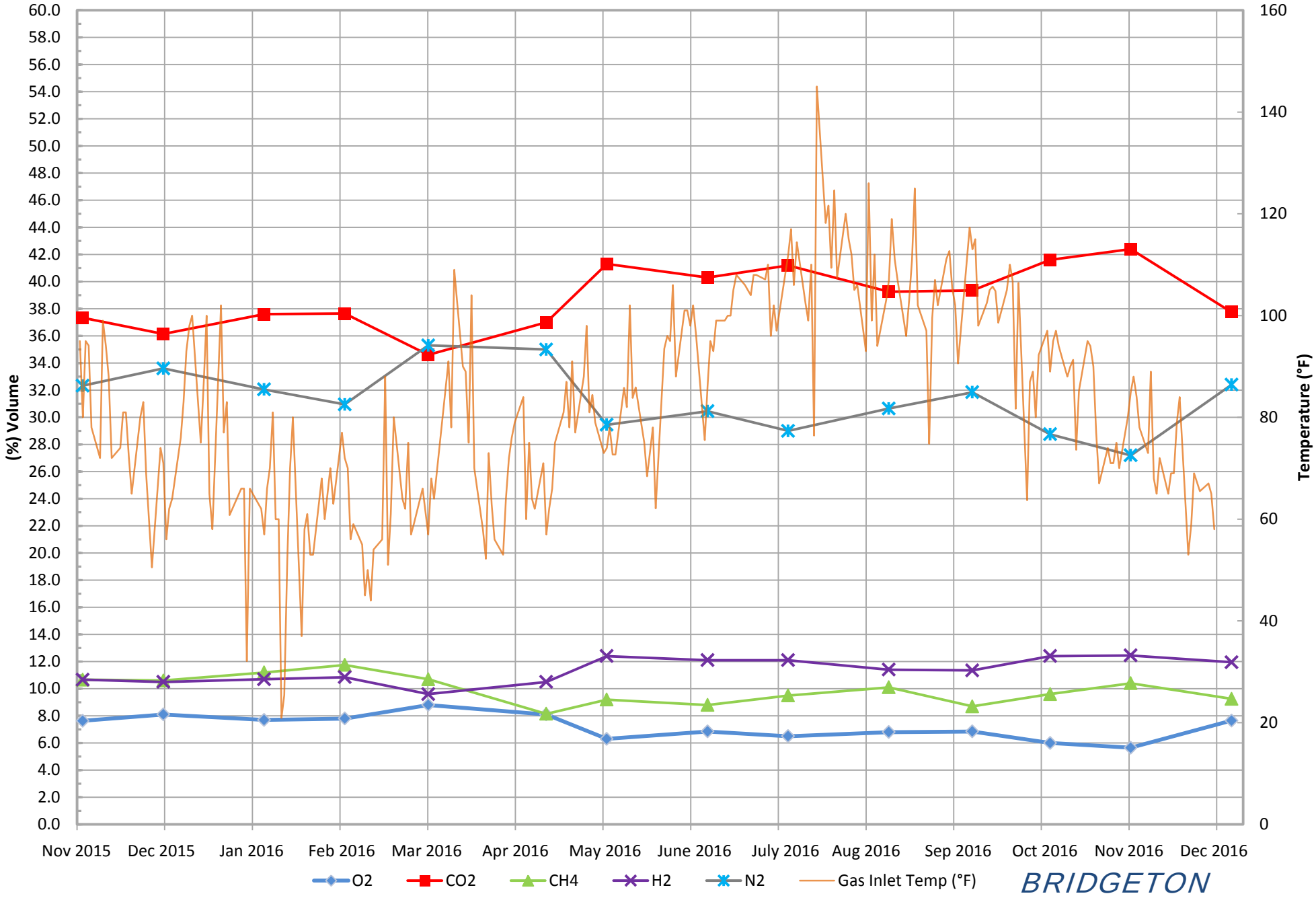
* Flows normalized to **Blower Outlet Flowmeter - EPA Method 2 measurement verified

*** On 3/18/2016, the Bridgeton Landfill began separating the North Quarry gas to the Auxiliary Flare.

ATTACHMENT B-2

FLOW DATA GRAPHS

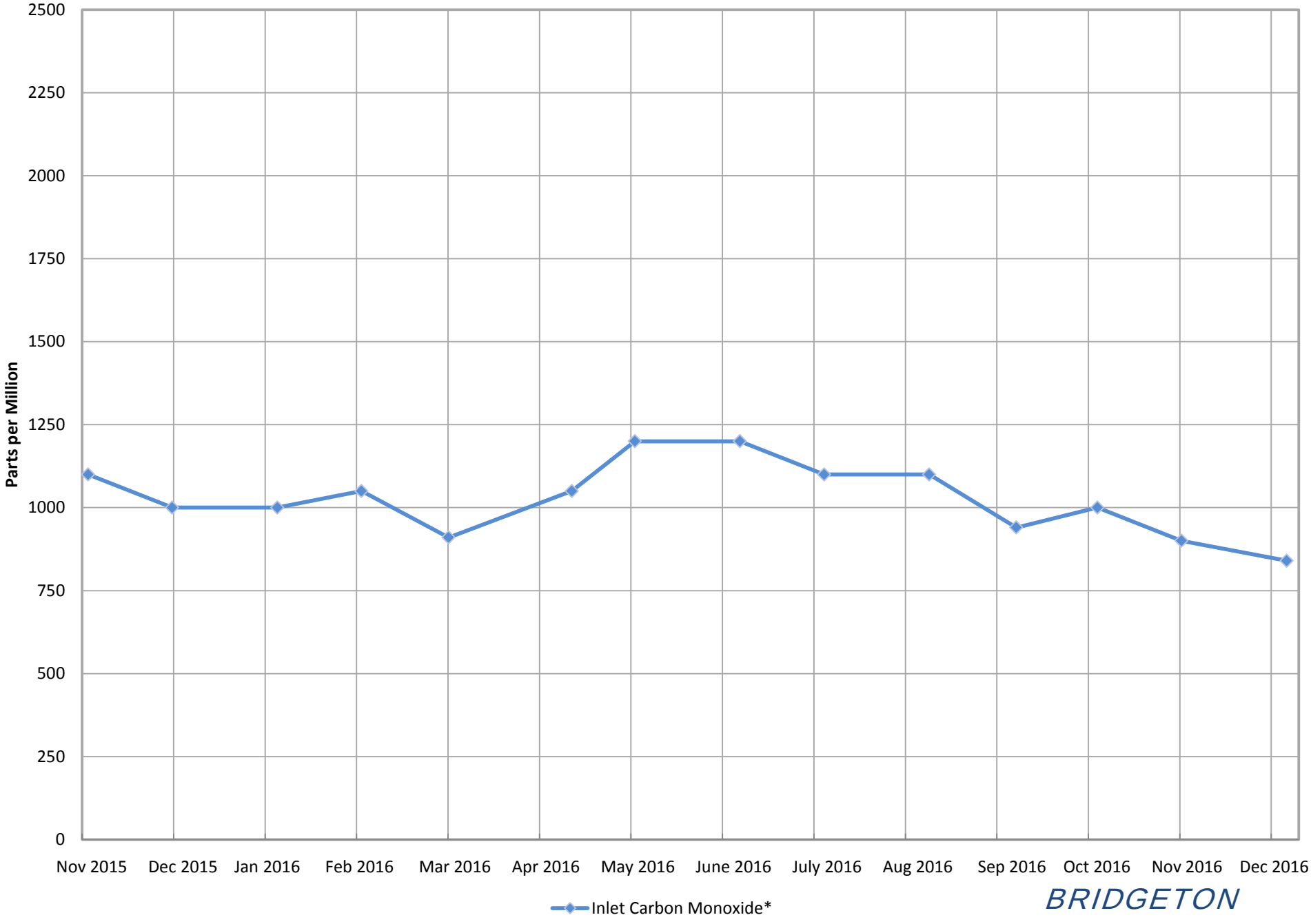
South Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

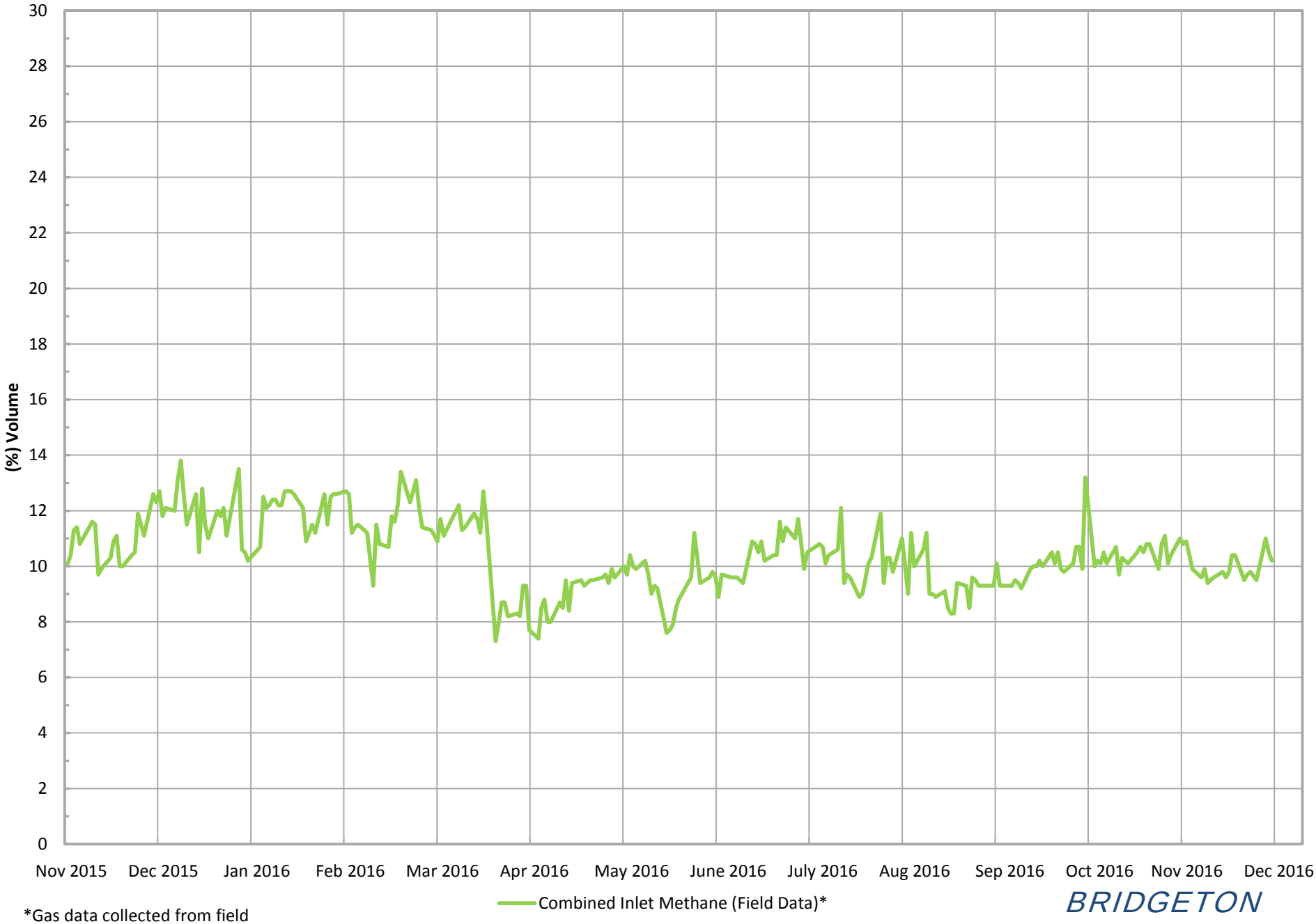
South Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the South Quarry.

BRIDGETON LANDFILL

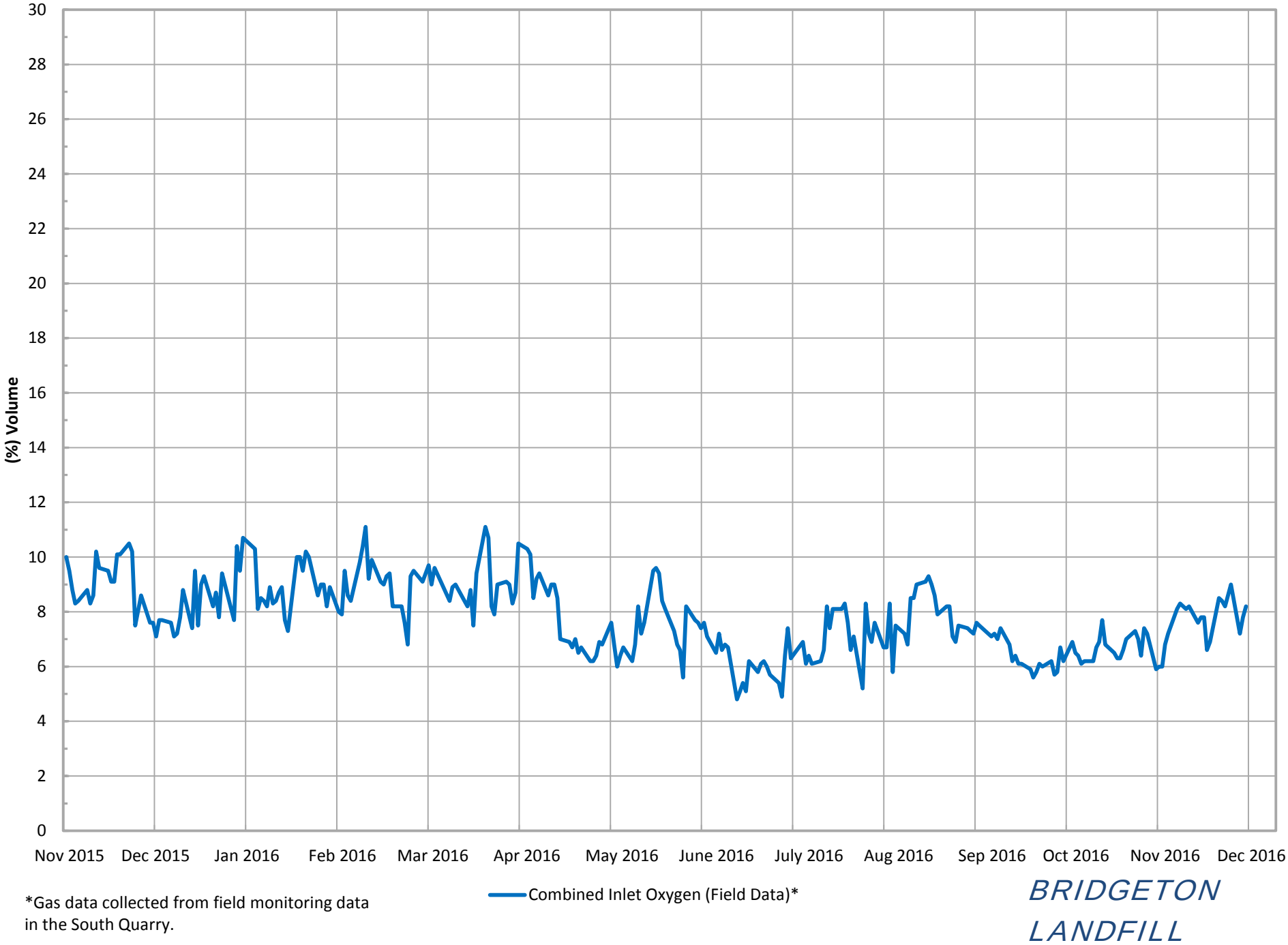
South Quarry Inlet Methane (Field Data)*



*Gas data collected from field monitoring data in the South Quarry.

BRIDGETON LANDFILL

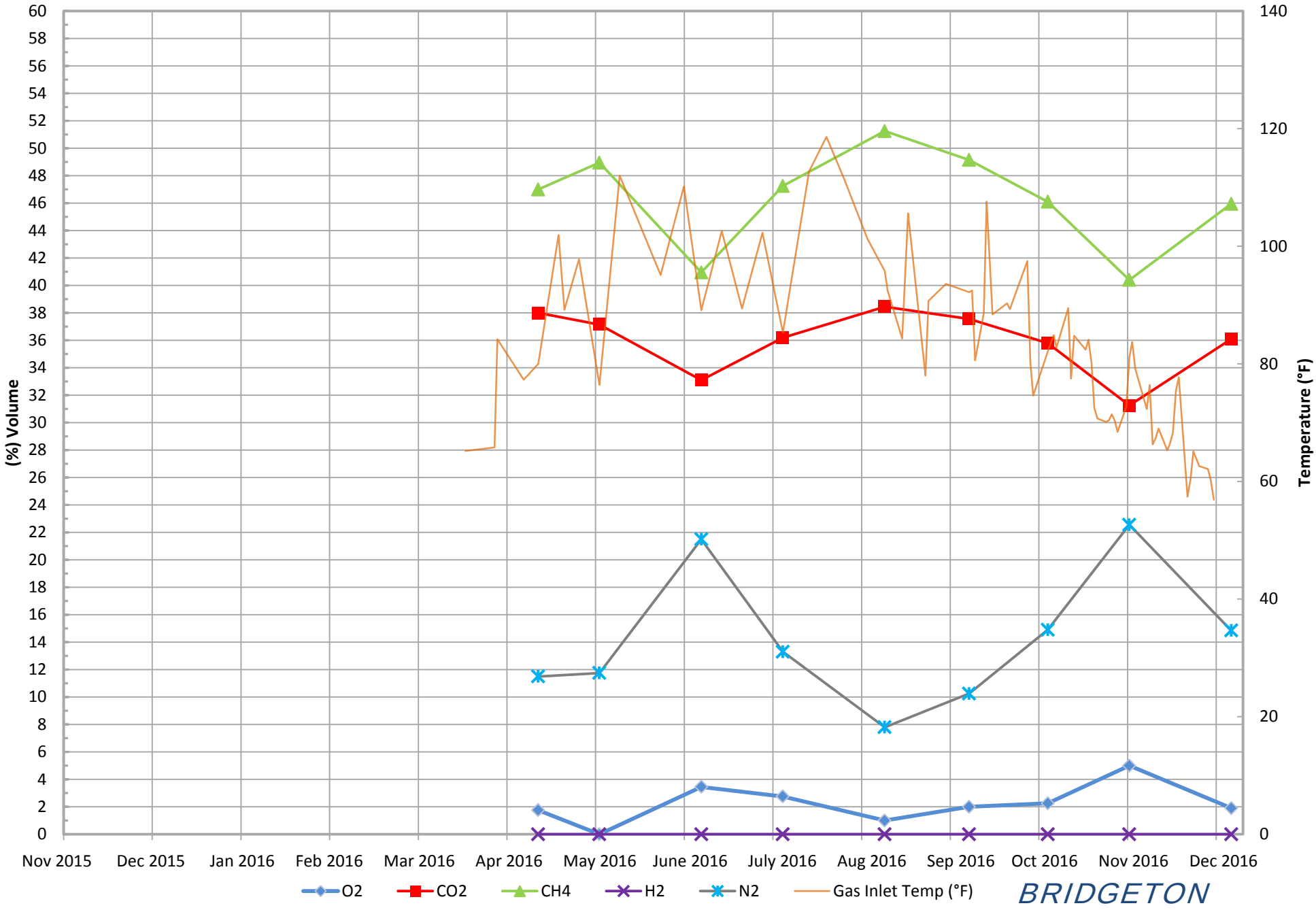
South Quarry Inlet Oxygen (Field Data)*



*Gas data collected from field monitoring data in the South Quarry.

BRIDGETON LANDFILL

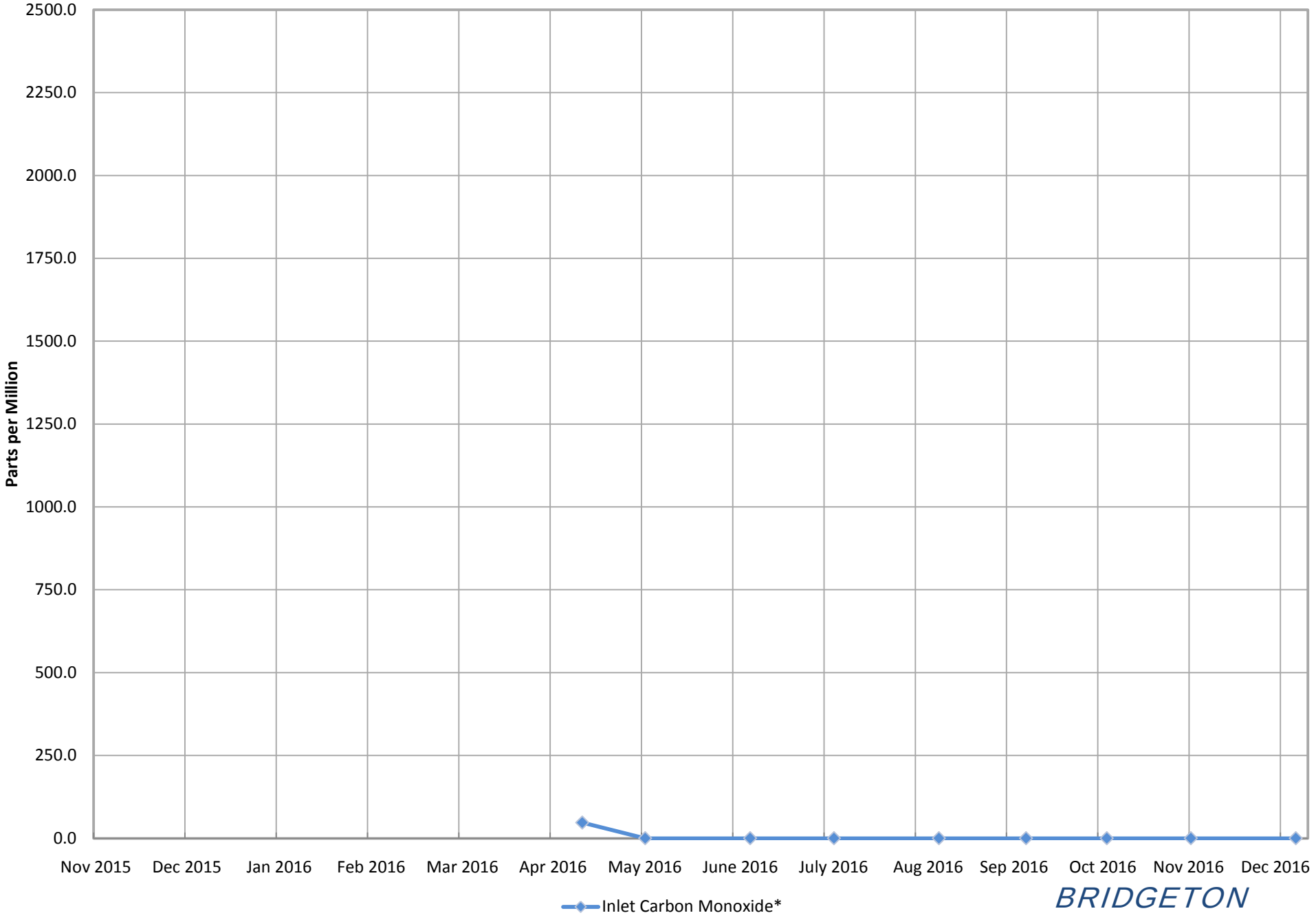
North Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

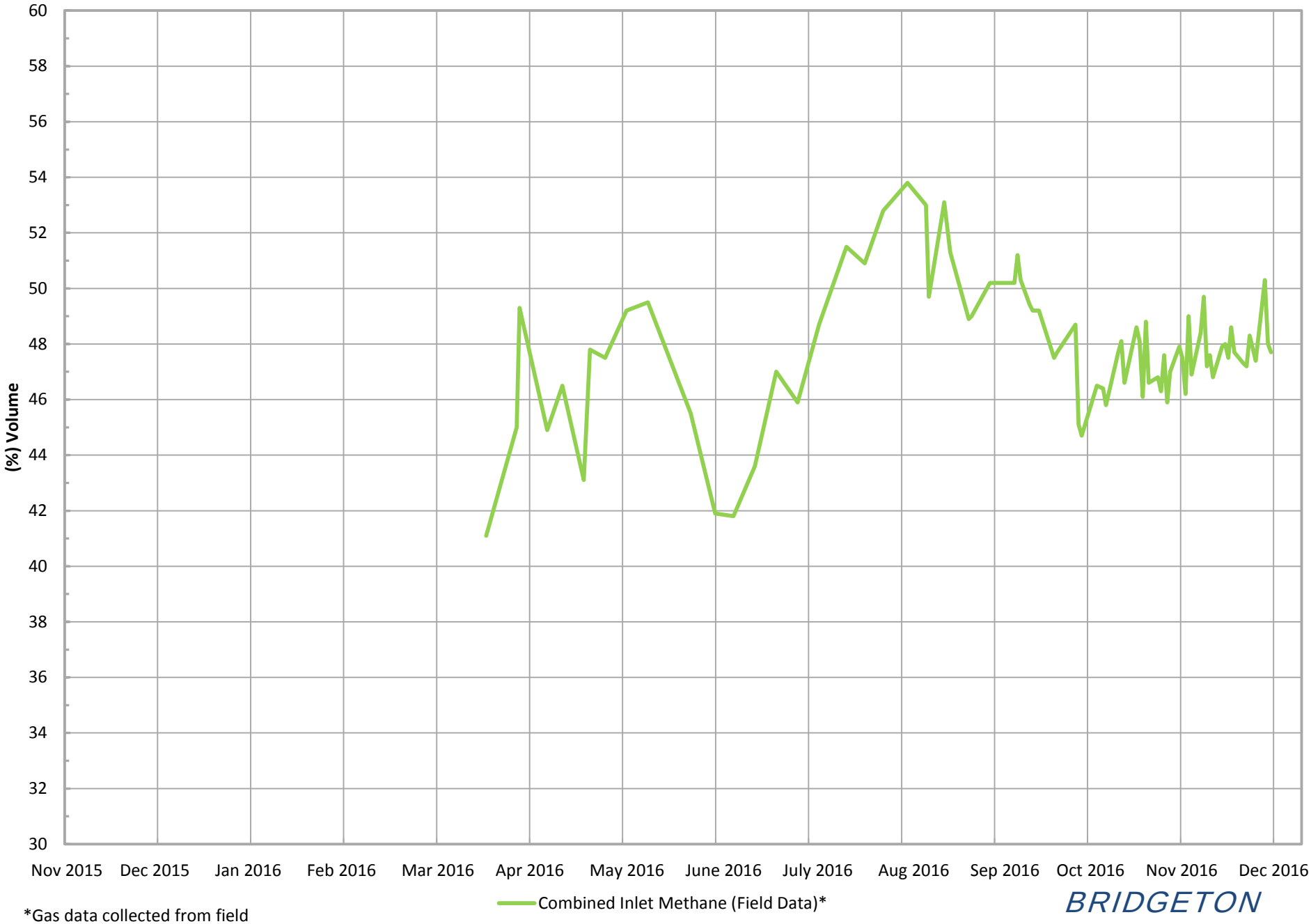
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

BRIDGETON LANDFILL

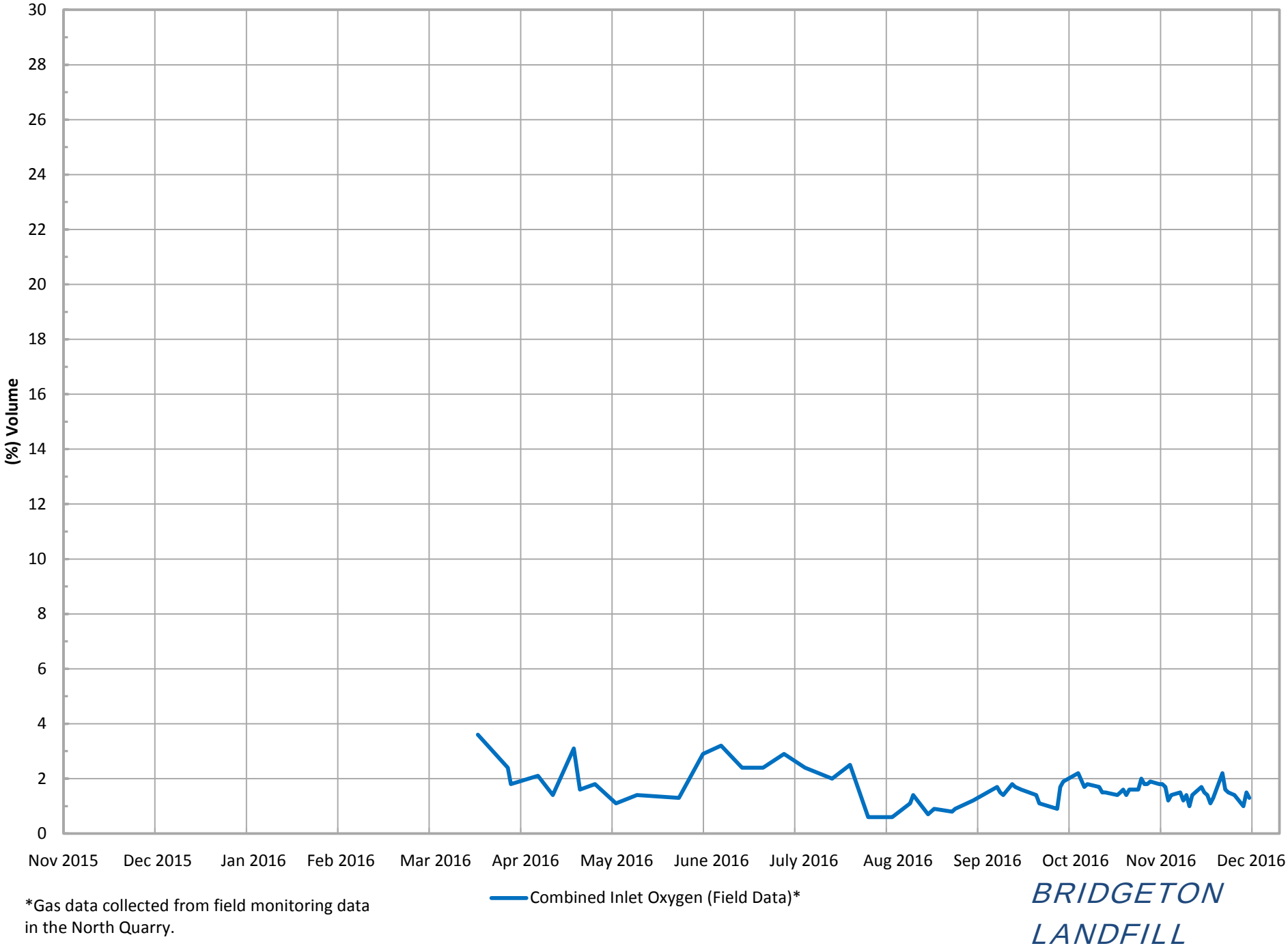
North Quarry Inlet Methane (Field Data)*



*Gas data collected from field monitoring data in the North Quarry.

BRIDGETON LANDFILL

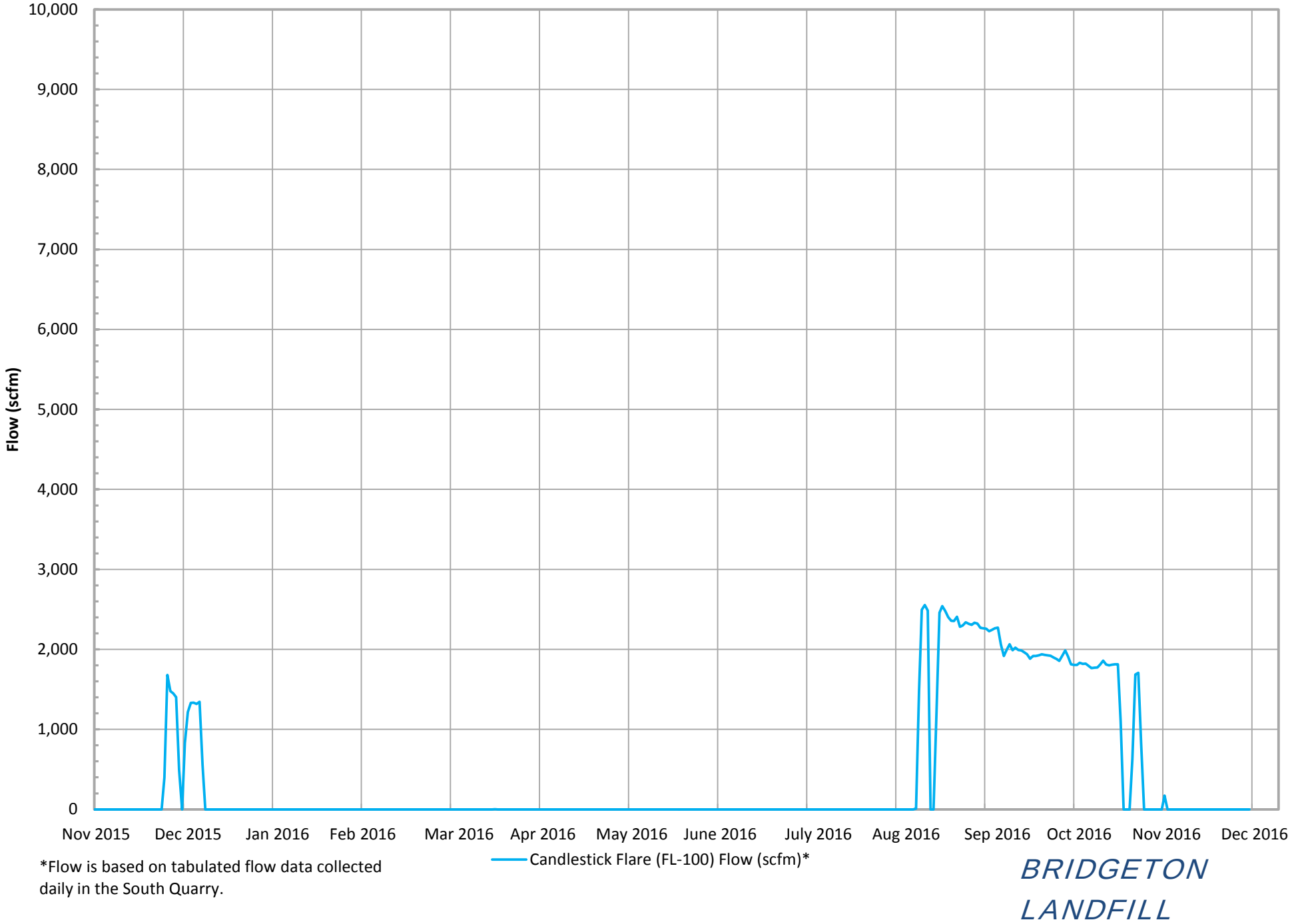
North Quarry Inlet Oxygen (Field Data)*



*Gas data collected from field monitoring data in the North Quarry.

BRIDGETON LANDFILL

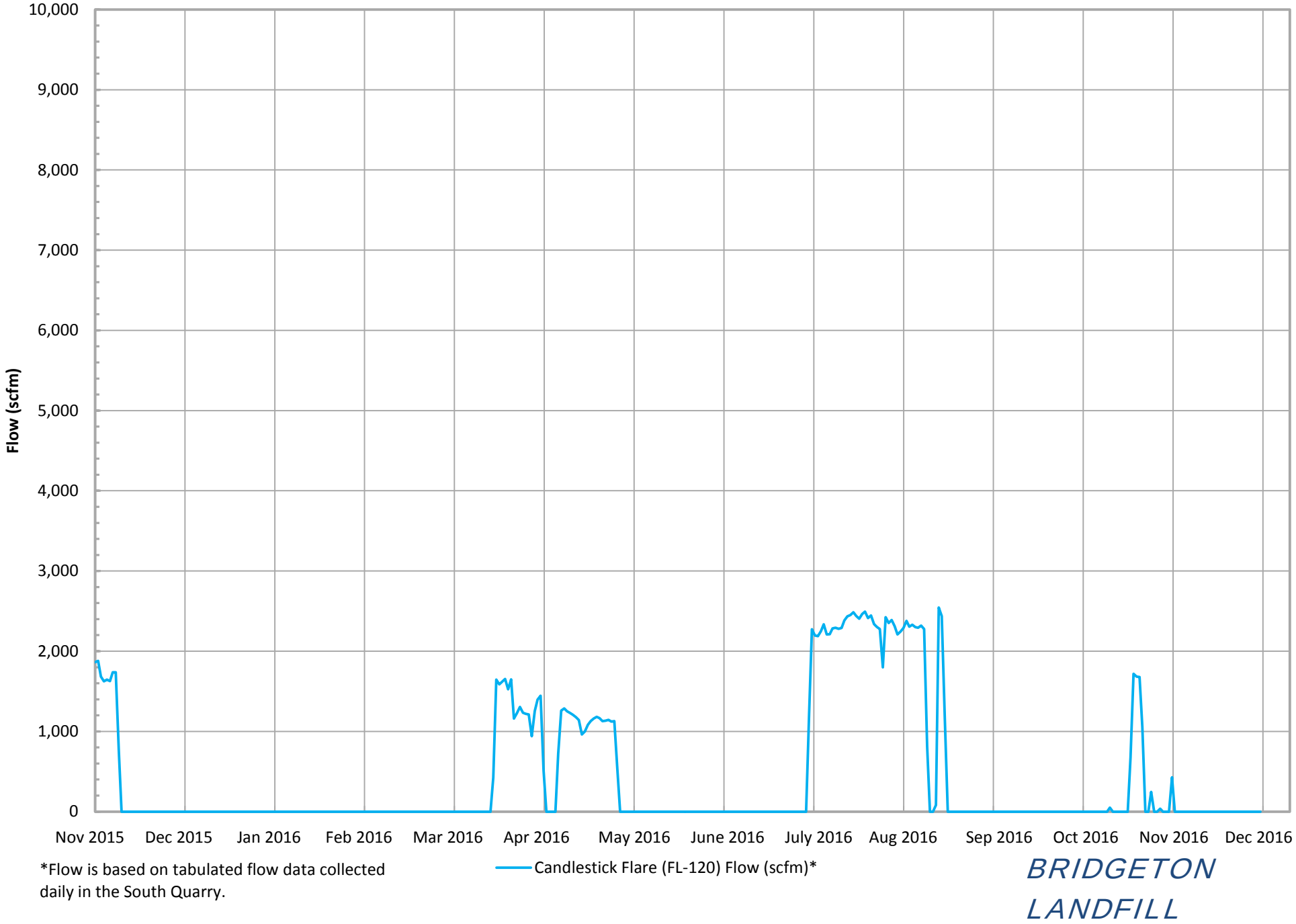
Candlestick Flare (FL-100) Flow (scfm)*



*Flow is based on tabulated flow data collected daily in the South Quarry.

BRIDGETON LANDFILL

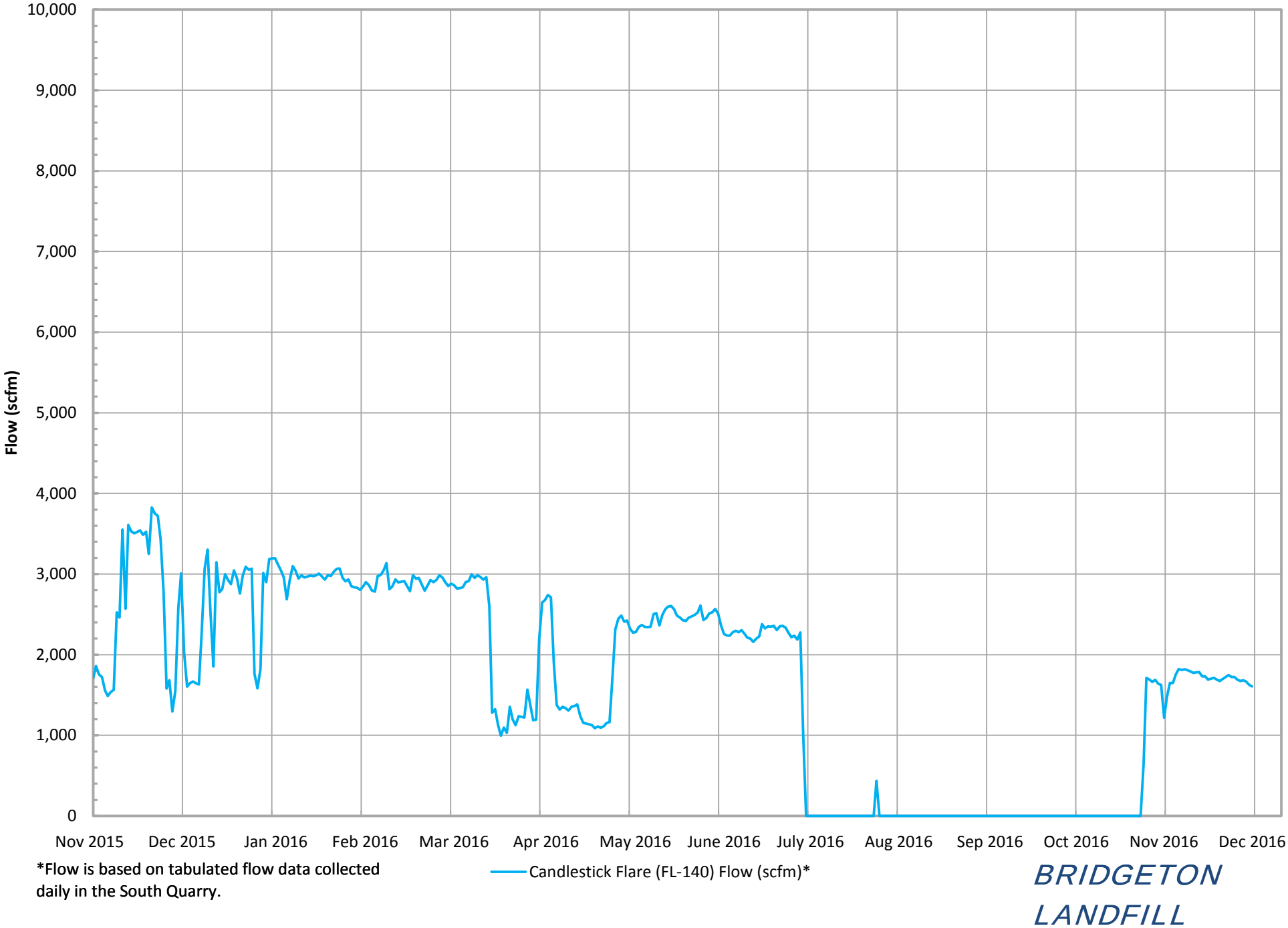
Candlestick Flare (FL-120) Flow (scfm)*



*Flow is based on tabulated flow data collected daily in the South Quarry.

BRIDGETON LANDFILL

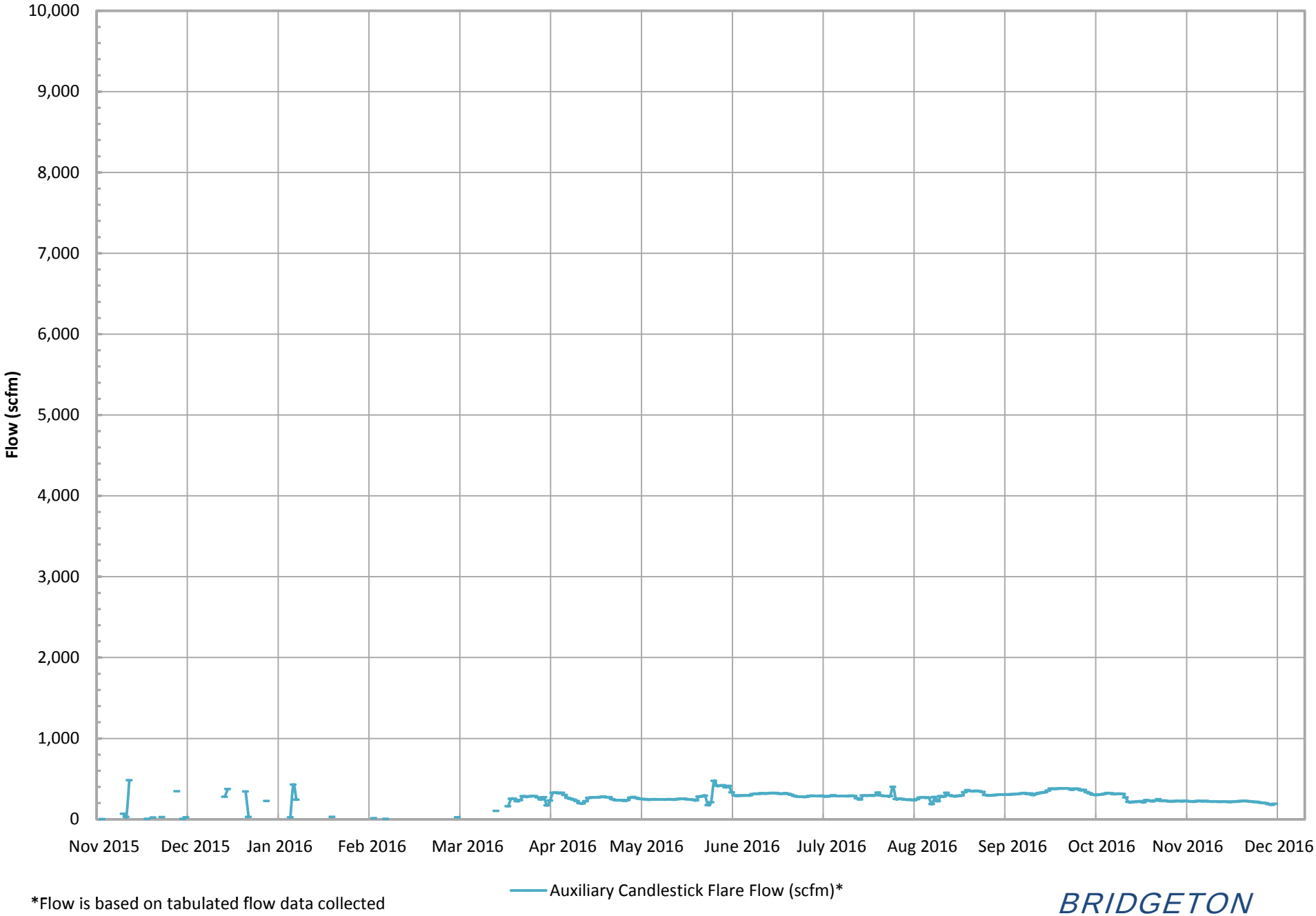
Candlestick Flare (FL-140) Flow (scfm)*



*Flow is based on tabulated flow data collected daily in the South Quarry.

BRIDGETON LANDFILL

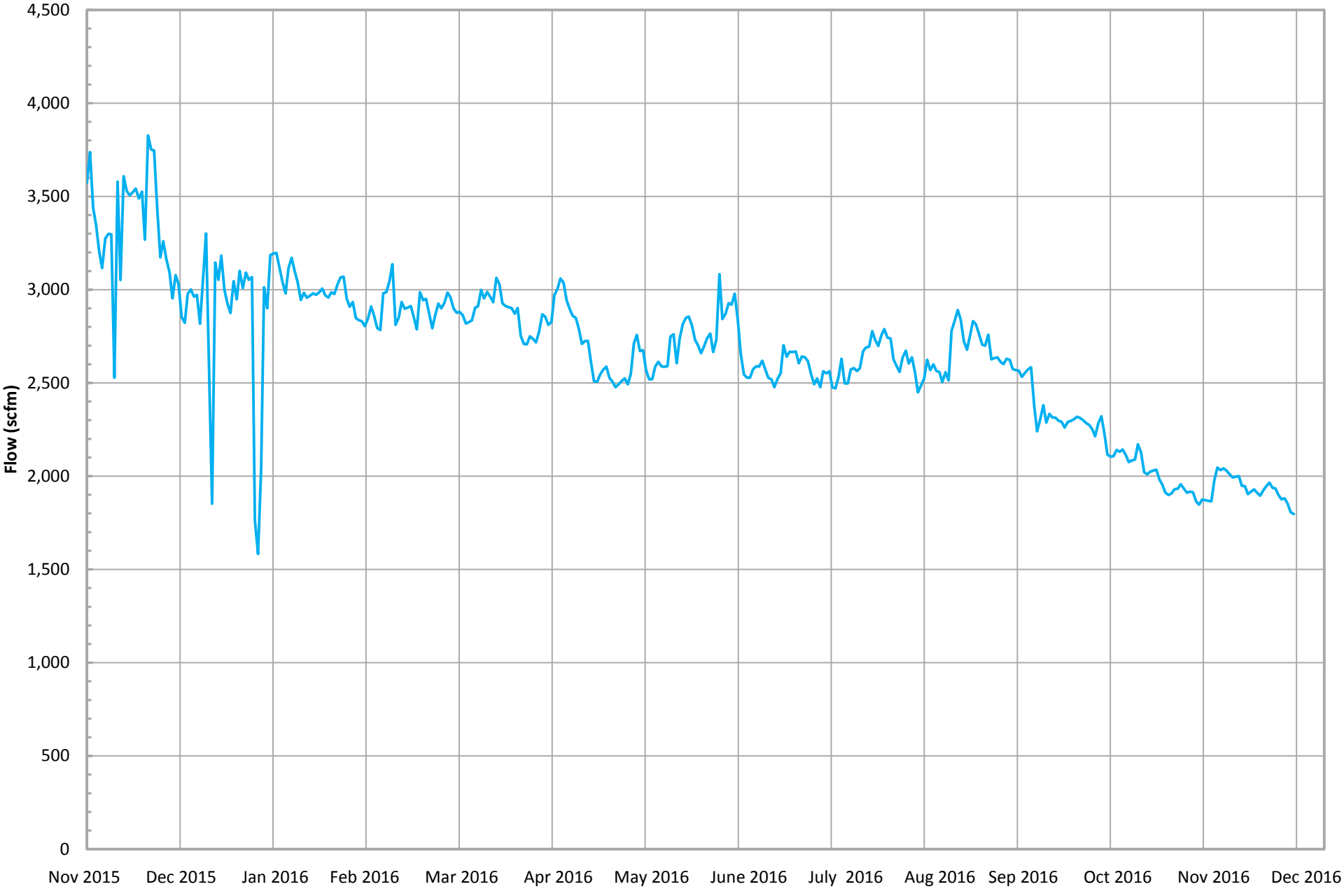
Auxiliary Candlestick Flare Flow (scfm)*



*Flow is based on tabulated flow data collected daily in the North Quarry.

BRIDGETON LANDFILL

Total Combined Flow (scfm)*

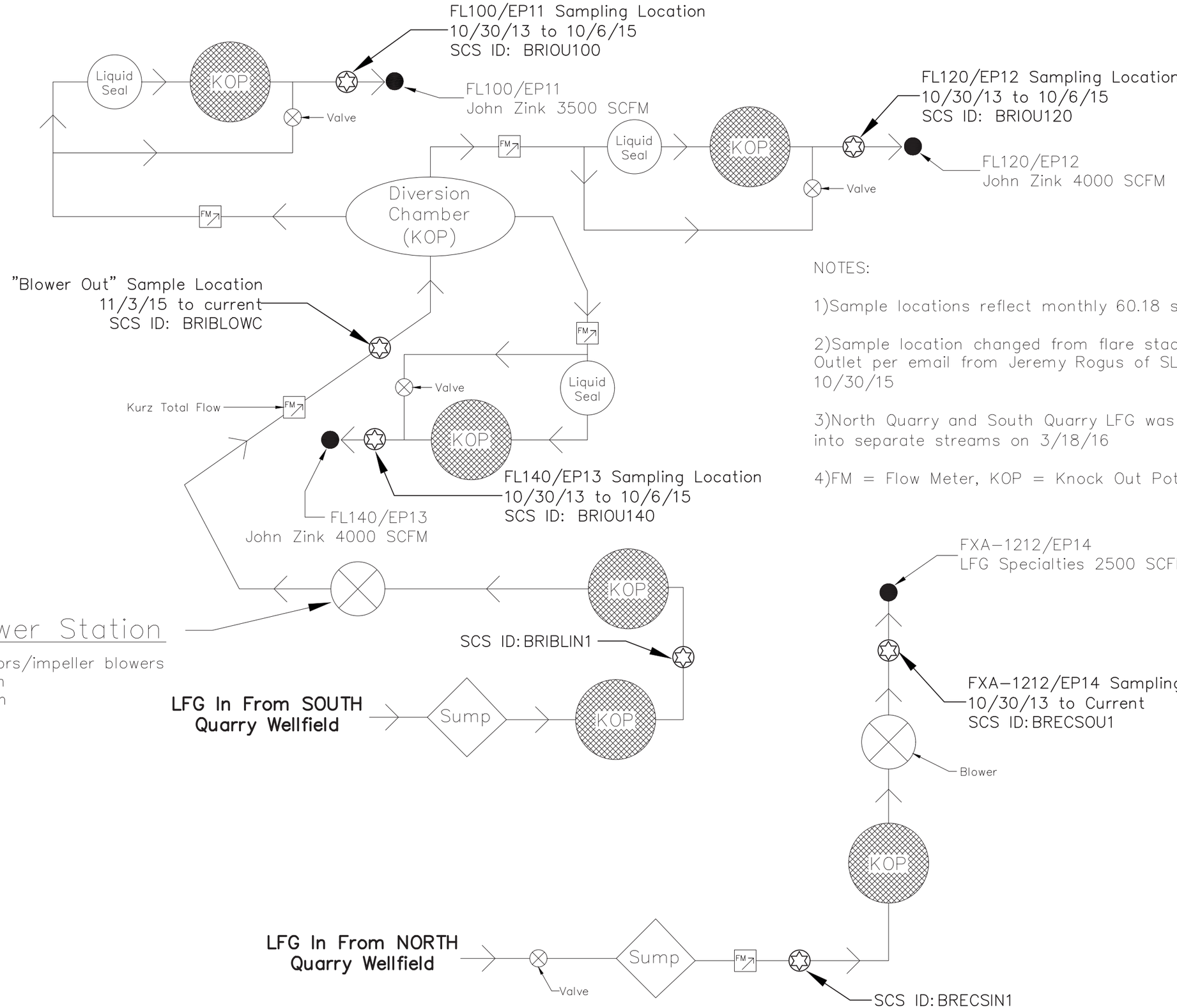


*Combined flow is based on tabulated flow data collected daily from FL-100, FL-120, FL-140, and the Auxillary Candlestick Flare.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



NOTES:

1)Sample locations reflect monthly 60.18 sampling points

2)Sample location changed from flare stacks to Blower Outlet per email from Jeremy Rogus of SLCHD dated 10/30/15

3)North Quarry and South Quarry LFG was segregated into separate streams on 3/18/16

4)FM = Flow Meter, KOP = Knock Out Pot

PREPARED FOR:
BRIDGETON LANDFILL, LLC

FIGURE 1 - SOUTH QUARRY
GCCS FLARE COMPOUND
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI

No.	DATE	REVISION DESCRIPTION
1	9/19/2016	EP-9B Removed, Shown only to represent SQ LFG flow

Weaver Consultants Group

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DRAWN BY:	DT
REVIEWED BY:	MC
DATE:	10/7/2016
FILE:	0120-131-10
CAD:	Figure 1 - Flow Diagram.dwg

SHEET 1 OF 1

TABLE 1 **Bridgeton Landfill, LLC.**

Summary of Key LFG Tested Parameters **November 1, 2016 to December 6, 2016**

Flare Compound: Blower Outlet

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
92-49[1]	12/6/2016	17.27	1445	1600
				1600
91-48[2]	11/29/2016	19.02	1541	1600
				1700
90-47[2]	11/22/2016	21.04	1704	1300
				1300
89-46[2]	11/15/2016	19.84	1607	1600
				1700
88-45[2]	11/9/2016	20.98	1699	1400
				1500
87-44[1]	11/1/2016	20.23	1445	1700
				1600

Notes:

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

[2]Indicates velocity/flow recorded by Blower Outlet's KURZ Flow Meter

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 92-49
12/06/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)		
Date	Test Date	12/6/16
Start	Run Start Time	13:58
	Run Finish Time	15:10
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:12:20
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.40
% H_2O	Moisture Content of LFG, %	0.72
% RH	Relative Humidity, %	66.20
M_{fd}	Dry Mole Fraction	0.993
%CH_4	Methane, %	9.25
%CO_2	Carbon Dioxide, %	37.75
%O_2	Oxygen, %	7.65
%Balance	Assumed as Nitrogen, %	32.40
%H_2	Hydrogen, %	11.95
%CO	Carbon Monoxide, %	0.08
M_d	Dry Molecular Weight, lb/lb-Mole	29.89
M_s	Wet Molecular weight, lb/lb-Mole	29.80
P_g	Flue Gas Static Pressure, inches of H_2O	17.29
P_s	Absolute Flue Gas Pressure, inches of Mercury	30.56
t_s	Average Stack Gas Temperature, °F	60
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.073
v_s	Average LFG Velocity, feet/second	17.27
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,445
Q_s	Standard Volumetric Flow Rate, scfm	1,455
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,402
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	6,725
NHV	Net Heating Value, Btu/scf	139.4
LFG_{CH4}	Methane, lb/hr	334.0
	Methane, grains/dscf	26.97
LFG_{CO2}	Carbon Dioxide, lb/hr	3,739.5
	Carbon Dioxide, grains/dscf	301.93
LFG_{O2}	Oxygen, lb/hr	551.0
	Oxygen, grains/dscf	44.49
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,042.9
	Balance gas as Nitrogen, grains/dscf	164.95
LFG_{H2}	Hydrogen, lb/hr	54.2
	Hydrogen, grains/dscf	4.38
LFG_{CO}	Carbon Monoxide, lb/hr	5.3
	Carbon Monoxide, grains/dscf	0.43

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	25	25
	Hydrogen Sulfide Rate, lb/hr	0.19	0.19
	Hydrogen Sulfide Rate, grains/dscf	0.015	0.015
COS	Carbonyl Sulfide Concentration, ppmd	0.58	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	240	240
	Methyl Mercaptan Rate, lb/hr	2.60	2.60
	Methyl Mercaptan Rate, grains/dscf	0.210	0.210
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.7	2.9
	Ethyl Mercaptan Rate, lb/hr	0.04	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,200	1,200
	Dimethyl Sulfide Rate, lb/hr	16.78	16.78
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	0.89	0.97
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	62	62
	Dimethyl Disulfide Rate, lb/hr	1.31	1.06
	Dimethyl Disulfide Rate, grains/dscf	0.106	0.086

❶ **$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,600	1,600
	TRS-->SO2 Emission Rate, lb/hr	23.07	23.07
	TRS-->SO2 Emission Rate, grains/dscf	1.863	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, December 06, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**13:58**	**1,455**	**1,461**	**1,565**	**-0.4%**	**-7.5%**	**6.6%**

**NOTE: Kurz flow meter sent to manufacture for check and calibration 09/01/2016, in it's place backup Kurz FM put in for temporary monitoring. This unit not yet field calibrated, despite this the, Fleetzoom FM (TSI 95) for FL100 accurately monitoring flow.*

**NOTE: individual LFG flow meters that monitor each flare's respective flow, and reported to Fleetzoom database were manufactured calibrated and certified in the field, insitu, 10/11/2016. Subsequently 10/19 and 10/31 system and Kurz FM were scaled when brought on line.*

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 92-49
12/06/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	12/6/16
Start	Run Start Time	11:15
	Run Finish Time	12:33
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:17:30
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.40
% H_2O	Moisture Content of LFG, %	1.54
% RH	Relative Humidity, %	96.40
M_{fd}	Dry Mole Fraction	0.985
%CH_4	Methane, %	45.95
%CO_2	Carbon Dioxide, %	36.10
%O_2	Oxygen, %	1.90
%Balance	Assumed as Nitrogen, %	14.85
%H_2	Hydrogen, % (** reported at the laboratory detection limit*)	2.85
%CO	Carbon Monoxide, % (** reported at the laboratory detection limit*)	0.00285
M_d	Dry Molecular Weight, lb/lb-Mole	28.09
M_s	Wet Molecular weight, lb/lb-Mole	27.93
P_g	Flue Gas Static Pressure, inches of H_2O	0.82
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.46
t_s	Average Stack Gas Temperature, °F	56
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.012
v_s	Average LFG Velocity, feet/second	7.34
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	224
Q_s	Standard Volumetric Flow Rate, scfm	228
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	226
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	981
NHV	Net Heating Value, Btu/scf	418.2
LFG_{CH4}	Methane, lb/hr	257.5
	Methane, grains/dscf	133.97
LFG_{CO2}	Carbon Dioxide, lb/hr	554.9
	Carbon Dioxide, grains/dscf	288.73
LFG_{O2}	Oxygen, lb/hr	21.2
	Oxygen, grains/dscf	11.05
LFG_{N2}	Balance gas as Nitrogen, lb/hr	145.3
	Balance gas as Nitrogen, grains/dscf	75.60
LFG_{H4}	Hydrogen, lb/hr	2.0
	Hydrogen, grains/dscf	1.04
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.01

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	48	47
	Hydrogen Sulfide Rate, lb/hr	0.06	0.06
	Hydrogen Sulfide Rate, grains/dscf	0.030	0.029
COS	Carbonyl Sulfide Concentration, ppmd	0.58	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	3.2	3.2
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.58	0.56
	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	13	12
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.015	0.014
CS_2	Carbon Disulfide Concentration, ppmd	0.58	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	0.58	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	65	64
	TRS-->SO2 Emission Rate, lb/hr	0.15	0.14
	TRS-->SO2 Emission Rate, grains/dscf	0.076	0.075

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

AirTECHNOLOGY
Laboratories, Inc.

December 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 LF Monthly Permit Flare LFG Testing
Lab Number: H120701-01/04

Enclosed are results for sample(s) received 12/07/16 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 12/08/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

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

PAGE: 1 OF 1

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 LF Monthly Permit Flare LFG Testing
Report To:	Nick Bauers/Ryan 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.:	PO5881099
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)		
H120781-01	4431	-21	-3.5	-3.5	SQ Blower Outlet A	12/6/2016	1300	C -6L	LFG	He	X	X				
-02	1302	-21	-3.5	-3	SQ Blower Outlet B	12/6/2016	1322	C -6L	LFG	He	X	X				
-03	6013	-20.6	-3.5	-3.5	NQ EP14 A	12/6/2016	1017	C -6L	LFG	He	X			X		
-04	1296	-20.8	-3.5	-3	NQ EP14 B	12/6/2016	1040	C -6L	LFG	He	X			X		

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS:**
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers 12-6-16 1430	DATE/RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX	DATE/RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE/RECEIVED BY: [illegible] 12/7/16 0911	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 LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 12/07/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H120701-01		H120701-02		H120701-03		H120701-04	
Client Sample I.D.:	SQ Blower Outlet A		SQ Blower Outlet B		NQ EP14 A		NQ EP14 B	
Date/Time Sampled:	12/6/16 13:00		12/6/16 13:22		12/6/16 10:17		12/6/16 10:40	
Date/Time Analyzed:	12/7/16 15:19		12/7/16 15:31		12/7/16 15:44		12/7/16 15:56	
QC Batch No.:	161207GC3A1		161207GC3A1		161207GC3A1		161207GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.9		2.8		2.9		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	25	0.58	25	0.56	48 d	5.8	47 d	5.6
Carbonyl Sulfide	ND	0.58	ND	0.56	ND	0.58	ND	0.56
Methyl Mercaptan	240 d	5.8	240 d	5.6	3.2	0.58	3.2	0.56
Ethyl Mercaptan	2.7	0.58	2.9	0.56	ND	0.58	ND	0.56
Dimethyl Sulfide	1,200 d	58	1,200 d	56	13	0.58	12	0.56
Carbon Disulfide	0.89	0.58	0.97	0.56	ND	0.58	ND	0.56
Dimethyl Disulfide	62 d	5.8	62 d	5.6	ND	0.58	ND	0.56
Total Reduced Sulfur	1,600	0.58	1,600	0.56	65	0.58	64	0.56

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

Reviewed/Approved By: _____ Date 12/8/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 161207GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/7/16 15:06		12/7/16 14:42		12/7/16 14:54			
Analyst Initials:	AS		AS		AS			
Datafile:	07dec005		07dec003		07dec004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	111	70-130%	112	70-130%	0.8	<30
Carbonyl Sulfide	ND	0.20	106	70-130%	106	70-130%	0.7	<30
Methyl Mercaptan	ND	0.20	106	70-130%	106	70-130%	0.5	<30
Ethyl Mercaptan	ND	0.20	105	70-130%	104	70-130%	0.4	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	99	70-130%	0.5	<30
Carbon Disulfide	ND	0.20	113	70-130%	112	70-130%	0.5	<30
Dimethyl Disulfide	ND	0.20	83	70-130%	83	70-130%	0.2	<30

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

Reviewed/Approved By: _____ Date: 12/8/16
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 LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 12/07/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H120701-01		H120701-02					
Client Sample I.D.:	SQ Blower Outlet A		SQ Blower Outlet B					
Date/Time Sampled:	12/6/16 13:00		12/6/16 13:22					
Date/Time Analyzed:	12/7/16 14:34		12/7/16 14:49					
QC Batch No.:	161207GC8A1		161207GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.9		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	11.9	2.9	12.0	2.8				
Carbon Dioxide	37.8	0.029	37.7	0.028				
Oxygen/Argon	7.6	1.4	7.7	1.4				
Nitrogen	32.4	2.9	32.4	2.8				
Methane	9.3	0.0029	9.2	0.0028				
Carbon Monoxide	0.084	0.0029	0.084	0.0028				
Net Heating Value (BTU/ft3)	138.5	2.9	140.2	2.8				
Gross Heating Value (BTU/ft3)	157.8	2.9	159.6	2.8				

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

Reviewed/Approved By: _____ Date 12/8/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 12/07/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H120701-03		H120701-04					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	12/6/16 10:17		12/6/16 10:40					
Date/Time Analyzed:	12/7/16 15:03		12/7/16 15:18					
QC Batch No.:	161207GC8A1		161207GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.9		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	2.9	ND	2.8				
Carbon Dioxide	35.9	0.029	36.3	0.028				
Oxygen/Argon	2.0	1.4	1.8	1.4				
Nitrogen	15.1	2.9	14.6	2.8				
Methane	45.9	0.0029	46.0	0.0028				
Carbon Monoxide	ND	0.0029	ND	0.0028				
Net Heating Value (BTU/ft3) methane only	417.7	2.9	418.6	2.8				
Gross Heating Value (BTU/ft3) methane only	463.9	2.9	464.9	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 12/8/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No: 161207GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	12/7/16 14:19			12/7/16 13:35		12/7/16 13:50					
Analyst Initials:	AS			AS		AS					
Dilution Factor:	1.0			1.0		1.0					
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	5.23	105	5.29	106	1.1	70	130	30
Carbon Dioxide	ND	0.010	10	9.54	95	9.51	95	0.3	70	130	30
Oxygen/Argon	ND	0.50	15	15.3	103	15.3	103	0.0	70	130	30
Nitrogen	ND	1.0	70	69.8	100	69.8	100	0.1	70	130	30
Methane	ND	0.0010	0.10	0.119	119	0.118	118	0.3	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.104	104	0.104	104	0.2	70	130	30

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

Reviewed/Approved By: _____ Date 12/8/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 91-48
11/29/2016

Kurz FM =	**1,623**	scfm
Fleetzoom Total =	**1,642**	scfm

$\Delta =$ **1.2%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date		11/29/16
Time	Start	14:05	14:14
***%CH_4**	Methane, %	10.80	11.00
***%CO_2**	Carbon Dioxide, %	42.70	34.90
***'%O_2**	Oxygen, %	7.40	7.80
***%Balance**	Assumed as Nitrogen, %	39.10	46.30
P_g	Flue Gas Static Pressure, inches of H_2O	17.21	17.72
t_s	Blower Outlet LFG Temperature, °F	74	88
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,541	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,623	
LFG_{CH4}	Methane, lb/hr	416.0	423.7
	Methane, grains/dscf	31.49	32.07
LFG_{CO2}	Carbon Dioxide, lb/hr	4,512.1	3,687.9
	Carbon Dioxide, grains/dscf	341.52	279.13
LFG_{O2}	Oxygen, lb/hr	568.6	599.3
	Oxygen, grains/dscf	43.03	45.36
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,630.0	3,114.3
	Balance gas as Nitrogen, grains/dscf	199.06	235.71

** 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	31.00	27.00
	Hydrogen Sulfide Rate, lb/hr	0.30	0.22
	Hydrogen Sulfide Rate, grains/dscf	0.023	0.017
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	250.00	240.00
	Methyl Mercaptan Rate, lb/hr	2.89	2.77
	Methyl Mercaptan Rate, grains/dscf	0.219	0.210
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.90	3.00
	Ethyl Mercaptan Rate, lb/hr	0.04	0.04
	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	17.90	17.90
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.00	1.00
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	73.00	81.00
	Dimethyl Disulfide Rate, lb/hr	1.65	1.83
	Dimethyl Disulfide Rate, grains/dscf	0.125	0.139
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,600.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	24.61	26.15
	TRS-->SO2 Emission Rate, grains/dscf	1.863	1.979
	TPY =	107.80	114.54

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 91-48
11/29/2016

Fleetzoom Total = 185 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		11/29/16
Time	Start	13:36	13:44
***%CH_4**	Methane, %	50.70	48.90
***%CO_2**	Carbon Dioxide, %	29.70	38.20
***'%O_2**	Oxygen, %	1.30	1.20
***%Balance**	Assumed as Nitrogen, %	18.30	11.70
P_g	Flue Gas Static Pressure, inches of H_2O	0.86	0.86
t_s	Blower Outlet LFG Temperature, °F	75.70	78.40
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	176	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	185	
LFG_{CH4}	Methane, lb/hr	222.7	214.8
	Methane, grains/dscf	147.81	142.57
LFG_{CO2}	Carbon Dioxide, lb/hr	357.9	460.3
	Carbon Dioxide, grains/dscf	237.54	305.52
LFG_{O2}	Oxygen, lb/hr	11.4	10.5
	Oxygen, grains/dscf	7.56	6.98
LFG_{N2}	Balance gas as Nitrogen, lb/hr	140.4	89.7
	Balance gas as Nitrogen, grains/dscf	93.17	59.56

** 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	46.00	38.00
	Hydrogen Sulfide Rate, lb/hr	0.04	0.04
	Hydrogen Sulfide Rate, grains/dscf	0.028	0.024
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	2.30	2.40
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.002
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	11.00	12.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.012	0.014
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	0.63
	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	61.00	53.00
	TRS-->SO2 Emission Rate, lb/hr	0.11	0.09
	TRS-->SO2 Emission Rate, grains/dscf	0.071	0.062
	TPY =	0.47	0.41

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

Air TECHNOLOGY Laboratories, Inc.

December 7, 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: H113003-01/04

Enclosed are results for sample(s) received 11/30/16 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 12/07/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

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 - 5881099
Bill to:	Republic Services #921076
	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												
#113603-01	J1723	-19.5	-3.5	-5	NQ EP14 A	11/29/2016	1336	C	LFG	NA	X					
-02	J1717	-19.7	-3.5	-5	NQ EP14 B	11/29/2016	1344	C	LFG	NA	X					
-03	1613	-19.6	-3.5	-5	SQ Blower Outlet A	11/29/2016	1405	C	LFG	NA	X					
-04	J1719	-19.6	-3.5	-5	SQ Blower Outlet B	11/29/2016	1414	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	COMMENTS
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers	DATE: 11-29-16 1500 RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX	DATE: RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE: RECEIVED BY	DATE/TIME	

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

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 LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 11/30/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H113003-01		H113003-02		H113003-03		H113003-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	11/29/16 13:36		11/29/16 13:44		11/29/16 14:05		11/29/16 14:14	
Date/Time Analyzed:	12/1/16 9:44		12/1/16 9:56		12/1/16 10:37		12/1/16 10:49	
QC Batch No.:	161201GC3A1		161201GC3A1		161201GC3A1		161201GC3A1	
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	46 d	6.3	38 d	6.3	31	0.63	27	0.63
Carbonyl Sulfide	ND	0.63	ND	0.63	ND	0.63	ND	0.63
Methyl Mercaptan	2.3	0.63	2.4	0.63	250 d	6.3	240 d	6.3
Ethyl Mercaptan	ND	0.63	ND	0.63	2.9	0.63	3.0	0.63
Dimethyl Sulfide	11	0.63	12	0.63	1,200 d	63	1,200 d	63
Carbon Disulfide	ND	0.63	ND	0.63	1.00	0.63	1.0	0.63
Dimethyl Disulfide	ND	0.63	ND	0.63	73 d	6.3	81 d	6.3
Total Reduced Sulfur	61	0.63	53	0.63	1,600	0.63	1,700	0.63

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

Reviewed/Approved By: _____ Date 12/7/16
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.: 161201GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	12/1/16 9:13		12/1/16 8:49		12/1/16 9:01			
Analyst Initials:	AS		AS		AS			
Datafile:	01dec003		01dec001		01dec002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	101	70-130%	100	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	104	70-130%	1.0	<30
Methyl Mercaptan	ND	0.20	96	70-130%	96	70-130%	0.6	<30
Ethyl Mercaptan	ND	0.20	99	70-130%	98	70-130%	1.3	<30
Dimethyl Sulfide	ND	0.20	99	70-130%	98	70-130%	1.1	<30
Carbon Disulfide	ND	0.20	106	70-130%	106	70-130%	0.2	<30
Dimethyl Disulfide	ND	0.20	83	70-130%	83	70-130%	0.3	<30

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

Reviewed/Approved By: _____ Date: 12/7/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 90-47
11/22/2016

Kurz FM =	**1,794**	scfm
Fleetzoom Total =	**1,721**	scfm

Δ = **-4.2%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date		11/22/16
Time	Start	11:07	11:16
***%CH_4**	Methane, %	9.60	9.70
***%CO_2**	Carbon Dioxide, %	40.30	36.80
***'%O_2**	Oxygen, %	8.30	8.80
***%Balance**	Assumed as Nitrogen, %	41.80	44.70
P_g	Flue Gas Static Pressure, inches of H_2O	20.42	17.63
t_s	Blower Outlet LFG Temperature, °F	77	79
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,704	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,794	
LFG_{CH4}	Methane, lb/hr	408.8	413.0
	Methane, grains/dscf	27.99	28.28
LFG_{CO2}	Carbon Dioxide, lb/hr	4,707.5	4,298.6
	Carbon Dioxide, grains/dscf	322.32	294.33
LFG_{O2}	Oxygen, lb/hr	704.9	747.4
	Oxygen, grains/dscf	48.27	51.17
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,108.0	3,323.6
	Balance gas as Nitrogen, grains/dscf	212.80	227.57

** 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	27.00	31.00
	Hydrogen Sulfide Rate, lb/hr	0.24	0.28
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.019
COS	Carbonyl Sulfide Concentration, ppmd	0.55	0.53
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	200.00	210.00
	Methyl Mercaptan Rate, lb/hr	2.55	2.68
	Methyl Mercaptan Rate, grains/dscf	0.175	0.184
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.40	2.60
	Ethyl Mercaptan Rate, lb/hr	0.04	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	970.00	970.00
	Dimethyl Sulfide Rate, lb/hr	16.00	16.00
	Dimethyl Sulfide Rate, grains/dscf	1.095	1.095
CS_2	Carbon Disulfide Concentration, ppmd	0.91	0.96
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	53.00	55.00
	Dimethyl Disulfide Rate, lb/hr	1.33	1.38
	Dimethyl Disulfide Rate, grains/dscf	0.091	0.094
❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,300.00	1,300.00
	TRS-->SO2 Emission Rate, lb/hr	22.11	22.11
	TRS-->SO2 Emission Rate, grains/dscf	1.514	1.514
	TPY =	96.82	96.82

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 90-47
11/22/2016

Fleetzoom Total = 221 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		11/22/16
Time	Start	10:38	10:46
***%CH_4**	Methane, %	47.70	48.60
***%CO_2**	Carbon Dioxide, %	36.10	34.70
***'%O_2**	Oxygen, %	1.70	1.50
***%Balance**	Assumed as Nitrogen, %	14.50	15.20
P_g	Flue Gas Static Pressure, inches of H_2O	1.12	1.20
t_s	Blower Outlet LFG Temperature, °F	66.70	67.30
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	210	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	221	
LFG_{CH4}	Methane, lb/hr	250.5	255.3
	Methane, grains/dscf	139.07	141.69
LFG_{CO2}	Carbon Dioxide, lb/hr	520.1	500.0
	Carbon Dioxide, grains/dscf	288.73	277.53
LFG_{O2}	Oxygen, lb/hr	17.8	15.7
	Oxygen, grains/dscf	9.89	8.72
LFG_{N2}	Balance gas as Nitrogen, lb/hr	133.0	139.4
	Balance gas as Nitrogen, grains/dscf	73.82	77.38

** 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	47.00	45.00
	Hydrogen Sulfide Rate, lb/hr	0.05	0.05
	Hydrogen Sulfide Rate, grains/dscf	0.029	0.028
COS	Carbonyl Sulfide Concentration, ppmd	0.53	0.53
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	3.20	3.30
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.53	0.53
	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	12.00	12.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.014	0.014
CS_2	Carbon Disulfide Concentration, ppmd	0.53	0.53
	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	0.53	0.53
	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	63.00	61.00
	TRS-->SO2 Emission Rate, lb/hr	0.13	0.13
	TRS-->SO2 Emission Rate, grains/dscf	0.073	0.071
	TPY =	0.58	0.56

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

AirTECHNOLOGY
Laboratories, Inc.

December 2, 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: H112303-01/04

Enclosed are results for sample(s) received 11/23/16 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 12/02/16.

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

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 5881099
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												
#112303-01	R1164	-20.7	-3.5	-2	NQ EP14 A	11/22/2016	1038	C	LFG	NA	X					
-02	R1160	-20.8	-3.5	-2	NQ EP14 B	11/22/2016	1046	C	LFG	NA	X					
-03	R1162	-21	-3.5	-2.5	SQ Blower Outlet A	11/22/2016	1107	C	LFG	NA	X					
-04	R1365	-20.6	-3.5	-2	SQ Blower Outlet B	11/22/2016	1116	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:	
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: R Ayers	11-22-16 1200	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	11/23/16 DATE/TIME 1119	
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME	

COMMENTS

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: 11/23/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H112303-01		H112303-02		H112303-03		H112303-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	11/22/16 10:38		11/22/16 10:46		11/22/16 11:07		11/22/16 11:16	
Date/Time Analyzed:	11/28/16 16:18		11/28/16 16:30		11/28/16 16:42		11/28/16 16:55	
QC Batch No.:	161128GC3A1		161128GC3A1		161128GC3A1		161128GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.7		2.7		2.7		2.7	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	47 d	5.3	45 d	5.3	27	0.55	31 d	5.3
Carbonyl Sulfide	ND	0.53	ND	0.53	ND	0.55	ND	0.53
Methyl Mercaptan	3.2	0.53	3.3	0.53	200 d	5.5	210 d	5.3
Ethyl Mercaptan	ND	0.53	ND	0.53	2.4	0.55	2.6	0.53
Dimethyl Sulfide	12	0.53	12	0.53	970 d	55	970 d	53
Carbon Disulfide	ND	0.53	ND	0.53	0.91	0.55	0.96	0.53
Dimethyl Disulfide	ND	0.53	ND	0.53	53 d	5.5	55 d	5.3
Total Reduced Sulfur	63	0.53	61	0.53	1,300	0.55	1,300	0.53

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

Reviewed/Approved By: _____ Date 12/2/16
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.: 161128GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/28/16 16:05		11/28/16 15:40		11/28/16 15:53			
Analyst Initials:	AS		AS		AS			
Datafile:	28nov003		28nov001		28nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	113	70-130%	112	70-130%	0.3	<30
Carbonyl Sulfide	ND	0.20	107	70-130%	106	70-130%	0.5	<30
Methyl Mercaptan	ND	0.20	106	70-130%	105	70-130%	0.2	<30
Ethyl Mercaptan	ND	0.20	107	70-130%	105	70-130%	1.7	<30
Dimethyl Sulfide	ND	0.20	101	70-130%	100	70-130%	0.6	<30
Carbon Disulfide	ND	0.20	116	70-130%	115	70-130%	1.1	<30
Dimethyl Disulfide	ND	0.20	92	70-130%	93	70-130%	0.5	<30

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

Reviewed/Approved By: _____ Date: 12/2/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 89-46
11/15/2016

Kurz FM =	**1,692**	scfm
Fleetzoom Total =	**1,816**	scfm

$\Delta =$ **6.8%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date		11/15/16
Time	Start	14:35	14:43
***%CH_4**	Methane, %	11.30	10.50
***%CO_2**	Carbon Dioxide, %	39.70	33.40
***'%O_2**	Oxygen, %	7.50	7.70
***%Balance**	Assumed as Nitrogen, %	41.50	48.40
P_g	Flue Gas Static Pressure, inches of H_2O	17.46	17.08
t_s	Blower Outlet LFG Temperature, °F	98	99
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,607	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,692	
LFG_{CH4}	Methane, lb/hr	453.9	421.7
	Methane, grains/dscf	32.94	30.61
LFG_{CO2}	Carbon Dioxide, lb/hr	4,374.2	3,680.1
	Carbon Dioxide, grains/dscf	317.52	267.13
LFG_{O2}	Oxygen, lb/hr	600.8	616.9
	Oxygen, grains/dscf	43.61	44.78
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,910.6	3,394.5
	Balance gas as Nitrogen, grains/dscf	211.28	246.40

** 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	28.00	29.00
	Hydrogen Sulfide Rate, lb/hr	0.24	0.25
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.018
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	220.00	230.00
	Methyl Mercaptan Rate, lb/hr	2.65	2.77
	Methyl Mercaptan Rate, grains/dscf	0.192	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.70	2.80
	Ethyl Mercaptan Rate, lb/hr	0.04	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	17.11	18.67
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.00	1.10
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	88.00	95.00
	Dimethyl Disulfide Rate, lb/hr	2.08	2.24
	Dimethyl Disulfide Rate, grains/dscf	0.151	0.163
❶**$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,600.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	25.66	27.27
	TRS-->SO2 Emission Rate, grains/dscf	1.863	1.979
	TPY =	112.40	119.43

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 89-46
11/15/2016

Fleetzoom Total = 223 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		11/15/16
Time	Start	14:09	14:17
***%CH_4**	Methane, %	52.50	51.20
***%CO_2**	Carbon Dioxide, %	37.40	35.10
***'%O_2**	Oxygen, %	1.50	1.40
***%Balance**	Assumed as Nitrogen, %	8.60	12.30
P_g	Flue Gas Static Pressure, inches of H_2O	1.37	0.94
t_s	Blower Outlet LFG Temperature, °F	77.00	77.00
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	212	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	223	
LFG_{CH4}	Methane, lb/hr	277.6	270.7
	Methane, grains/dscf	153.06	149.27
LFG_{CO2}	Carbon Dioxide, lb/hr	542.4	509.1
	Carbon Dioxide, grains/dscf	299.13	280.73
LFG_{O2}	Oxygen, lb/hr	15.8	14.8
	Oxygen, grains/dscf	8.72	8.14
LFG_{N2}	Balance gas as Nitrogen, lb/hr	79.4	113.6
	Balance gas as Nitrogen, grains/dscf	43.78	62.62

** 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	49.00	52.00
	Hydrogen Sulfide Rate, lb/hr	0.06	0.06
	Hydrogen Sulfide Rate, grains/dscf	0.030	0.032
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	2.80	2.90
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.003
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	11.00	12.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.012	0.014
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	64.00	67.00
	TRS-->SO2 Emission Rate, lb/hr	0.14	0.14
	TRS-->SO2 Emission Rate, grains/dscf	0.075	0.078
	TPY =	0.59	0.62

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.

November 22, 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: H111601-01/04

Enclosed are results for sample(s) received 11/16/16 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 11/22/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	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												
H111606-01	R1372	-20.1	-3.5	-4	NQ EP14 A	11/15/2016	1409	C	LFG	NA	X					
-02	R1373	-20.1	-3.5	-4	NQ EP14 B	11/15/2016	1417	C	LFG	NA	X					
-03	R1156	-20.3	-3.5	-4	SQ Blower Outlet A	11/15/2016	1435	C	LFG	NA	X					
-04	R1369	-20.5	-3.5	-4	SQ Blower Outlet B	11/15/2016	1443	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers	DATE: 11-15-16 1500 RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX	DATE: RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE: RECEIVED BY	DATE/TIME	

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

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: 11/16/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H111601-01		H111601-02		H111601-03		H111601-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	11/15/16 14:09		11/15/16 14:17		11/15/16 14:35		11/15/16 14:43	
Date/Time Analyzed:	11/17/16 13:32		11/17/16 13:44		11/17/16 13:57		11/17/16 14:09	
QC Batch No.:	161117GC3A1		161117GC3A1		161117GC3A1		161117GC3A1	
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	49 d	5.9	52 d	5.9	28	0.59	29	0.59
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.59	ND	0.59
Methyl Mercaptan	2.8	0.59	2.9	0.59	220 d	59	230 d	59
Ethyl Mercaptan	ND	0.59	ND	0.59	2.7	0.59	2.8	0.59
Dimethyl Sulfide	11	0.59	12	0.59	1,100 d	59	1,200 d	59
Carbon Disulfide	ND	0.59	ND	0.59	1.0	0.59	1.1	0.59
Dimethyl Disulfide	ND	0.59	ND	0.59	88 d	59	95 d	59
Total Reduced Sulfur	64	0.59	67	0.59	1,600	0.59	1,700	0.59

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

Reviewed/Approved By: _____ Date 11/22/16
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.: 161117GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/17/16 11:51		11/17/16 11:25		11/17/16 11:38			
Analyst Initials:	AS		AS		AS			
Datafile:	17nov003		17nov001		17nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	80	70-130%	80	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	93	70-130%	93	70-130%	0.4	<30
Methyl Mercaptan	ND	0.20	85	70-130%	84	70-130%	1.2	<30
Ethyl Mercaptan	ND	0.20	92	70-130%	91	70-130%	2.0	<30
Dimethyl Sulfide	ND	0.20	93	70-130%	92	70-130%	1.6	<30
Carbon Disulfide	ND	0.20	100	70-130%	99	70-130%	0.7	<30
Dimethyl Disulfide	ND	0.20	83	70-130%	82	70-130%	0.8	<30

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

Reviewed/Approved By: _____ Date: 11/22/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 88-45
11/09/2016

Kurz FM =	**1,788**	scfm	
Fleetzoom Total =	**1,928**	scfm	$\Delta =$ **7.3%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date		11/9/16
Time	Start	14:23	14:31
***%CH_4**	Methane, %	10.50	10.60
***%CO_2**	Carbon Dioxide, %	41.00	39.40
***'%O_2**	Oxygen, %	8.10	8.20
***%Balance**	Assumed as Nitrogen, %	40.40	41.80
P_g	Flue Gas Static Pressure, inches of H_2O	16.49	19.70
t_s	Blower Outlet LFG Temperature, °F	100	100
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,699	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,788	
LFG_{CH4}	Methane, lb/hr	445.8	450.0
	Methane, grains/dscf	30.61	30.90
LFG_{CO2}	Carbon Dioxide, lb/hr	4,775.0	4,588.7
	Carbon Dioxide, grains/dscf	327.92	315.12
LFG_{O2}	Oxygen, lb/hr	685.9	694.4
	Oxygen, grains/dscf	47.10	47.69
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,995.0	3,098.8
	Balance gas as Nitrogen, grains/dscf	205.68	212.80

** 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	0.56	24.00
	Hydrogen Sulfide Rate, lb/hr	0.01	0.22
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.015
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.58
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	0.56	190.00
	Methyl Mercaptan Rate, lb/hr	0.01	2.42
	Methyl Mercaptan Rate, grains/dscf	0.000	0.166
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	2.50
	Ethyl Mercaptan Rate, lb/hr	0.01	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,000.00	1,100.00
	Dimethyl Sulfide Rate, lb/hr	16.44	18.09
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.242
CS_2	Carbon Disulfide Concentration, ppmd	0.96	1.10
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.001	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	170.00	76.00
	Dimethyl Disulfide Rate, lb/hr	4.24	1.89
	Dimethyl Disulfide Rate, grains/dscf	0.291	0.130
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,400.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	23.73	25.43
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.746
	TPY =	103.96	111.38

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 88-45
11/09/2016

Fleetzoom Total = 228 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		11/9/16
Time	Start	13:40	13:50
***%CH_4**	Methane, %	47.70	46.40
***%CO_2**	Carbon Dioxide, %	32.60	35.30
***'%O_2**	Oxygen, %	1.60	1.60
***%Balance**	Assumed as Nitrogen, %	18.10	16.70
P_g	Flue Gas Static Pressure, inches of H_2O	1.29	1.01
t_s	Blower Outlet LFG Temperature, °F	80.50	83.40
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	217	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	228	
LFG_{CH4}	Methane, lb/hr	258.3	251.3
	Methane, grains/dscf	139.07	135.28
LFG_{CO2}	Carbon Dioxide, lb/hr	484.3	524.4
	Carbon Dioxide, grains/dscf	260.74	282.33
LFG_{O2}	Oxygen, lb/hr	17.3	17.3
	Oxygen, grains/dscf	9.30	9.30
LFG_{N2}	Balance gas as Nitrogen, lb/hr	171.1	157.9
	Balance gas as Nitrogen, grains/dscf	92.15	85.02

** 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	23.00	0.58
	Hydrogen Sulfide Rate, lb/hr	0.03	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.014	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.58	0.58
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.60	0.58
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.58	0.58
	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	11.00	11.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.012	0.012
CS_2	Carbon Disulfide Concentration, ppmd	0.58	0.58
	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	0.58	0.58
	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	38.00	14.00
	TRS-->SO2 Emission Rate, lb/hr	0.08	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.044	0.016
	TPY =	0.36	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.

November 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: H111001-01/04

Enclosed are results for sample(s) received 11/10/16 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 11/17/16.

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.

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

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												
H111001-01	1618	-20.8	-3.5	-3.5	NQ EP14 A	11/9/2016	1340	C	LFG	NA	X					
-02	J1721	-20.6	-3.5	-3.5	NQ EP14 B	11/9/2016	1350	C	LFG	NA	X					
-03	J1718	-20.7	-3.5	-3.0	SQ Blower Outlet A	11/9/2016	1423	C	LFG	NA	X					
-04	J1722	-20.7	-3.5	-3.5	SQ Blower Outlet B	11/9/2016	1431	C	LFG	NA	X					

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

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

RELINQUISHED BY	DATE	RECEIVED BY	DATE/TIME
Ryan Ayers	11-9-16 1500		
FedEx	11/10/16 0909	[illegible]	11/10/16 0909

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: 11/10/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H111001-01		H111001-02		H111001-03		H111001-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	11/9/16 13:40		11/9/16 13:50		11/9/16 14:23		11/9/16 14:31	
Date/Time Analyzed:	11/15/16 8:48		11/15/16 9:01		11/15/16 9:13		11/15/16 9:26	
QC Batch No.:	161115GC3A1		161115GC3A1		161115GC3A1		161115GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.9		2.9		2.8		2.9	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	23	0.58	ND	0.58	ND	0.56	24	0.58
Carbonyl Sulfide	ND	0.58	ND	0.58	ND	0.56	ND	0.58
Methyl Mercaptan	2.6	0.58	ND	0.58	ND	0.56	190 d	5.8
Ethyl Mercaptan	ND	0.58	ND	0.58	ND	0.56	2.5	0.58
Dimethyl Sulfide	11	0.58	11	0.58	1,000 d	56	1,100 d	58
Carbon Disulfide	ND	0.58	ND	0.58	0.96	0.56	1.1	0.58
Dimethyl Disulfide	ND	0.58	0.61	0.58	170 d	56	76 d	5.8
Total Reduced Sulfur	38	0.58	14	0.58	1,400	0.56	1,500	0.58

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

Reviewed/Approved By: _____ Date 11/17/16
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.: 161115GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/15/16 8:36		11/15/16 9:38		11/15/16 9:50			
Analyst Initials:	AS		AS		AS			
Datafile:	15nov001		15nov006		15nov007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	112	70-130%	111	70-130%	0.3	<30
Carbonyl Sulfide	ND	0.20	105	70-130%	104	70-130%	0.7	<30
Methyl Mercaptan	ND	0.20	111	70-130%	110	70-130%	1.5	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	113	70-130%	1.7	<30
Dimethyl Sulfide	ND	0.20	106	70-130%	102	70-130%	3.7	<30
Carbon Disulfide	ND	0.20	116	70-130%	117	70-130%	0.2	<30
Dimethyl Disulfide	ND	0.20	98	70-130%	96	70-130%	2.0	<30

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

Reviewed/Approved By: _____ Date: 11/17/16
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 87-44
11/01/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)		
Date	Test Date	11/1/16
Start	Run Start Time	15:06
	Run Finish Time	16:17
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:10:35
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.51
% H_2O	Moisture Content of LFG, %	7.58
% RH	Relative Humidity, %	66.70
M_{fd}	Dry Mole Fraction	0.924
$\%CH_4$	Methane, %	10.40
$\%CO_2$	Carbon Dioxide, %	42.40
$\%O_2$	Oxygen, %	5.65
%Balance	Assumed as Nitrogen, %	27.20
$\%H_2$	Hydrogen, %	12.45
%CO	Carbon Monoxide, %	0.09
M_d	Dry Molecular Weight, lb/lb-Mole	30.03
M_s	Wet Molecular weight, lb/lb-Mole	29.12
P_g	Flue Gas Static Pressure, inches of H_2O	17.29
P_s	Absolute Flue Gas Pressure, inches of Mercury	30.65
t_s	Average Stack Gas Temperature, °F	108
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.090
v_s	Average LFG Velocity, feet/second	20.23
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,445
Q_s	Standard Volumetric Flow Rate, scfm	1,555
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,642
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	6,759
NHV	Net Heating Value, Btu/scf	175
LFG_{CH4}	Methane, lb/hr	375.6
	Methane, grains/dscf	30.32
LFG_{CO2}	Carbon Dioxide, lb/hr	4,200.7
	Carbon Dioxide, grains/dscf	339.12
LFG_{O2}	Oxygen, lb/hr	407.0
	Oxygen, grains/dscf	32.86
LFG_{N2}	Balance gas as Nitrogen, lb/hr	1,715.3
	Balance gas as Nitrogen, grains/dscf	138.47
LFG_{H2}	Hydrogen, lb/hr	56.5
	Hydrogen, grains/dscf	4.56
LFG_{CO}	Carbon Monoxide, lb/hr	5.7
	Carbon Monoxide, grains/dscf	0.46

		Outlet A	Outlet B
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	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	6.20	0.63
	Methyl Mercaptan Rate, lb/hr	0.07	0.01
	Methyl Mercaptan Rate, grains/dscf	0.005	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	0.63
	Ethyl Mercaptan Rate, lb/hr	0.01	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,400.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	19.58	18.18
	Dimethyl Sulfide Rate, grains/dscf	1.581	1.468
CS_2	Carbon Disulfide Concentration, ppmd	1.30	1.40
	Carbon Disulfide Rate, lb/hr	0.02	0.02
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	170.00	170.00
	Dimethyl Disulfide Rate, lb/hr	3.60	2.91
	Dimethyl Disulfide Rate, grains/dscf	0.291	0.235

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,600.00
	TRS-->SO2 Emission Rate, lb/hr	24.52	23.07
	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, November 01, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**15:06**	**1,555**	**1,924**	**1,679**	**-23.8%**	**-8.0%**	**-14.6%**

**NOTE: Kurz flow meter sent to manufacture for check and calibration 09/01/2016, in it's place backup Kurz FM put in for temporary monitoring. This unit not yet field calibrated, despite this the,Fleetzoom FM (TSI 95) for FL100 accureately monitoring flow.*

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 87-44
11/01/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	11/1/16
Start	Run Start Time	13:34
	Run Finish Time	14:52
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:18:15
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.51
% H_2O	Moisture Content of LFG, %	3.72
% RH	Relative Humidity, %	62.10
M_{fd}	Dry Mole Fraction	0.963
%CH_4	Methane, %	40.40
%CO_2	Carbon Dioxide, %	31.25
%O_2	Oxygen, %	5.00
%Balance	Assumed as Nitrogen, %	22.55
%H_2	Hydrogen, %	3.20
%CO	Carbon Monoxide, %	0.0032
M_d	Dry Molecular Weight, lb/lb-Mole	28.22
M_s	Wet Molecular weight, lb/lb-Mole	27.84
P_g	Flue Gas Static Pressure, inches of H_2O	0.95
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.58
t_s	Average Stack Gas Temperature, °F	97
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.022
v_s	Average LFG Velocity, feet/second	10.32
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	287
Q_s	Standard Volumetric Flow Rate, scfm	298
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	318
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,260
NHV	Net Heating Value, Btu/scf	367
LFG_{CH4}	Methane, lb/hr	289.6
	Methane, grains/dscf	117.78
LFG_{CO2}	Carbon Dioxide, lb/hr	614.6
	Carbon Dioxide, grains/dscf	249.94
LFG_{O2}	Oxygen, lb/hr	71.5
	Oxygen, grains/dscf	29.08
LFG_{N2}	Balance gas as Nitrogen, lb/hr	282.3
	Balance gas as Nitrogen, grains/dscf	114.80
LFG_{H4}	Hydrogen, lb/hr	2.9
	Hydrogen, grains/dscf	1.17
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
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	2.20	0.63
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	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	10.00	7.10
	Dimethyl Sulfide Rate, lb/hr	0.03	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.011	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	0.63
	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	14.00	8.20
	TRS-->SO2 Emission Rate, lb/hr	0.04	0.02
	TRS-->SO2 Emission Rate, grains/dscf	0.016	0.010

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.

November 7, 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 LF Monthly Permit Flare LFG Testing
Lab Number: H110206-01/04

Enclosed are results for sample(s) received 11/02/16 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 11/07/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

Project No.:	
Project Name:	Bridgeton LF Monthly Permit Flare LFG Testing
Report To:	Nick Bauers/Ryan 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.:	PO5881099
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	ASTM 1946 +H2 + CO & BTU/SCF		ASTM 1946 +H2 + CO & BTU/SCF (by CH4 ONLY)		
	Canister ID	Sample Start	Sample End	Lab Receive												
#1102G-01	5963	-20.5	-3.5	-5	SQ Blower Outlet A	11/1/2016	1511	C -6L	LFG	He	X	X				
-02	1290	-20.3	-3.5	-5	SQ Blower Outlet B	11/1/2016	1530	C -6L	LFG	He	X	X				
-03	4433	-20.4	-3.5	-5	NQ EP14 A	11/1/2016	1337	C -6L	LFG	He	X			X		
-04	1292	-20.3	-3.5	-5	NQ EP14 B	11/1/2016	1358	C -6L	LFG	He	X			X		

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS:**
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers	DATE: 11-1-16	RECEIVED BY	DATE/TIME: 1600
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY: [signature]	DATE/TIME: 11/2/16 1032
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 LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 11/02/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H110206-01		H110206-02		H110206-03		H110206-04	
Client Sample I.D.:	SQ Blower Outlet A		SQ Blower Outlet B		NQ EP14 A		NQ EP14 B	
Date/Time Sampled:	11/1/16 15:11		11/1/16 15:30		11/1/16 13:37		11/1/16 13:58	
Date/Time Analyzed:	11/4/16 9:54		11/4/16 10:07		11/4/16 10:19		11/4/16 10:32	
QC Batch No.:	161104GC3A1		161104GC3A1		161104GC3A1		161104GC3A1	
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	6.2	0.63	ND	0.63	2.2	0.63	ND	0.63
Ethyl Mercaptan	ND	0.63	ND	0.63	ND	0.63	ND	0.63
Dimethyl Sulfide	1,400 d	63	1,300 d	63	10	0.63	7.1	0.63
Carbon Disulfide	1.3	0.63	1.4	0.63	ND	0.63	ND	0.63
Dimethyl Disulfide	170 d	63	170 d	63	ND	0.63	ND	0.63
Total Reduced Sulfur	1,700	0.63	1,600	0.63	14	0.63	8.2	0.63

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

Reviewed/Approved By: _____ Date 11-7-16

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.: 161104GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/4/16 9:25		11/4/16 9:00		11/4/16 9:12			
Analyst Initials:	AS		AS		AS			
Datafile:	04nov003		04nov001		04nov002			
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%	0.0	<30
Carbonyl Sulfide	ND	0.20	95	70-130%	96	70-130%	0.4	<30
Methyl Mercaptan	ND	0.20	94	70-130%	94	70-130%	0.4	<30
Ethyl Mercaptan	ND	0.20	99	70-130%	97	70-130%	2.2	<30
Dimethyl Sulfide	ND	0.20	94	70-130%	93	70-130%	0.9	<30
Carbon Disulfide	ND	0.20	100	70-130%	100	70-130%	0.4	<30
Dimethyl Disulfide	ND	0.20	79	70-130%	80	70-130%	0.5	<30

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

Reviewed/Approved By: _____ Date: 11-7-16
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 LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 11/02/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H110206-01		H110206-02					
Client Sample I.D.:	SQ Blower Outlet A		SQ Blower Outlet B					
Date/Time Sampled:	11/1/16 15:11		11/1/16 15:30					
Date/Time Analyzed:	11/4/16 12:22		11/4/16 12:37					
QC Batch No.:	161104GC8A1		161104GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.2		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	12.4	3.2	12.5	3.2				
Carbon Dioxide	42.7	0.032	42.1	0.032				
Oxygen/Argon	5.6	1.6	5.7	1.6				
Nitrogen	27.0	3.2	27.4	3.2				
Methane	10.5	0.0032	10.3	0.0032				
Carbon Monoxide	0.091	0.0032	0.089	0.0032				
Net Heating Value (BTU/ft3)	173.6	3.2	175.5	3.2				
Gross Heating Value (BTU/ft3)	196.5	3.2	198.5	3.2				

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 11/7/16
Mark Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 11/02/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H110206-03		H110206-04					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	11/1/16 13:37		11/1/16 13:58					
Date/Time Analyzed:	11/4/16 12:52		11/4/16 13:06					
QC Batch No.:	161104GC8A1		161104GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.2		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	3.2	ND	3.2				
Carbon Dioxide	36.7	0.032	25.8	0.032				
Oxygen/Argon	2.0	1.6	8.0	1.6				
Nitrogen	12.8	3.2	32.3	3.2				
Methane	47.5	0.0032	33.3	0.0032				
Carbon Monoxide	ND	0.0032	ND	0.0032				
Net Heating Value (BTU/ft3) methane only	431.8	3.2	302.7	3.2				
Gross Heating Value (BTU/ft3) methane only	479.5	3.2	336.2	3.2				

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 11/7/16
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.: 161104GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/4/16 10:54		11/4/16 9:49		11/4/16 10:04			
Analyst Initials:	AS		AS		AS			
Datafile:	04nov010		04nov007		04nov008			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	96	70-130%	95	70-130%	0.4	<30
Carbon Dioxide	ND	0.010	88	70-130%	87	70-130%	0.9	<30
Oxygen/Argon	ND	0.50	96	70-130%	95	70-130%	0.4	<30
Nitrogen	ND	1.0	92	70-130%	92	70-130%	0.4	<30
Methane	ND	0.0010	112	70-130%	112	70-130%	0.3	<30
Carbon Monoxide	ND	0.0010	103	70-130%	103	70-130%	0.1	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 11/7/16

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:

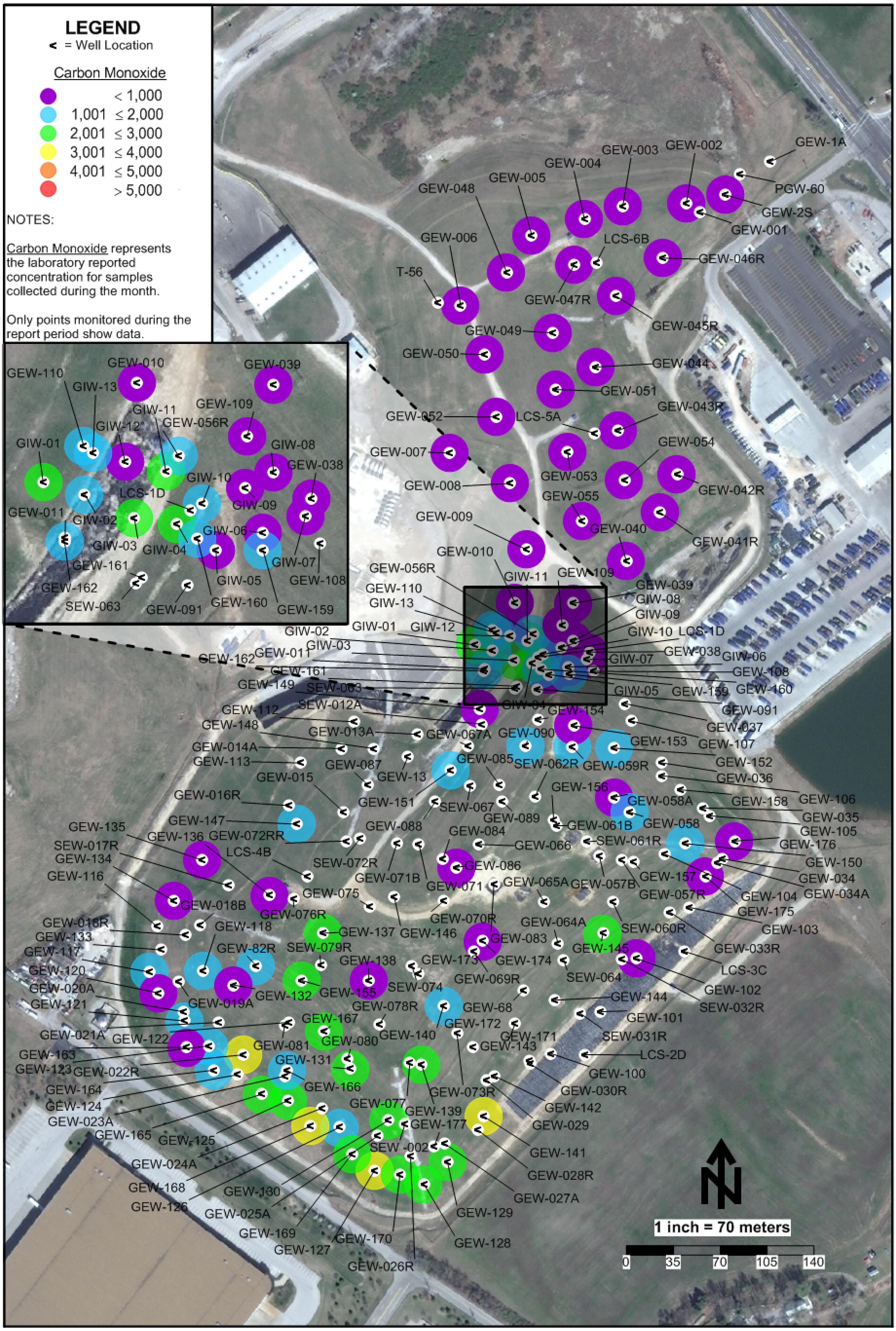
Hydrogen represents the laboratory reported concentration for samples collected during the month.

Only points monitored during the report period show data.

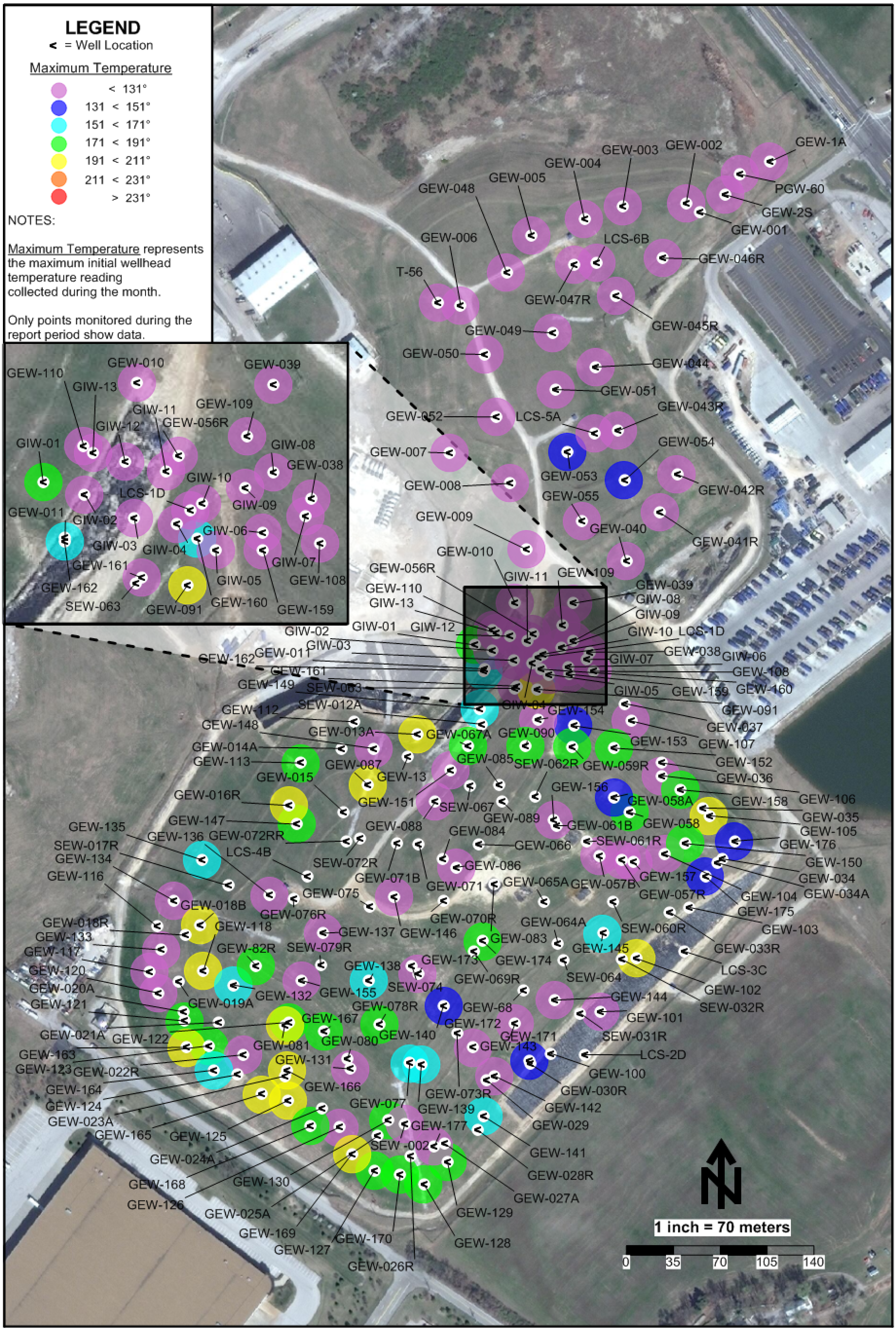
1 inch = 70 meters

0 35 70 105 140

Hydrogen Data Map - November 2016 - Bridgeton Landfill



Carbon Monoxide Data Map - November 2016 - Bridgeton Landfill



Initial Temperature Maximums - November 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-01A	9/12/2016	2.9	2.3	21	74	ND	43	See Note 4
GEW-002	9/7/2016	55	40	ND	4.1	ND	ND	
GEW-002	10/6/2016	54	41	ND	3.9	ND	ND	
GEW-002	11/7/2016	55	41	ND	3.2	ND	ND	
GEW-02S	7/11/2016	62	35	ND	ND	ND	ND	
GEW-02S	9/12/2016	49	33	4	14	ND	ND	See Note 3
GEW-02S	11/7/2016	55	42	ND	ND	ND	ND	
GEW-003	7/11/2016	52	39	ND	7.9	0.1	ND	
GEW-003	8/10/2016	55.6	39.9	ND	3.8	0.1	ND	
GEW-003	9/7/2016	53	40	ND	5.8	0.1	ND	
GEW-003	10/6/2016	54	40	ND	4.4	0.1	ND	
GEW-003	11/7/2016	50	38	ND	10	0.1	ND	
GEW-004	7/11/2016	54	40	ND	4.9	0.1	ND	
GEW-004	8/10/2016	55.3	40.8	ND	3.4	0.1	ND	
GEW-004	9/7/2016	54	41	ND	4.3	0.1	ND	
GEW-004	10/6/2016	55	41	ND	ND	0.1	ND	
GEW-004	11/7/2016	51	40	ND	7.9	0.1	ND	
GEW-005	7/11/2016	46	35	ND	17	ND	ND	
GEW-005	8/10/2016	50.3	36.6	ND	12.5	0.04	ND	
GEW-005	9/8/2016	51	36	ND	12	ND	ND	
GEW-005	10/6/2016	51	37	ND	11	ND	ND	
GEW-005	11/7/2016	47	37	ND	15	0.04	ND	
GEW-006	7/12/2016	55	38	ND	6.4	ND	ND	
GEW-006	9/8/2016	56	39	ND	4.5	ND	ND	
GEW-006	11/7/2016	45	35	2.3	18	ND	ND	See Note 3
GEW-007	7/12/2016	57	40	ND	ND	ND	ND	
GEW-007	9/12/2016	54	38	1.8	6.2	ND	ND	See Note 3
GEW-007	11/7/2016	56	40	ND	ND	ND	ND	
GEW-008	7/12/2016	50	47	ND	ND	1.1	ND	
GEW-008	8/10/2016	50.5	45.6	ND	ND	0.9	ND	
GEW-008	9/12/2016	49	42	1.8	6.1	1.1	ND	See Note 3
GEW-008	10/6/2016	53	44	ND	ND	0.9	ND	
GEW-008	11/7/2016	53	43	ND	ND	1.1	ND	
GEW-009	7/12/2016	53	43	ND	ND	0.5	ND	
GEW-009	8/10/2016	53.3	43	ND	ND	0.6	ND	
GEW-009	9/12/2016	51	41	ND	6.4	0.5	ND	
GEW-009	10/6/2016	50	42	ND	7.1	0.5	ND	
GEW-009	11/7/2016	48	41	ND	8.6	0.6	ND	
GEW-040	7/11/2016	57	40	ND	ND	ND	ND	
GEW-040	8/10/2016	56.3	39.7	ND	ND	ND	ND	
GEW-040	9/7/2016	57	40	ND	ND	ND	ND	
GEW-040	10/6/2016	57	40	ND	ND	ND	ND	
GEW-040	11/7/2016	57	40	ND	ND	ND	ND	
GEW-041R	7/11/2016	52	36	2.3	9.5	ND	ND	See Note 3
GEW-041R	9/7/2016	53	37	2.1	8.1	ND	ND	See Note 3
GEW-041R	11/7/2016	52	37	1.6	9.7	ND	ND	See Note 4
GEW-042R	7/11/2016	56	42	ND	ND	ND	ND	
GEW-042R	8/10/2016	55.4	40.8	ND	ND	ND	ND	
GEW-042R	9/7/2016	55	42	ND	ND	ND	ND	
GEW-042R	10/6/2016	54	42	ND	3.3	ND	ND	
GEW-042R	11/7/2016	50	38	2.7	9.6	ND	ND	See Note 3
GEW-043R	7/11/2016	55	42	ND	ND	0.3	ND	
GEW-043R	9/7/2016	54	42	ND	3.5	0.2	ND	
GEW-043R	11/7/2016	53	42	ND	4.7	0.2	ND	
GEW-044	7/11/2016	57	40	ND	ND	ND	ND	
GEW-044	9/7/2016	57	40	ND	ND	ND	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-044	11/7/2016	55	39	ND	5	ND	ND	
GEW-045R	7/11/2016	55	41	ND	ND	ND	ND	
GEW-045R	8/10/2016	54.2	41.2	ND	3.5	ND	ND	
GEW-045R	9/7/2016	55	43	ND	ND	ND	ND	
GEW-045R	10/6/2016	56	37	ND	5.1	ND	ND	
GEW-045R	11/7/2016	55	42	ND	ND	ND	ND	
GEW-046R	7/11/2016	41	30	5.5	23	0.1	ND	See Note 3
GEW-046R	8/10/2016	54.4	40.4	ND	4.4	0.1	ND	
GEW-046R	9/7/2016	55	41	ND	3.1	0.1	ND	
GEW-046R	10/6/2016	53	39	ND	6.2	0.1	ND	
GEW-046R	11/7/2016	55	41	ND	ND	0.1	ND	
GEW-047R	7/11/2016	49	38	ND	11	0.1	ND	
GEW-047R	8/10/2016	52.3	39.9	ND	7.2	0.1	ND	
GEW-047R	9/8/2016	50	39	ND	10	0.1	ND	
GEW-047R	10/6/2016	46	38	ND	15	ND	ND	
GEW-047R	11/7/2016	48	38	ND	12	ND	ND	
GEW-048	7/12/2016	55	39	ND	4.8	0.03	ND	
GEW-048	8/10/2016	56.7	40.6	ND	ND	ND	ND	
GEW-048	9/8/2016	12	8.1	18	63	ND	ND	See Note 1 and 3
GEW-048	10/6/2016	53	38	ND	7.7	ND	ND	
GEW-048	11/7/2016	53	40	ND	6.2	0.04	ND	
GEW-049	7/12/2016	46	36	ND	16	ND	ND	
GEW-049	8/10/2016	56.1	39.7	ND	3.6	0.1	ND	
GEW-049	9/8/2016	52	38	ND	9.1	ND	ND	
GEW-049	10/6/2016	36	32	2.2	29	ND	ND	See Note 3
GEW-049	11/7/2016	51	38	ND	9.9	0.1	ND	
GEW-050	7/12/2016	57	39	ND	3.5	0.1	ND	
GEW-050	9/12/2016	56	39	ND	3.4	0.1	ND	
GEW-050	11/7/2016	53	39	ND	6.6	0.1	ND	
GEW-051	7/12/2016	56	42	ND	ND	0.9	ND	
GEW-051	9/8/2016	54	41	ND	ND	1	ND	
GEW-051	11/7/2016	53	40	ND	4.6	1.2	ND	
GEW-052	7/12/2016	54	40	ND	6	ND	ND	
GEW-052	9/12/2016	54	40	ND	4.5	0.03	ND	
GEW-052	11/7/2016	52	40	ND	7.4	0.1	ND	
GEW-053	7/12/2016	48	45	ND	ND	5.5	65	
GEW-053	8/10/2016	49.6	42.9	ND	ND	4.8	61	
GEW-053	9/8/2016	49	43	ND	ND	4.6	61	
GEW-053	10/6/2016	50	42	ND	3.9	3	49	
GEW-053	11/7/2016	49	40	ND	5.9	4.2	59	
GEW-054	7/12/2016	52	42	ND	ND	4.2	33	
GEW-054	8/10/2016	52.5	41.9	ND	ND	2.7	ND	
GEW-054	9/12/2016	50	40	ND	5.6	2.2	ND	
GEW-054	10/6/2016	51	41	ND	5.2	2.2	ND	
GEW-054	11/7/2016	46	38	2.8	12	2	ND	See Note 3
GEW-055	7/12/2016	53	43	ND	ND	1.4	ND	
GEW-055	8/10/2016	52.9	43.5	ND	ND	1.8	ND	
GEW-055	9/12/2016	53	42	ND	ND	1.6	ND	
GEW-055	10/6/2016	52	41	ND	4.1	1.6	ND	
GEW-055	11/7/2016	51	42	ND	3.8	2	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
Flare Station²	7/5/2016	47.3	36.2	2.8	13.3	ND	ND	See Note 5
Flare Station²	8/9/2016	51.3	38.5	1	7.8	ND	ND	See Note 5
Flare Station²	9/7/2016	49.2	37.6	2	10.3	ND	ND	See Note 5
Flare Station	10/4/2016	46.1	35.8	2.3	14.9	ND	ND	See Note 5
Flare Station²	11/1/2016	40.4	31.3	5	22.6	ND	ND	See Note 5
Flare Station²	12/6/2016	46	36.1	1.9	14.9	ND	ND	See Note 5

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry.

ND = Analyte not detected in sample.

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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	7/11/2016	46	49	ND	3.3	0.3	37	
GEW-010	8/10/2016	46.9	42.6	2	8.2	0.2	ND	See Note 4
GEW-010	9/6/2016	56	41	ND	ND	0.2	ND	
GEW-010	10/4/2016	14	10	17	60	ND	ND	See Note 3
GEW-010	11/9/2016	43	48	ND	7.3	0.1	ND	
GEW-022R	9/14/2016	0.02	0.1	22	78	ND	ND	See Note 3
GEW-022R	11/11/2016	1.2	66	ND	ND	30	3,300	
GEW-028R	7/14/2016	0.2	50	2.5	9.2	33	3,800	See Note 4
GEW-038	7/11/2016	0.5	51	4.3	16	27	2,700	See Note 4
GEW-038	8/8/2016	0.5	50.4	4.3	15.6	27.3	2,700	See Note 4
GEW-038	9/6/2016	0.8	58	2.1	7.4	30	2,800	See Note 4
GEW-038	10/4/2016	8.9	58	ND	5.3	25	2,100	
GEW-038	11/9/2016	8.1	40	6.3	23	22	1,000	See Note 4
GEW-039	7/11/2016	36	53	ND	8.7	1.5	110	
GEW-039	8/10/2016	24.3	35.5	4	35.7	0.5	75	See Note 4
GEW-039	9/6/2016	43	55	ND	ND	0.2	ND	
GEW-039	10/4/2016	44	54	ND	ND	0.2	ND	
GEW-039	11/8/2016	44	53	ND	ND	0.1	ND	
GEW-056R	7/11/2016	13	49	ND	19	17	770	
GEW-056R	8/10/2016	18.9	50.8	ND	13.4	15.6	600	
GEW-056R	9/6/2016	20	47	ND	22	10	430	
GEW-056R	10/4/2016	13	54	ND	ND	30	1,200	
GEW-056R	11/9/2016	10	51	ND	7.2	30	1,200	
GEW-057R	7/14/2016	14	34	3.8	44	4.3	320	See Note 4
GEW-058	7/17/2016	1.7	48	2.5	12	33	1,800	See Note 4
GEW-058	11/11/2016	0.4	39	6.2	22	32	1,700	See Note 4
GEW-058A	7/14/2016	15	42	3.2	14	24	1,400	See Note 4
GEW-058A	9/14/2016	22	45	1.9	6.7	23	1,400	See Note 3
GEW-058A	11/11/2016	24	37	4.7	18	16	880	See Note 4
GEW-059R	7/14/2016	3.8	50	ND	ND	41	1,600	
GEW-059R	9/14/2016	4.2	45	3.1	11	36	1,400	See Note 4
GEW-059R	11/10/2016	5.5	43	2.8	9.7	38	1,300	See Note 4
GEW-082R	7/14/2016	2.3	48	1.8	6.4	40	1,800	See Note 3
GEW-082R	9/14/2016	4.7	50	ND	5.6	37	1,700	
GEW-082R	11/11/2016	4.9	53	ND	ND	39	1,700	
GEW-086	7/14/2016	8.2	49	ND	ND	38	1,300	
GEW-086	11/11/2016	10	28	7.3	53	2	160	See Note 4
GEW-090	7/14/2016	15	46	ND	ND	35	1,600	
GEW-090	9/14/2016	14	46	ND	5.6	31	1,500	
GEW-090	11/11/2016	11	45	ND	4.3	38	1,700	
GEW-102	9/13/2016	5	59	ND	ND	30	980	
GEW-102	11/10/2016	3.9	55	ND	3.9	35	760	
GEW-109	7/11/2016	6.3	32	8.5	37	15	720	See Note 3
GEW-109	8/8/2016	10	42.5	ND	30.2	15.5	540	
GEW-109	9/6/2016	20	52	ND	9.7	16	610	
GEW-109	10/4/2016	21	52	ND	9.7	16	640	
GEW-109	11/8/2016	20	48	ND	14	17	720	
GEW-110	7/11/2016	12	34	3.6	43	6.9	410	See Note 4
GEW-110	8/10/2016	1.5	10.8	17.5	64.3	5.8	380	See Note 4
GEW-110	9/6/2016	1.1	4.9	20	73	1.5	120	See Note 4
GEW-110	10/4/2016	6	28	9	46	11	600	See Note 4
GEW-110	11/9/2016	1.9	31	9.3	38	20	1,100	See Note 4
GEW-117	7/14/2016	5.6	66	ND	ND	23	2,100	
GEW-117	9/14/2016	16	55	1.9	20	5.9	290	See Note 3
GEW-117	11/11/2016	7.3	63	ND	4.5	23	1,800	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-118	7/14/2016	1.7	52	2.2	9.6	32	1,500	See Note 4
GEW-118	9/14/2016	1.8	51	3	13	30	1,400	See Note 4
GEW-118	11/11/2016	2	47	3.7	18	29	1,200	See Note 4
GEW-120	7/12/2016	15	57	ND	21	6.2	300	
GEW-120	9/13/2016	15	52	3	24	5.6	280	See Note 3
GEW-120	11/10/2016	22	52	4.1	16	5.2	250	See Note 3
GEW-121	7/12/2016	6.9	57	ND	4.8	29	1,800	
GEW-121	9/13/2016	8.2	52	2.4	11	25	1,600	See Note 3
GEW-121	11/11/2016	8.7	58	ND	5	27	1,600	
GEW-122	7/12/2016	11	53	ND	3.2	30	2,200	
GEW-122	9/13/2016	16	53	ND	ND	27	2,000	
GEW-123	7/12/2016	5	60	ND	ND	30	2,700	
GEW-123	9/13/2016	21	58	2.7	9.8	7.5	770	See Note 3
GEW-123	11/11/2016	8.9	56	2.5	11	21	1,800	See Note 4
GEW-124	7/12/2016	10	61	ND	ND	23	1,900	
GEW-124	9/13/2016	9	60	ND	5.4	22	2,100	
GEW-125	7/13/2016	0.6	58	ND	ND	37	2,800	
GEW-125	9/13/2016	0.9	59	ND	ND	35	2,700	
GEW-125	11/11/2016	2.9	44	3.5	18	31	2,200	See Note 3
GEW-126	7/13/2016	15	51	ND	3.8	27	2,600	
GEW-126	9/13/2016	12	48	2.7	11	24	2,500	See Note 3
GEW-126	11/11/2016	22	53	ND	4.4	19	1,800	
GEW-127	7/13/2016	1.9	65	ND	ND	28	3,900	
GEW-127	9/13/2016	3.9	67	ND	ND	24	3,400	
GEW-127	11/11/2016	3.3	65	ND	4.2	26	3,300	
GEW-128	7/13/2016	8.2	63	ND	ND	25	2,600	
GEW-128	9/12/2016	5	47	7	25	16	1,800	See Note 4
GEW-128	11/11/2016	5.6	64	ND	3.3	26	2,800	
GEW-129	7/13/2016	2	57	2.5	8.8	29	2,800	See Note 3
GEW-129	9/12/2016	1.6	63	ND	ND	30	3,000	
GEW-129	11/11/2016	1.9	66	2.2	7.7	22	3,000	See Note 3
GEW-130	7/13/2016	3.6	53	3.6	13	25	3,000	See Note 4
GEW-130	9/13/2016	6.3	52	4.4	17	18	2,400	See Note 4
GEW-130	11/11/2016	3.4	43	5.9	23	23	2,400	See Note 4
GEW-131	7/13/2016	0.3	54	ND	ND	42	3,400	
GEW-131	9/14/2016	0.3	52	ND	ND	43	3,200	
GEW-131	11/11/2016	5.4	47	ND	ND	45	2,700	
GEW-132	7/12/2016	10	46	3.3	24	15	890	See Note 4
GEW-132	11/10/2016	11	46	1.7	24	16	920	See Note 4
GEW-133	9/13/2016	3	57	2.7	9.5	27	2,000	See Note 3
GEW-134	7/7/2016	7	30	8.4	49	5.1	330	See Note 4
GEW-134	9/13/2016	7.4	38	4.9	47	2.2	340	See Note 3
GEW-134	11/10/2016	7.1	32	6.6	51	2.8	300	See Note 4
GEW-135	7/7/2016	5.2	46	4.2	17	26	1,200	See Note 4
GEW-135	9/13/2016	3.4	48	3.2	11	33	1,700	See Note 3
GEW-135	11/10/2016	5.1	41	5.1	31	18	900	See Note 4
GEW-136	11/10/2016	3.7	22	12	54	8.9	380	See Note 4
GEW-137	7/7/2016	16	35	1.7	47	0.1	ND	See Note 3
GEW-137	9/13/2016	38	41	ND	19	0.1	ND	
GEW-137	11/10/2016	0.5	59	ND	ND	38	2,700	
GEW-138	7/12/2016	3.1	26	5.9	57	6.9	520	See Note 4
GEW-138	11/10/2016	3.7	26	6.8	53	10	680	See Note 4
GEW-139	7/13/2016	2.7	52	2.3	9.2	32	3,000	See Note 4
GEW-139	9/13/2016	5.5	56	1.9	8.5	26	2,600	See Note 4
GEW-139	11/11/2016	3.8	44	4.3	17	30	2,400	See Note 4
GEW-140	9/13/2016	0.3	56	ND	3.9	36	3,200	
GEW-140	11/11/2016	8.6	51	1.9	8.4	30	1,600	See Note 4

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Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-141	7/14/2016	0.2	54	2.5	8.7	33	3,400	See Note 3
GEW-141	9/13/2016	0.2	60	ND	ND	35	4,100	
GEW-141	11/11/2016	0.3	48	4.3	15	31	3,400	See Note 4
GEW-142	9/13/2016	0.03	2	21	76	0.5	98	See Note 3
GEW-143	9/14/2016	0.01	1	22	77	0.4	65	See Note 3
GEW-144	9/14/2016	ND	0.04	22	78	ND	ND	See Note 3
GEW-145	9/13/2016	1.6	53	2.1	7.4	33	2,100	See Note 4
GEW-145	11/10/2016	1	51	2.2	7.8	36	2,100	See Note 4
GEW-146	9/12/2016	6.4	27	6.1	58	2	120	See Note 4
GEW-147	7/7/2016	9.9	48	2.6	9.5	29	1,400	See Note 4
GEW-147	9/13/2016	11	48	2.9	10	27	1,400	See Note 3
GEW-147	11/11/2016	4.8	48	1.7	5.7	39	2,000	See Note 3
GEW-149	11/10/2016	11	52	2	17	17	1,000	See Note 4
GEW-150	7/12/2016	12	46	5.4	23	12	920	See Note 4
GEW-150	11/10/2016	1.9	55	3.3	12	27	1,800	See Note 3
GEW-151	7/6/2016	11	36	5.5	39	8.5	550	See Note 4
GEW-151	11/10/2016	2.5	54	1.6	5.8	35	1,600	See Note 4
GEW-152	7/12/2016	11	51	ND	ND	33	2,200	
GEW-152	9/14/2016	0.1	0.4	22	78	0.1	ND	See Note 3
GEW-152	11/9/2016	18	48	ND	3	29	1,800	
GEW-153	7/12/2016	29	43	ND	12	13	430	
GEW-153	9/14/2016	20	30	6.5	34	8.5	280	See Note 3
GEW-153	11/9/2016	28	40	ND	20	11	360	
GEW-155	11/10/2016	0.5	58	ND	ND	38	2,800	
GEW-157	7/12/2016	0.7	56	ND	ND	39	3,100	
GEW-157	9/14/2016	9.8	52	2.3	8.3	27	1,900	See Note 3
GEW-158	7/12/2016	21	56	ND	ND	19	1,100	
GEW-159	7/14/2016	19	55	ND	16	8.1	500	
GEW-159	9/14/2016	22	50	ND	25	2	91	
GEW-159	11/8/2016	5.6	35	7.6	27	25	1,500	See Note 4
GEW-160	7/6/2016	4.1	57	ND	3.4	33	2,400	
GEW-160	9/12/2016	4.1	56	ND	5.8	31	2,100	
GEW-160	11/10/2016	3.8	57	ND	ND	36	2,000	
GEW-161	7/6/2016	0.5	54	ND	3.5	39	2,700	
GEW-161	9/12/2016	0.5	51	2.1	7.4	37	2,500	See Note 4
GEW-162	7/6/2016	22	65	2.2	8.3	1.5	140	See Note 4
GEW-162	9/12/2016	7.1	61	1.9	6.9	22	1,600	See Note 3
GEW-162	11/10/2016	7	62	ND	ND	27	1,800	
GEW-163	7/12/2016	7.7	48	5.7	26	12	1,000	See Note 4
GEW-163	11/11/2016	4.8	30	9.5	47	7.9	580	See Note 4
GEW-164	7/12/2016	3.7	72	ND	3.5	19	2,200	
GEW-164	9/13/2016	3.8	70	ND	5.3	18	2,400	
GEW-164	11/11/2016	8.7	69	ND	ND	18	1,900	
GEW-165	7/12/2016	1.1	67	ND	ND	27	3,300	
GEW-165	9/13/2016	1.3	66	ND	3.4	26	3,200	
GEW-165	11/11/2016	1.7	63	ND	3.3	30	2,900	
GEW-166	7/12/2016	7.5	48	3.1	17	23	2,200	See Note 4
GEW-166	9/13/2016	0.3	60	ND	ND	35	3,500	
GEW-166	11/11/2016	2.1	36	9.2	32	20	1,700	See Note 3
GEW-167	7/13/2016	5.3	38	5.4	34	17	1,300	See Note 4
GEW-167	9/14/2016	5	36	6.2	35	17	1,300	See Note 4
GEW-167	11/11/2016	1.4	58	ND	ND	38	2,600	
GEW-168	7/13/2016	0.4	59	ND	ND	35	3,600	
GEW-168	9/13/2016	3.1	61	ND	3.8	29	2,900	
GEW-168	11/11/2016	0.6	57	ND	ND	39	3,400	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-169	7/13/2016	6	61	1.6	6.1	24	3,100	See Note 4
GEW-169	9/13/2016	5.5	61	2.1	7.7	22	2,900	See Note 4
GEW-169	11/11/2016	1.8	40	8.1	29	20	2,100	See Note 4
GEW-170	7/13/2016	6.9	59	2.3	8.8	22	2,900	See Note 4
GEW-170	9/13/2016	7.5	59	2.6	11	18	2,600	See Note 4
GEW-170	11/11/2016	3.2	57	3.5	13	22	2,900	See Note 4
GEW-171	7/14/2016	5.5	60	ND	ND	30	2,700	
GEW-171	9/13/2016	4.1	42	7.5	27	18	1,700	See Note 3
GEW-172	7/14/2016	0.2	53	ND	ND	41	3,500	
GEW-172	9/13/2016	5.3	55	ND	3.2	34	2,600	
GEW-173	7/13/2016	9.6	34	6.2	42	7.4	780	See Note 4
GEW-174	7/12/2016	9.2	38	5.2	32	15	1,100	See Note 4
GEW-174	9/13/2016	5.5	34	5.5	42	12	910	See Note 4
GEW-174	11/10/2016	4.5	31	7.5	42	15	1,000	See Note 4
GEW-175	7/12/2016	20	56	1.8	9.5	11	770	See Note 4
GEW-175	9/14/2016	ND	0.1	22	78	ND	ND	See Note 3
GEW-175	11/10/2016	10	33	7.9	43	6.1	420	See Note 4
GEW-176	7/12/2016	12	63	ND	ND	21	1,400	
GEW-176	9/14/2016	0.9	3.3	21	74	0.5	64	See Note 3
GEW-176	11/10/2016	11	49	4.1	20	16	970	See Note 4
GEW-177	9/13/2016	1.2	63	ND	ND	31	3,900	
GIW-01	7/11/2016	1.6	59	3.3	12	23	2,300	See Note 4
GIW-01	8/10/2016	1	31.1	12.1	43.4	11.8	1,300	See Note 4
GIW-01	9/6/2016	3.2	63	1.9	10	20	2,100	See Note 4
GIW-01	10/4/2016	2.4	70	ND	ND	24	2,300	
GIW-01	11/9/2016	3.1	69	ND	ND	24	2,100	
GIW-02	7/11/2016	7.2	48	4.8	26	13	890	See Note 4
GIW-02	8/10/2016	6.9	36.7	9.4	39.1	7.6	470	See Note 4
GIW-02	9/6/2016	3.9	29	12	50	4.4	280	See Note 4
GIW-02	10/4/2016	4.2	34	11	41	9.4	550	See Note 4
GIW-02	11/9/2016	2.7	64	ND	5.6	26	1,900	
GIW-03	7/11/2016	0.6	57	3.5	12	26	2,500	See Note 4
GIW-03	8/8/2016	0.7	60.7	2.3	8.2	26.8	2,600	See Note 4
GIW-03	9/6/2016	1	49	6.2	22	21	1,900	See Note 4
GIW-03	10/4/2016	0.7	62	2	7	26	2,200	See Note 4
GIW-03	11/9/2016	0.7	64	ND	5	27	2,200	
GIW-04	7/11/2016	0.8	57	ND	ND	38	2,700	
GIW-04	8/8/2016	0.7	56.2	ND	3.7	37.7	2,600	
GIW-04	9/6/2016	0.7	56	2	6.9	34	2,400	See Note 4
GIW-04	10/4/2016	0.9	43	5.8	21	28	1,900	See Note 3
GIW-04	11/9/2016	1.1	51	2.4	8.2	37	2,200	See Note 4
GIW-05	7/11/2016	4.1	42	6.7	24	22	870	See Note 3
GIW-05	8/8/2016	2.4	57.3	ND	5.6	32.6	1,400	
GIW-05	9/12/2016	1.9	60	ND	ND	34	1,400	
GIW-05	10/4/2016	ND	0.1	22	78	ND	ND	See Note 4
GIW-05	11/9/2016	0.01	1	22	77	ND	ND	See Note 4
GIW-06	7/11/2016	2.9	52	2.9	15	26	910	See Note 4
GIW-06	8/8/2016	3.2	52.7	ND	17.4	24.3	840	
GIW-06	9/6/2016	4.1	52	ND	19	23	740	
GIW-06	10/4/2016	0.1	0.9	22	77	0.3	ND	See Note 1 and 3
GIW-06	11/8/2016	17	54	ND	6.3	20	700	
GIW-07	7/11/2016	7.7	57	5.3	19	10	1,000	See Note 4
GIW-07	8/10/2016	7.2	40.1	10.2	36.9	5.3	590	See Note 4
GIW-07	9/6/2016	1.4	15	18	64	2.4	190	See Note 4
GIW-07	10/4/2016	11	65	2.8	10	10	640	See Note 4
GIW-07	11/8/2016	12	58	2.1	7.3	20	1,000	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	7/11/2016	2.6	52	7.3	26	11	1,200	See Note 4
GIW-08	8/8/2016	15.1	62.4	ND	19.8	1.6	190	
GIW-08	9/6/2016	16	63	ND	18	1.8	220	
GIW-08	10/4/2016	22	64	ND	11	1.2	160	
GIW-08	11/8/2016	23	60	ND	16	0.8	130	
GIW-09	7/11/2016	1.2	47	6.7	26	18	1,300	See Note 4
GIW-09	8/8/2016	2.8	26.8	6.1	61.6	2.5	190	See Note 4
GIW-09	9/6/2016	2.2	16	12	67	2.3	150	See Note 4
GIW-09	10/4/2016	5.3	22	9	61	2.5	140	See Note 4
GIW-09	11/9/2016	0.8	8.5	18	71	1.8	110	See Note 4
GIW-10	7/11/2016	0.4	53	ND	ND	43	2,400	
GIW-10	8/8/2016	0.8	54.4	ND	3.8	39.7	2,300	
GIW-10	9/6/2016	0.6	50	2.6	10	36	2,000	See Note 3
GIW-10	10/4/2016	3.7	52	ND	9.6	33	1,600	
GIW-10	11/9/2016	4.1	49	ND	11	34	1,700	
GIW-11	7/11/2016	5.4	59	2	12	20	2,000	See Note 4
GIW-11	8/8/2016	6.5	60.7	1.9	11.1	19	2,000	See Note 4
GIW-11	9/6/2016	6.9	61	1.9	11	18	1,900	See Note 4
GIW-11	10/4/2016	6.2	62	1.6	9.9	20	1,900	See Note 4
GIW-11	11/9/2016	0.9	63	ND	ND	33	2,700	
GIW-12	7/11/2016	5.8	36	8.1	40	9.3	740	See Note 4
GIW-12	8/8/2016	6.2	34	7.7	42.8	8.9	670	See Note 4
GIW-12	9/6/2016	6.2	32	9.6	45	7	470	See Note 4
GIW-12	10/4/2016	13	41	5.3	29	10	610	See Note 4
GIW-12	11/9/2016	7.7	35	7.5	42	7.9	460	See Note 4
GIW-13	7/11/2016	11	64	ND	ND	20	1,300	
GIW-13	8/8/2016	10.1	66.2	ND	ND	20.1	1,300	
GIW-13	9/6/2016	12	63	ND	5.9	17	1,000	
GIW-13	10/4/2016	12	59	2.7	9.8	16	970	See Note 3
GIW-13	11/9/2016	10	65	ND	ND	20	1,300	
Flare Station[2]	7/5/2016	9.5	41.2	6.5	29	12.1	1,100	See Note 7
Flare Station[2]	8/9/2016	10.1	39.3	6.8	30.7	11.4	1,100	See Note 6
Flare Station[2]	9/7/2016	8.7	39.4	6.9	31.9	11.4	940	See Note 6
Flare Station[2]	10/4/2016	9.6	41.6	6	28.8	12.4	1,000	See Note 6
Flare Station[2]	11/1/2016	10.4	42.4	5.7	27.2	12.5	900	See Note 6
Flare Station[2]	12/6/2016	9.3	37.8	7.7	32.4	12	840	See Note 6

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of NQ EP14 A (or 1) and NQ EP14 B (or 2), located in the North Quarry. (6) Flare station gas concentration data is an average of Outlets 1 and 2 (A & B) or SQ OU 1 and OU 2, located in the South Quarry. (7) Flare station gas concentration based on data from Outlet B in the South Quarry.

ND = Analyte not detected in sample.

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

ATTACHMENT D-2

LAB ANALYSIS REPORTS

AIR TECHNOLOGY
Laboratories, Inc.

November 23, 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: H111506-01/95

Enclosed are results for sample(s) received 11/15/16 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.
- 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 11/22/16.

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

Standard ☐ 48 hours ☐
Same Day ☐ 72 hours ☐
24 hours ☐ 96 hours ☐
Other: 5 day ■

DELIVERABLES

EDD ☐
EDF ☐
Level 3 ☐
Level 4 ☐

PAGE: 1 **OF** 11

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	D1946 + CO, H2					
H111506-01	6158	-20.9	-5	-4	GEW-40	11/7/2016	808	C	LFG	NA	X					
-02	5269	-21.1	-5	-4	GEW-41R	11/7/2016	822	C	LFG	NA	X					
-03	A7803	-20.7	-5	-2.5	GEW-42R	11/7/2016	840	C	LFG	NA	X					
-04	4656	-20.6	-5	-4	GEW-43R	11/7/2016	853	C	LFG	NA	X					
-05	A8072	-20.7	-5	-4	GEW-44	11/7/2016	910	C	LFG	NA	X					
-06	4657	-20.9	-5	-4.5	GEW-45R	11/7/2016	925	C	LFG	NA	X					
-07	A7773	-20.8	-5	-4	GEW-46R	11/7/2016	940	C	LFG	NA	X					
-08	5813	-20.6	-5	-4.5	GEW-2S	11/7/2016	1007	C	LFG	NA	X					
-09	A7798	-20.4	-5	-4.5	GEW-2	11/7/2016	1020	C	LFG	NA	X					

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

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

RELINQUISHED BY: Ryan Ayers — 11-14-16 1200 — DATE/TIME — RECEIVED BY — DATE/TIME

RELINQUISHED BY: FedEx — DATE/TIME — RECEIVED BY: [signature] — 11/15/16 0858

RELINQUISHED BY — DATE/TIME — RECEIVED BY — DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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	☐

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	D1946 + CO, H2					
H111506-10	5306	-20.1	-5	-5	GEW-3	11/7/2016	1033	C	LFG	NA	X					
-11	A8086	-20.7	-5	-4.9	GEW-4	11/7/2016	1045	C	LFG	NA	X					
-12	3128	-20.5	-5	-4.9	GEW-47R	11/7/2016	1102	C	LFG	NA	X					
-13	6144	-20.8	-5	-4.9	GEW-5	11/7/2016	1115	C	LFG	NA	X					
-14	5308	-21	-5	-4.9	GEW-48	11/7/2016	1130	C	LFG	NA	X					
-15	3440	-20.2	-5	-4	GEW-6	11/7/2016	1145	C	LFG	NA	X					
-16	4644	-20.5	-5	-5	GEW-50	11/7/2016	1356	C	LFG	NA	X					
-17	A8064	-20.6	-5	-5	GEW-52	11/7/2016	1407	C	LFG	NA	X					
-18	5817	-20.7	-5	-5	GEW-49	11/7/2016	1420	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	11-14-16 1200	DATE/RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx		DATE/RECEIVED BY: JDJ 11/15/16 0858	DATE/TIME
RELINQUISHED BY		DATE/RECEIVED BY	DATE/TIME

COMMENTS

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*

AirTECHNOLOGY Laboratories, Inc.

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Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard	☐	48 hours	☐
Same Day	☐	72 hours	☐
24 hours	☐	96 hours	☐
Other:		5 day	■

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 3 **OF** 11

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	D1946 + CO, H2					
H1150610-19	3837	-20.6	-5	-5	GEW-51	11/7/2016	1434	C	LFG	NA	X					
-20	5916	-20.8	-5	-5	GEW-53	11/7/2016	1452	C	LFG	NA	X					
-21	4658	-19.6	-5	-5	GEW-54	11/7/2016	1509	C	LFG	NA	X					
-22	A7646	-20.7	-5	-5	GEW-55	11/7/2016	1522	C	LFG	NA	X					
-23	3162	-20.4	-5	-4.5	GEW-9	11/7/2016	1540	C	LFG	NA	X					
-24	A7794	-20.6	-5	-4.5	GEW-8	11/7/2016	1553	C	LFG	NA	X					
-25	3130	-20.6	-5	-4.5	GEW-7	11/7/2016	1608	C	LFG	NA	X					
-26	5921	-21	-5	-4	GEW-39	11/8/2016	831	C	LFG	NA	X					
-27	4655	-21.1	-5	-4	GEW-109	11/8/2016	843	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:	
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers	11-14-16 1200	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	11/15/16 DATE/TIME 0858	
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

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CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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City of Industry, CA 91748
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Fx: 626-964-5832

TURNAROUND TIME				DELIVERABLES		PAGE: 4 OF 11
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

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												
#1115006-28	4648	-21	-5	-4	GIW-6	11/8/2016	859	C	LFG	NA	X					
-29	5829	-20.6	-5	-4	GEW-159	11/8/2016	1506	C	LFG	NA	X					
-30	A7665	-20.5	-5	-4	GIW-7	11/8/2016	1540	C	LFG	NA	X					
-31	A7808	-20.8	-5	-4	GIW-8	11/8/2016	1557	C	LFG	NA	X					
-32	5819	-20.6	-5	-4	GEW-38	11/9/2016	1026	C	LFG	NA	X					
-33	3826	-21.1	-5	-4	GIW-9	11/9/2016	1100	C	LFG	NA	X					
-34	3834	-21.1	-5	-4	GIW-5	11/9/2016	1114	C	LFG	NA	X					
-35	A7815	-20.8	-5	-4	GIW-10	11/9/2016	1130	C	LFG	NA	X					
-36	A8017	-21	-5	-4	GEW-10	11/9/2016	1151	C	LFG	NA	X					

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

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	11-14-16 1200		
FED EX		[illegible]	11/15/16 0858

COMMENTS

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

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

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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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
#111506-37	A8082	-20.9	-5	-4	GEW-56R	11/9/2016	1206	C	LFG	NA	X					
-38	A7769	-21	-5	-4	GIW-11	11/9/2016	1415	C	LFG	NA	X					
-39	A7816	-21.1	-5	-4	GIW-12	11/9/2016	1427	C	LFG	NA	X					
-40	A8098	-21	-5	-4	GIW-13	11/9/2016	1441	C	LFG	NA	X					
-41	A8057	-20.6	-5	-4	GEW-110	11/9/2016	1453	C	LFG	NA	X					
-42	A7818	-20.8	-5	-4	GIW-1	11/9/2016	1514	C	LFG	NA	X					
-43	A7807	-20.9	-5	-4	GIW-2	11/9/2016	1528	C	LFG	NA	X					
-44	5934	-20.9	-5	-4	GIW-4	11/9/2016	1543	C	LFG	NA	X					
-45	5840	-21.1	-5	-4	GIW-3	11/9/2016	1556	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	11-14-16 1200	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		RECEIVED BY: [signature]	DATE/TIME: 11/15/16 0853
RELINQUISHED BY		RECEIVED BY	DATE/TIME

COMMENTS

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*

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
H111506-46	A7762	-21	-5	-4	GEW-153	11/9/2016	1610	C	LFG	NA	X					
-47	5835	-21.1	-5	-4	GEW-152	11/9/2016	1624	C	LFG	NA	X					
-48	A7663	-20.7	-5	-4	GEW-160	11/10/2016	955	C	LFG	NA	X					
-49	A7776	-20.7	-5	-4	GEW-162	11/10/2016	1023	C	LFG	NA	X					
-50	A8071	-20.6	-5	-4	GEW-149	11/10/2016	1035	C	LFG	NA	X					
-51	6160	-20.7	-5	-4	GEW-151	11/10/2016	1051	C	LFG	NA	X					
-52	A8068	-20.6	-5	-4	GEW-137	11/10/2016	1134	C	LFG	NA	X					
-53	A7778	-20.6	-5	-4	GEW-136	11/10/2016	1310	C	LFG	NA	X					
-54	A7805	-20.7	-5	-5	GEW-135	11/10/2016	1324	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	DATE/TIME: 11-14-16 1200	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx	DATE/TIME:	RECEIVED BY	DATE/TIME: 11/15/16 0833
RELINQUISHED BY	DATE/TIME:	RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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 ☐

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

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												
#111506-55	A7670	-20.5	-5	-5	GEW-134	11/10/2016	1336	C	LFG	NA	X					
-56	A8099	-18.4	-5	-4.5	GEW-120	11/10/2016	1357	C	LFG	NA	X					
-57	5815	-20.5	-5	-5	GEW-132	11/10/2016	1412	C	LFG	NA	X					
-58	5313	-20.7	-5	-4	GEW-155	11/10/2016	1425	C	LFG	NA	X					
-59	5825	-20.7	-5	-5	GEW-138	11/10/2016	1437	C	LFG	NA	X					
-60	A8055	-20.9	-5	-3	GEW-59R	11/10/2016	831	C	LFG	NA	X					
-61	A7775	-21.1	-5	-3.5	GEW-176	11/10/2016	856	C	LFG	NA	X					
-62	A7810	-19.7	-5	-4	GEW-150	11/10/2016	948	C	LFG	NA	X					
-63	5318	-21.1	-5	-4	GEW-175	11/10/2016	1001	C	LFG	NA	X					

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

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	11-14-16 1200		
FED EX		[illegible]	11/15/16 0858

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

COMMENTS

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

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

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: 8 **OF** 11

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	D1946 + CO, H2					
H115506-64	A7649	-20.9	-5	-4	GEW-145	11/10/2016	1048	C	LFG	NA	X					
-65	5821	-20.7	-5	-4	GEW-102	11/10/2016	1100	C	LFG	NA	X					
-66	6146	-20.7	-5	-4	GEW-174	11/10/2016	1116	C	LFG	NA	X					
-67	A7770	-21	-5	-4	GEW-121	11/11/2016	815	C	LFG	NA	X					
-68	A7802	-20.9	-5	-4	GEW-163	11/11/2016	826	C	LFG	NA	X					
-69	A7764	-20.9	-5	-4	GEW-123	11/11/2016	835	C	LFG	NA	X					
-70	5322	-20.9	-5	-4	GEW-22R	11/11/2016	847	C	LFG	NA	X					
-71	A8075	-20.8	-5	-4	GEW-164	11/11/2016	904	C	LFG	NA	X					
-72	5912	-20.9	-5	-4	GEW-165	11/11/2016	919	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	DATE: 11-14-16 1200	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE:	RECEIVED BY: [illegible] 11/15/16 0858	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard	☐	48 hours	☐
Same Day	☐	72 hours	☐
24 hours	☐	96 hours	☐
Other:		5 day	■

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

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	D1946 + CO, H2					
#111506-73	5834	-20.9	-5	-4	GEW-166	11/11/2016	929	C	LFG	NA	X					
-74	5831	-20.8	-5	-4	GEW-167	11/11/2016	946	C	LFG	NA	X					
-75	5905	-20.7	-5	-4	GEW-125	11/11/2016	1016	C	LFG	NA	X					
-76	6137	-18	-5	-4	GEW-168	11/11/2016	1028	C	LFG	NA	X					
-77	5929	-20.8	-5	-4	GEW-169	11/11/2016	1039	C	LFG	NA	X					
-78	A7744	-20.9	-5	-4	GEW-126	11/11/2016	1051	C	LFG	NA	X					
-79	3156	-20.9	-5	-4	GEW-86	11/11/2016	1136	C	LFG	NA	X					
-80	3131	-20.7	-5	-4.5	GEW-82R	11/11/2016	1146	C	LFG	NA	X					
-81	A7765	-20.7	-5	-4.5	GEW-118	11/11/2016	1157	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:	
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Ryan Ayers	11-14-16 1200	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	11/15/16 DATE/TIME 0858	
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME	

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		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

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												
H111506-82	A7804	-20.9	-5	-4	GEW-117	11/11/2016	1211	C	LFG	NA	X					
-83	A7767	-21	-5	-4	GEW-140	11/11/2016	820	C	LFG	NA	X					
-84	A8096	-20.7	-5	-4	GEW-141	11/11/2016	845	C	LFG	NA	X					
-85	A7747	-20.8	-5	-4	GEW-139	11/11/2016	921	C	LFG	NA	X					
-86	A7711	-20.9	-5	-4	GEW-129	11/11/2016	945	C	LFG	NA	X					
-87	3839	-20.5	-5	-4	GEW-128	11/11/2016	1001	C	LFG	NA	X					
-88	6143	-20.7	-5	-4	GEW-170	11/11/2016	1018	C	LFG	NA	X					
-89	A8059	-20.9	-5	-4	GEW-127	11/11/2016	1030	C	LFG	NA	X					
-90	5323	-20.6	-5	-4.9	GEW-130	11/11/2016	1047	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	11-14-16 1200	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		RECEIVED BY	DATE/TIME 11/15/16 0858
RELINQUISHED BY		RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

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: 11 OF 11
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

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												
#111506-91	6141	-20.5	-5	-4	GEW-131	11/11/2016	1103	C	LFG	NA	X					
-92	A7792	-20.9	-5	-4	GEW-147	11/11/2016	1154	C	LFG	NA	X					
-93	A7648	-20.7	-5	-4.5	GEW-90	11/11/2016	1339	C	LFG	NA	X					
-94	A8065	-21	-5	-4.5	GEW-58	11/11/2016	1417	C	LFG	NA	X					
-95	5833	-20.9	-5	-4	GEW-58A	11/11/2016	1431	C	LFG	NA	X					

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

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

RELINQUISHED BY	DATE	RECEIVED BY	DATE/TIME
Ryan Ayers	11-14-16 1200		
FEDEX		[illegible]	11/15/16 0852

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: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-01		H111506-02		H111506-03		H111506-04	
Client Sample I.D.:	GEW-40		GEW-41R		GEW-42R		GEW-43R	
Date/Time Sampled:	11/7/16 8:08		11/7/16 8:22		11/7/16 8:40		11/7/16 8:53	
Date/Time Analyzed:	11/17/16 9:51		11/17/16 10:06		11/17/16 10:20		11/17/16 10:35	
QC Batch No.:	161117GC8A1		161117GC8A1		161117GC8A1		161117GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		2.7		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.030	ND d	0.030	ND d	0.027	0.22 d	0.030
Carbon Dioxide	40	0.030	37	0.030	38	0.027	42	0.030
Oxygen/Argon	ND	1.5	1.6	1.5	2.7	1.4	ND	1.5
Nitrogen	ND	3.0	9.7	3.0	9.6	2.7	4.7	3.0
Methane	57	0.0030	52	0.0030	50	0.0027	53	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0027	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161122GC8A1

Reviewed/Approved By: _____ Date 11/23/16
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: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-05		H111506-06		H111506-07		H111506-08	
Client Sample I.D.:	GEW-44		GEW-45R		GEW-46R		GEW-2S	
Date/Time Sampled:	11/7/16 9:10		11/7/16 9:25		11/7/16 9:40		11/7/16 10:07	
Date/Time Analyzed:	11/17/16 10:50		11/17/16 11:04		11/17/16 11:19		11/17/16 11:34	
QC Batch No.:	161117GC8A1		161117GC8A1		161117GC8A1		161117GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.0		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.030	ND d	0.031	0.076 d	0.030	ND d	0.031
Carbon Dioxide	39	0.030	42	0.031	41	0.030	42	0.031
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	5.0	3.0	ND	3.1	ND	3.0	ND	3.1
Methane	55	0.0030	55	0.0031	55	0.0030	55	0.0031
Carbon Monoxide	ND	0.0030	ND	0.0031	ND	0.0030	ND	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161122GC8A1

Reviewed/Approved By: _____ Date 11/23/16
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: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-09		H111506-10		H111506-11		H111506-12	
Client Sample I.D.:	GEW-2		GEW-3		GEW-4		GEW-47R	
Date/Time Sampled:	11/7/16 10:20		11/7/16 10:33		11/7/16 10:45		11/7/16 11:02	
Date/Time Analyzed:	11/17/16 11:49		11/17/16 12:04		11/17/16 12:18		11/17/16 12:33	
QC Batch No.:	161117GC8A1		161117GC8A1		161117GC8A1		161117GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		3.2		3.1		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.031	0.12 d	0.032	0.093 d	0.031	ND d	0.031
Carbon Dioxide	41	0.031	38	0.032	40	0.031	38	0.031
Oxygen/Argon	ND	1.5	ND	1.6	ND	1.5	ND	1.5
Nitrogen	3.2	3.1	10	3.2	7.9	3.1	12	3.1
Methane	55	0.0031	50	0.0032	51	0.0031	48	0.0031
Carbon Monoxide	ND	0.0031	ND	0.0032	ND	0.0031	ND	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
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Reviewed/Approved By: _____ Date 11/23/16
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-13		H111506-14		H111506-15		H111506-16	
Client Sample I.D.:	GEW-5		GEW-48		GEW-6		GEW-50	
Date/Time Sampled:	11/7/16 11:15		11/7/16 11:30		11/7/16 11:45		11/7/16 13:56	
Date/Time Analyzed:	11/17/16 12:48		11/17/16 13:02		11/17/16 13:33		11/17/16 13:48	
QC Batch No.:	161117GC8A1		161117GC8A1		161117GC8A1		161117GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		3.1		3.0		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.036 d	0.031	0.037 d	0.031	ND d	0.030	0.087 d	0.032
Carbon Dioxide	37	0.031	40	0.031	35	0.030	39	0.032
Oxygen/Argon	ND	1.5	ND	1.5	2.3	1.5	ND	1.6
Nitrogen	15	3.1	6.2	3.1	18	3.0	6.6	3.2
Methane	47	0.0031	53	0.0031	45	0.0030	53	0.0032
Carbon Monoxide	ND	0.0031	ND	0.0031	ND	0.0030	ND	0.0032

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Reviewed/Approved By: _____ Date 11/23/16
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Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**11/15/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H111506-17		H111506-18		H111506-19		H111506-20	
Client Sample I.D.:	GEW-52		GEW-49		GEW-51		GEW-53	
Date/Time Sampled:	11/7/16 14:07		11/7/16 14:20		11/7/16 14:34		11/7/16 14:52	
Date/Time Analyzed:	11/17/16 14:02		11/17/16 14:17		11/17/16 14:32		11/22/16 16:51	
QC Batch No.:	161117GC8A1		161117GC8A1		161117GC8A1		161122GC8A3	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.083 d	0.032	0.069 d	0.032	1.2 d	0.032	4.2	3.2
Carbon Dioxide	40	0.032	38	0.032	40	0.032	40	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Nitrogen	7.4	3.2	9.9	3.2	4.6	3.2	5.9	3.2
Methane	52	0.0032	51	0.0032	53	0.0032	49	0.0032
Carbon Monoxide	ND	0.0032	ND	0.0032	ND	0.0032	0.0059	0.0032

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Reviewed/Approved By: _____ **Date** 11/23/16
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-21		H111506-22		H111506-23		H111506-24	
Client Sample I.D.:	GEW-54		GEW-55		GEW-9		GEW-8	
Date/Time Sampled:	11/7/16 15:09		11/7/16 15:22		11/7/16 15:40		11/7/16 15:53	
Date/Time Analyzed:	11/17/16 16:29		11/17/16 16:44		11/18/16 8:34		11/18/16 8:49	
QC Batch No.:	161117GC8A2		161117GC8A2		161117GC8A2		161117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.1		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	2.0 d	0.032	2.0 d	0.032	0.63 d	0.031	1.1 d	0.031
Carbon Dioxide	38	0.032	42	0.032	41	0.031	43	0.031
Oxygen/Argon	2.8	1.6	ND	1.6	ND	1.5	ND	1.5
Nitrogen	12	3.2	3.8	3.2	8.6	3.1	ND	3.1
Methane	46	0.0032	51	0.0032	48	0.0031	53	0.0031
Carbon Monoxide	ND	0.0032	ND	0.0032	ND	0.0031	ND	0.0031

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Reviewed/Approved By: _____ Date 11/23/16

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-25		H111506-26		H111506-27		H111506-28	
Client Sample I.D.:	GEW-7		GEW-39		GEW-109		GIW-6	
Date/Time Sampled:	11/7/16 16:08		11/8/16 8:31		11/8/16 8:43		11/8/16 8:59	
Date/Time Analyzed:	11/17/16 17:27		11/17/16 17:42		11/17/16 17:57		11/17/16 18:11	
QC Batch No.:	161117GC8A2		161117GC8A2		161117GC8A2		161117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.031	0.064 d	0.030	17	3.0	20	3.0
Carbon Dioxide	40	0.031	53	0.030	48	0.030	54	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	ND	3.1	ND	3.0	14	3.0	6.3	3.0
Methane	56	0.0031	44	0.0030	20	0.0030	17	0.0030
Carbon Monoxide	ND	0.0031	ND	0.0030	0.072	0.0030	0.070	0.0030

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Reviewed/Approved By: _____ Date 11/23/16
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-29		H111506-30		H111506-31		H111506-32	
Client Sample I.D.:	GEW-159		GIW-7		GIW-8		GEW-38	
Date/Time Sampled:	11/8/16 15:06		11/8/16 15:40		11/8/16 15:57		11/9/16 10:26	
Date/Time Analyzed:	11/17/16 18:26		11/17/16 18:41		11/17/16 18:55		11/17/16 19:10	
QC Batch No.:	161117GC8A2		161117GC8A2		161117GC8A2		161117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	25	3.0	20	3.0	0.80 d	0.030	22	3.0
Carbon Dioxide	35	0.030	58	0.030	60	0.030	40	0.030
Oxygen/Argon	7.6	1.5	2.1	1.5	ND	1.5	6.3	1.5
Nitrogen	27	3.0	7.3	3.0	16	3.0	23	3.0
Methane	5.6	0.0030	12	0.0030	23	0.0030	8.1	0.0030
Carbon Monoxide	0.15	0.0030	0.10	0.0030	0.013	0.0030	0.10	0.0030

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Reviewed/Approved By: _____ Date 11/23/16
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-33		H111506-34		H111506-35		H111506-36	
Client Sample I.D.:	GIW-9		GIW-5		GIW-10		GEW-10	
Date/Time Sampled:	11/9/16 11:00		11/9/16 11:14		11/9/16 11:30		11/9/16 11:51	
Date/Time Analyzed:	11/17/16 19:25		11/17/16 19:39		11/17/16 19:54		11/17/16 20:09	
QC Batch No.:	161117GC8A2		161117GC8A2		161117GC8A2		161117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	1.8 d	0.030	ND d	0.030	34	3.0	0.10 d	0.030
Carbon Dioxide	8.5	0.030	0.61	0.030	49	0.030	48	0.030
Oxygen/Argon	18	1.5	22	1.5	ND	1.5	ND	1.5
Nitrogen	71	3.0	77	3.0	11	3.0	7.3	3.0
Methane	0.79	0.0030	0.0085	0.0030	4.1	0.0030	43	0.0030
Carbon Monoxide	0.011	0.0030	ND	0.0030	0.17	0.0030	ND	0.0030

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Reviewed/Approved By: _____ Date 4/23/16
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-37		H111506-38		H111506-39		H111506-40	
Client Sample I.D.:	GEW-56R		GIW-11		GIW-12		GIW-13	
Date/Time Sampled:	11/9/16 12:06		11/9/16 14:15		11/9/16 14:27		11/9/16 14:41	
Date/Time Analyzed:	11/18/16 10:46		11/18/16 11:00		11/18/16 11:15		11/18/16 11:30	
QC Batch No.:	161118GC8A1		161118GC8A1		161118GC8A1		161118GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	30	3.0	33	3.0	7.9	3.0	20	3.0
Carbon Dioxide	51	0.030	63	0.030	35	0.030	65	0.030
Oxygen/Argon	ND	1.5	ND	1.5	7.5	1.5	ND	1.5
Nitrogen	7.2	3.0	ND	3.0	42	3.0	ND	3.0
Methane	10	0.0030	0.85	0.0030	7.7	0.0030	10	0.0030
Carbon Monoxide	0.12	0.0030	0.27	0.0030	0.046	0.0030	0.13	0.0030

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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-41		H111506-42		H111506-43		H111506-44	
Client Sample I.D.:	GEW-110		GIW-1		GIW-2		GIW-4	
Date/Time Sampled:	11/9/16 14:53		11/9/16 15:14		11/9/16 15:28		11/9/16 15:43	
Date/Time Analyzed:	11/18/16 11:44		11/18/16 11:59		11/18/16 12:14		11/18/16 12:28	
QC Batch No.:	161118GC8A1		161118GC8A1		161118GC8A1		161118GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	20	3.0	24	3.0	26	3.0	37	3.0
Carbon Dioxide	31	0.030	69	0.030	64	0.030	51	0.030
Oxygen/Argon	9.3	1.5	ND	1.5	ND	1.5	2.4	1.5
Nitrogen	38	3.0	ND	3.0	5.6	3.0	8.2	3.0
Methane	1.9	0.0030	3.1	0.0030	2.7	0.0030	1.1	0.0030
Carbon Monoxide	0.11	0.0030	0.21	0.0030	0.19	0.0030	0.22	0.0030

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Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-45		H111506-46		H111506-47		H111506-48	
Client Sample I.D.:	GIW-3		GEW-153		GEW-152		GEW-160	
Date/Time Sampled:	11/9/16 15:56		11/9/16 16:10		11/9/16 16:24		11/10/16 9:55	
Date/Time Analyzed:	11/18/16 12:43		11/18/16 12:58		11/18/16 13:12		11/18/16 13:27	
QC Batch No.:	161118GC8A1		161118GC8A1		161118GC8A1		161118GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	27	3.0	11	3.0	29	3.0	36	3.0
Carbon Dioxide	64	0.030	40	0.030	48	0.030	57	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	5.0	3.0	20	3.0	3.0	3.0	ND	3.0
Methane	0.70	0.0030	28	0.0030	18	0.0030	3.8	0.0030
Carbon Monoxide	0.22	0.0030	0.036	0.0030	0.18	0.0030	0.20	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-49		H111506-50		H111506-51		H111506-52	
Client Sample I.D.:	GEW-162		GEW-149		GEW-151		GEW-137	
Date/Time Sampled:	11/10/16 10:23		11/10/16 10:35		11/10/16 10:51		11/10/16 11:34	
Date/Time Analyzed:	11/18/16 13:42		11/18/16 13:56		11/18/16 14:11		11/18/16 14:26	
QC Batch No.:	161118GC8A1		161118GC8A1		161118GC8A1		161118GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	27	3.0	17	3.0	35	3.0	38	3.0
Carbon Dioxide	62	0.030	52	0.030	54	0.030	59	0.030
Oxygen/Argon	ND	1.5	2.0	1.5	1.6	1.5	ND	1.5
Nitrogen	ND	3.0	17	3.0	5.8	3.0	ND	3.0
Methane	7.0	0.0030	11	0.0030	2.5	0.0030	0.47	0.0030
Carbon Monoxide	0.18	0.0030	0.10	0.0030	0.16	0.0030	0.27	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-53		H111506-54		H111506-55		H111506-56	
Client Sample I.D.:	GEW-136		GEW-135		GEW-134		GEW-120	
Date/Time Sampled:	11/10/16 13:10		11/10/16 13:24		11/10/16 13:36		11/10/16 13:57	
Date/Time Analyzed:	11/18/16 16:23		11/18/16 16:37		11/18/16 16:52		11/18/16 17:07	
QC Batch No.:	161118GC8A2		161118GC8A2		161118GC8A2		161118GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.2		3.2		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	8.9	3.0	18	3.2	2.8 d	0.032	5.2	3.1
Carbon Dioxide	22	0.030	41	0.032	32	0.032	52	0.031
Oxygen/Argon	12	1.5	5.1	1.6	6.6	1.6	4.1	1.5
Nitrogen	54	3.0	31	3.2	51	3.2	16	3.1
Methane	3.7	0.0030	5.1	0.0032	7.1	0.0032	22	0.0031
Carbon Monoxide	0.038	0.0030	0.090	0.0032	0.030	0.0032	0.025	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161122GC8A2

Reviewed/Approved By: _____ Date 11/23/16
Mark Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-57		H111506-58		H111506-59		H111506-60	
Client Sample I.D.:	GEW-132		GEW-155		GEW-138		GEW-59R	
Date/Time Sampled:	11/10/16 14:12		11/10/16 14:25		11/10/16 14:37		11/10/16 8:31	
Date/Time Analyzed:	11/18/16 17:21		11/18/16 17:36		11/18/16 17:51		11/18/16 18:05	
QC Batch No.:	161118GC8A2		161118GC8A2		161118GC8A2		161118GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.0		3.2		2.8	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	16	3.2	38	3.0	10	3.2	38	2.8
Carbon Dioxide	46	0.032	58	0.030	26	0.032	43	0.028
Oxygen/Argon	1.7	1.6	ND	1.5	6.8	1.6	2.8	1.4
Nitrogen	24	3.2	ND	3.0	53	3.2	9.7	2.8
Methane	11	0.0032	0.54	0.0030	3.7	0.0032	5.5	0.0028
Carbon Monoxide	0.092	0.0032	0.28	0.0030	0.068	0.0032	0.13	0.0028

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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-61		H111506-62		H111506-63		H111506-64	
Client Sample I.D.:	GEW-176		GEW-150		GEW-175		GEW-145	
Date/Time Sampled:	11/10/16 8:56		11/10/16 9:48		11/10/16 10:01		11/10/16 10:48	
Date/Time Analyzed:	11/18/16 18:20		11/18/16 18:34		11/18/16 18:49		11/18/16 19:04	
QC Batch No.:	161118GC8A2		161118GC8A2		161118GC8A2		161118GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.9		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	16	2.9	27	3.0	6.1	3.0	36	3.0
Carbon Dioxide	49	0.029	55	0.030	33	0.030	51	0.030
Oxygen/Argon	4.1	1.4	3.3	1.5	7.9	1.5	2.2	1.5
Nitrogen	20	2.9	12	3.0	43	3.0	7.8	3.0
Methane	11	0.0029	1.9	0.0030	10	0.0030	0.99	0.0030
Carbon Monoxide	0.097	0.0029	0.18	0.0030	0.042	0.0030	0.21	0.0030

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Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-65		H111506-66		H111506-67		H111506-68	
Client Sample I.D.:	GEW-102		GEW-174		GEW-121		GEW-163	
Date/Time Sampled:	11/10/16 11:00		11/10/16 11:16		11/11/16 8:15		11/11/16 8:26	
Date/Time Analyzed:	11/21/16 9:53		11/21/16 10:07		11/21/16 10:22		11/21/16 10:37	
QC Batch No.:	161121GC8A1		161121GC8A1		161121GC8A1		161121GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	35	3.0	15	3.0	27	3.0	7.9	3.0
Carbon Dioxide	55	0.030	31	0.030	58	0.030	30	0.030
Oxygen/Argon	ND	1.5	7.5	1.5	ND	1.5	9.5	1.5
Nitrogen	3.9	3.0	42	3.0	5.0	3.0	47	3.0
Methane	3.9	0.0030	4.5	0.0030	8.7	0.0030	4.8	0.0030
Carbon Monoxide	0.076	0.0030	0.10	0.0030	0.16	0.0030	0.058	0.0030

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Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-69		H111506-70		H111506-71		H111506-72	
Client Sample I.D.:	GEW-123		GEW-22R		GEW-164		GEW-165	
Date/Time Sampled:	11/11/16 8:35		11/11/16 8:47		11/11/16 9:04		11/11/16 9:19	
Date/Time Analyzed:	11/21/16 10:51		11/21/16 11:06		11/21/16 11:21		11/21/16 11:35	
QC Batch No.:	161121GC8A1		161121GC8A1		161121GC8A1		161121GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	21	3.0	30	3.0	18	3.0	30	3.0
Carbon Dioxide	56	0.030	66	0.030	69	0.030	63	0.030
Oxygen/Argon	2.5	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	11	3.0	ND	3.0	ND	3.0	3.3	3.0
Methane	8.9	0.0030	1.2	0.0030	8.7	0.0030	1.7	0.0030
Carbon Monoxide	0.18	0.0030	0.33	0.0030	0.19	0.0030	0.29	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-73		H111506-74		H111506-75		H111506-76	
Client Sample I.D.:	GEW-166		GEW-167		GEW-125		GEW-168	
Date/Time Sampled:	11/11/16 9:29		11/11/16 9:46		11/11/16 10:16		11/11/16 10:28	
Date/Time Analyzed:	11/21/16 11:50		11/21/16 12:04		11/21/16 12:19		11/21/16 12:34	
QC Batch No.:	161121GC8A1		161121GC8A1		161121GC8A1		161121GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	20	3.0	38	3.0	31	3.0	39	3.0
Carbon Dioxide	36	0.030	58	0.030	44	0.030	57	0.030
Oxygen/Argon	9.2	1.5	ND	1.5	3.5	1.5	ND	1.5
Nitrogen	32	3.0	ND	3.0	18	3.0	ND	3.0
Methane	2.1	0.0030	1.4	0.0030	2.9	0.0030	0.61	0.0030
Carbon Monoxide	0.17	0.0030	0.26	0.0030	0.22	0.0030	0.34	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-77		H111506-78		H111506-79		H111506-80	
Client Sample I.D.:	GEW-169		GEW-126		GEW-86		GEW-82R	
Date/Time Sampled:	11/11/16 10:39		11/11/16 10:51		11/11/16 11:36		11/11/16 11:46	
Date/Time Analyzed:	11/21/16 14:56		11/21/16 15:10		11/21/16 15:25		11/21/16 15:39	
QC Batch No.:	161121GC8A2		161121GC8A2		161121GC8A2		161121GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	20	3.0	19	3.0	2.0 d	0.030	39	3.1
Carbon Dioxide	40	0.030	53	0.030	28	0.030	53	0.031
Oxygen/Argon	8.1	1.5	ND	1.5	7.3	1.5	ND	1.5
Nitrogen	29	3.0	4.4	3.0	53	3.0	ND	3.1
Methane	1.8	0.0030	22	0.0030	10	0.0030	4.9	0.0031
Carbon Monoxide	0.21	0.0030	0.18	0.0030	0.016	0.0030	0.17	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161122GC8A2

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Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-81		H111506-82		H111506-83		H111506-84	
Client Sample I.D.:	GEW-118		GEW-117		GEW-140		GEW-141	
Date/Time Sampled:	11/11/16 11:57		11/11/16 12:11		11/11/16 8:20		11/11/16 8:45	
Date/Time Analyzed:	11/21/16 15:54		11/21/16 16:09		11/21/16 16:23		11/21/16 16:38	
QC Batch No.:	161121GC8A2		161121GC8A2		161121GC8A2		161121GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	29	3.1	23	3.0	30	3.0	31	3.0
Carbon Dioxide	47	0.031	63	0.030	51	0.030	48	0.030
Oxygen/Argon	3.7	1.5	ND	1.5	1.9	1.5	4.3	1.5
Nitrogen	18	3.1	4.5	3.0	8.4	3.0	15	3.0
Methane	2.0	0.0031	7.3	0.0030	8.6	0.0030	0.28	0.0030
Carbon Monoxide	0.12	0.0031	0.18	0.0030	0.16	0.0030	0.34	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-85		H111506-86		H111506-87		H111506-88	
Client Sample I.D.:	GEW-139		GEW-129		GEW-128		GEW-170	
Date/Time Sampled:	11/11/16 9:21		11/11/16 9:45		11/11/16 10:01		11/11/16 10:18	
Date/Time Analyzed:	11/22/16 7:58		11/22/16 8:13		11/21/16 17:22		11/21/16 17:37	
QC Batch No.:	161121GC8A2		161121GC8A2		161121GC8A2		161121GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	30	3.0	22	3.0	26	3.0	22	3.0
Carbon Dioxide	44	0.030	66	0.030	64	0.030	57	0.030
Oxygen/Argon	4.3	1.5	2.2	1.5	ND	1.5	3.5	1.5
Nitrogen	17	3.0	7.7	3.0	3.3	3.0	13	3.0
Methane	3.8	0.0030	1.9	0.0030	5.6	0.0030	3.2	0.0030
Carbon Monoxide	0.24	0.0030	0.30	0.0030	0.28	0.0030	0.29	0.0030

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Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-89		H111506-90		H111506-91		H111506-92	
Client Sample I.D.:	GEW-127		GEW-130		GEW-131		GEW-147	
Date/Time Sampled:	11/11/16 10:30		11/11/16 10:47		11/11/16 11:03		11/11/16 11:54	
Date/Time Analyzed:	11/21/16 17:51		11/21/16 18:06		11/21/16 18:20		11/21/16 18:35	
QC Batch No.:	161121GC8A2		161121GC8A2		161121GC8A2		161121GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	26	3.0	23	3.1	45	3.0	39	3.0
Carbon Dioxide	65	0.030	43	0.031	47	0.030	48	0.030
Oxygen/Argon	ND	1.5	5.9	1.5	ND	1.5	1.7	1.5
Nitrogen	4.2	3.0	23	3.1	ND	3.0	5.7	3.0
Methane	3.3	0.0030	3.4	0.0031	5.4	0.0030	4.8	0.0030
Carbon Monoxide	0.33	0.0030	0.24	0.0031	0.27	0.0030	0.20	0.0030

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H111506-93		H111506-94		H111506-95			
Client Sample I.D.:	GEW-90		GEW-58		GEW-58A			
Date/Time Sampled:	11/11/16 13:39		11/11/16 14:17		11/11/16 14:31			
Date/Time Analyzed:	11/21/16 18:50		11/21/16 19:04		11/21/16 19:19			
QC Batch No.:	161121GC8A2		161121GC8A2		161121GC8A2			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	3.1		3.1		3.0			
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Hydrogen	38	3.1	32	3.1	16	3.0		
Carbon Dioxide	45	0.031	39	0.031	37	0.030		
Oxygen/Argon	ND	1.5	6.2	1.5	4.7	1.5		
Nitrogen	4.3	3.1	22	3.1	18	3.0		
Methane	11	0.0031	0.44	0.0031	24	0.0030		
Carbon Monoxide	0.17	0.0031	0.17	0.0031	0.088	0.0030		

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QC Batch No.: 161117GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/17/16 9:29		11/17/16 8:45		11/17/16 8:59			
Analyst Initials:	AS		AS		AS			
Datafile:	17nov006		17nov003		17nov004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	102	70-130%	103	70-130%	0.6	<30
Carbon Dioxide	ND	0.010	93	70-130%	93	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	102	70-130%	102	70-130%	0.1	<30
Nitrogen	ND	1.0	97	70-130%	97	70-130%	0.1	<30
Methane	ND	0.0010	127	70-130%	127	70-130%	0.2	<30
Carbon Monoxide	ND	0.0010	101	70-130%	101	70-130%	0.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 11/23/16

Mark J. Johnson
Operations Manager

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QC Batch No.: 161117GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/17/16 16:00		11/18/16 8:04		11/18/16 8:20			
Analyst Initials:	AS		AS		AS			
Datafile:	17nov032		17nov050		17nov051			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	111	70-130%	113	70-130%	1.5	<30
Carbon Dioxide	ND	0.010	94	70-130%	95	70-130%	1.5	<30
Oxygen/Argon	ND	0.50	100	70-130%	102	70-130%	1.1	<30
Nitrogen	ND	1.0	96	70-130%	98	70-130%	1.4	<30
Methane	ND	0.0010	111	70-130%	108	70-130%	2.0	<30
Carbon Monoxide	ND	0.0010	109	70-130%	107	70-130%	1.9	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 11/23/16

Mark J. Johnson
Operations Manager

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

QC Batch No.: 161118GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/18/16 10:31		11/18/16 9:47		11/18/16 10:02			
Analyst Initials:	AS		AS		AS			
Datafile:	18nov006		18nov003		18nov004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	110	70-130%	110	70-130%	0.8	<30
Carbon Dioxide	ND	0.010	94	70-130%	93	70-130%	1.1	<30
Oxygen/Argon	ND	0.50	101	70-130%	99	70-130%	1.2	<30
Nitrogen	ND	1.0	97	70-130%	96	70-130%	1.1	<30
Methane	ND	0.0010	109	70-130%	109	70-130%	0.4	<30
Carbon Monoxide	ND	0.0010	107	70-130%	107	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 11/23/16

Mark J. Johnson
Operations Manager

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

QC Batch No.: 161118GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/18/16 15:39		11/18/16 15:53		11/18/16 16:08			
Analyst Initials:	AS		AS		AS			
Datafile:	18nov027		18nov028		18nov029			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	110	70-130%	114	70-130%	3.4	<30
Carbon Dioxide	ND	0.010	96	70-130%	99	70-130%	3.7	<30
Oxygen/Argon	ND	0.50	102	70-130%	104	70-130%	1.9	<30
Nitrogen	ND	1.0	98	70-130%	99	70-130%	1.0	<30
Methane	ND	0.0010	107	70-130%	108	70-130%	0.3	<30
Carbon Monoxide	ND	0.0010	107	70-130%	107	70-130%	0.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 11/23/16

Mark J. Johnson
Operations Manager

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

QC Batch No.: 161121GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/21/16 9:35		11/21/16 8:50		11/21/16 9:05			
Analyst Initials:	AS		AS		AS			
Datafile:	21nov006		21nov003		21nov004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	96	70-130%	93	70-130%	2.9	<30
Carbon Dioxide	ND	0.010	94	70-130%	89	70-130%	6.1	<30
Oxygen/Argon	ND	0.50	105	70-130%	102	70-130%	3.1	<30
Nitrogen	ND	1.0	99	70-130%	97	70-130%	1.8	<30
Methane	ND	0.0010	105	70-130%	104	70-130%	0.4	<30
Carbon Monoxide	ND	0.0010	102	70-130%	102	70-130%	0.4	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 11/23/16

Mark J. Johnson
Operations Manager

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

QC Batch No.: 161121GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/21/16 14:41		11/21/16 13:57		11/21/16 14:12			
Analyst Initials:	AS		AS		AS			
Datafile:	21nov027		21nov024		21nov025			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	92	70-130%	93	70-130%	0.8	<30
Carbon Dioxide	ND	0.010	90	70-130%	92	70-130%	1.3	<30
Oxygen/Argon	ND	0.50	105	70-130%	105	70-130%	0.2	<30
Nitrogen	ND	1.0	100	70-130%	99	70-130%	0.3	<30
Methane	ND	0.0010	105	70-130%	104	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	104	70-130%	103	70-130%	0.6	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 11/23/16

Mark J. Johnson
Operations Manager

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

QC Batch # 161122GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	11/22/2016 10:34		11/22/2016 9:44		11/22/2016 9:49			
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	98	70-130	99	70-130	0.5	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 11/23/16

Mark Johnson
Operations Manager

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

QC Batch # 161122GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	11/22/2016 13:35		11/22/2016 13:06		11/22/2016 13:11			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	99	70-130	98	70-130	1.0	<20

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

Reviewed/Approved By: _____ Date: 11/23/16
Mark Johnson
Operations Manager

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

QC Batch No.: 161122GC8A3
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/22/16 16:36		11/22/16 17:06		11/22/16 17:20			
Analyst Initials:	AS		AS		AS			
Datafile:	22nov063		22nov065		22nov066			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	110	70-130%	113	70-130%	2.2	<30
Carbon Dioxide	ND	0.010	93	70-130%	94	70-130%	1.8	<30
Oxygen/Argon	ND	0.50	97	70-130%	98	70-130%	2.0	<30
Nitrogen	ND	1.0	94	70-130%	96	70-130%	2.0	<30
Methane	0.0011	0.0010	109	70-130%	109	70-130%	0.3	<30
Carbon Monoxide	ND	0.0010	105	70-130%	105	70-130%	0.2	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ **Date:** 11/23/16

Mark J. Johnson
Operations Manager

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

ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

WELLFIELD DATA TABLE

November 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	11/2/2016 11:43	55.0	39.3	0.1	5.6	120.2		26	25	-0.6	-0.6	-11.6
GEW-002	11/2/2016 11:46	54.8	39.5	0.0	5.7	121.2		35	35	-0.7	-0.7	-11.6
GEW-002	11/7/2016 10:17	54.9	41.1	0.3	3.7	118.2		51	53	-0.8	-0.9	-12.4
GEW-002	11/7/2016 10:23	52.2	40.0	0.3	7.5	119.7		42	42	-0.4	-0.4	-12.5
GEW-002	11/15/2016 10:16	55.7	40.4	0.0	3.9	119.4		27	29	-0.6	-0.6	-12.2
GEW-002	11/21/2016 10:43	55.0	39.1	0.5	5.4	117.5		0	0	-0.4	-0.4	-12.8
GEW-002	11/21/2016 10:46	55.1	38.8	0.0	6.1	116.3		53	54	-0.5	-0.5	-12.5
GEW-002	11/29/2016 9:14	56.4	39.5	0.0	4.1	113.9		0	0	-0.4	-0.4	-13.3
GEW-003	11/2/2016 11:49	49.8	38.7	0.1	11.4	116.8		21	24	-1.1	-1.1	-11.4
GEW-003	11/2/2016 11:51	49.9	38.5	0.1	11.5	116.6		20	19	-1.0	-1.0	-11.5
GEW-003	11/7/2016 10:30	51.4	39.0	0.0	9.6	116.2		15	17	-0.8	-0.8	-12.1
GEW-003	11/7/2016 10:36	52.0	38.7	0.0	9.3	116.3		41	41	-0.8	-0.8	-12.3
GEW-003	11/15/2016 10:38	52.9	38.7	0.0	8.4	113.7		14	11	-0.7	-0.7	-12.1
GEW-003	11/21/2016 10:50	53.8	38.7	0.0	7.5	115.1		18	15	-0.8	-0.8	-12.4
GEW-003	11/29/2016 9:18	52.5	39.3	0.0	8.2	110.7		20	16	-0.9	-0.9	-13.1
GEW-003	11/29/2016 9:19	52.5	39.6	0.0	7.9	110.3		18	18	-0.8	-0.8	-13.2
GEW-004	11/2/2016 11:54	50.9	37.7	0.1	11.3	121.5		18	21	-0.8	-0.8	-11.9
GEW-004	11/2/2016 11:56	50.9	38.9	0.1	10.1	121.0		22	14	-0.7	-0.7	-11.9
GEW-004	11/7/2016 10:41	51.3	39.4	0.0	9.3	119.7		13	16	-0.7	-0.7	-12.2
GEW-004	11/7/2016 10:48	52.3	39.0	0.0	8.7	120.2		0	0	-0.6	-0.6	-12.1
GEW-004	11/15/2016 10:41	51.9	37.3	0.0	10.8	120.5		16	14	-0.6	-0.6	-12.0
GEW-004	11/21/2016 10:54	52.6	38.2	0.0	9.2	118.9		12	17	-0.5	-0.5	-12.2
GEW-004	11/29/2016 9:22	52.7	38.7	0.0	8.6	116.3		16	6	-0.7	-0.7	-12.8
GEW-005	11/2/2016 12:05	46.5	37.1	0.1	16.3	94.1		30	29	-0.3	-0.3	-11.4
GEW-005	11/7/2016 11:11	46.8	36.7	0.0	16.5	93.4		14	10	-0.2	-0.2	-12.2
GEW-005	11/7/2016 11:19	49.6	32.6	0.0	17.8	92.9		17	14	-0.2	-0.2	-12.2
GEW-005	11/15/2016 10:53	46.8	38.3	0.0	14.9	92.8		8	13	-0.1	-0.1	-12.1
GEW-005	11/21/2016 11:05	48.1	37.5	0.0	14.4	91.7		34	33	-0.1	-0.1	-12.1
GEW-005	11/29/2016 9:34	47.1	37.7	0.0	15.2	89.7		11	10	-0.3	-0.2	-12.9
GEW-006	11/2/2016 12:12	48.6	37.0	0.0	14.4	88.9		22	23	-0.5	-0.5	-11.3
GEW-006	11/7/2016 11:41	48.7	37.1	0.0	14.2	89.1		24	24	-0.4	-0.4	-12.1
GEW-006	11/7/2016 11:48	49.6	37.1	0.0	13.3	89.4		15	11	-0.4	-0.4	-12.2
GEW-006	11/15/2016 11:01	49.7	37.1	0.0	13.2	89.1		19	23	-0.4	-0.4	-11.6
GEW-006	11/21/2016 11:13	50.6	37.0	0.0	12.4	88.2		10	21	-0.4	-0.4	-12.1
GEW-006	11/29/2016 9:42	49.2	38.0	0.0	12.8	85.1		17	18	-0.5	-0.6	-12.6
GEW-007	11/2/2016 12:39	55.3	40.6	0.1	4.0	94.6		38	38	-0.3	-0.3	-11.8
GEW-007	11/7/2016 16:04	57.5	40.2	0.0	2.3	90.9		36	36	-0.1	0.0	-12.4
GEW-007	11/7/2016 16:11	58.5	39.5	0.0	2.0	90.5		33	33	-0.1	-0.1	-12.4
GEW-007	11/15/2016 11:49	54.3	39.9	0.0	5.8	89.4		30	30	-0.1	-0.1	-12.2
GEW-007	11/21/2016 11:28	57.2	39.2	0.0	3.6	87.5		31	31	-0.2	-0.2	-12.3
GEW-007	11/29/2016 11:33	55.7	41.6	0.0	2.7	82.9		8	6	-0.1	-0.1	-12.9
GEW-008	11/2/2016 12:35	52.3	40.7	0.1	6.9	114.0		18	18	-0.4	-0.4	-11.8
GEW-008	11/7/2016 15:48	53.3	41.5	0.0	5.2	113.6		13	16	-0.4	-0.4	-12.4

November 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-008	11/7/2016 15:56	53.9	41.9	0.0	4.2	113.7		15	16	-0.4	-0.4	-12.0
GEW-008	11/15/2016 11:44	53.0	40.5	0.0	6.5	113.3		13	13	-0.4	-0.4	-12.0
GEW-008	11/21/2016 11:33	55.7	40.0	0.0	4.3	112.0		14	15	-0.4	-0.4	-11.9
GEW-008	11/29/2016 11:29	53.6	41.9	0.0	4.5	110.4		8	14	-0.3	-0.3	-12.4
GEW-009	11/2/2016 12:31	49.3	39.2	0.1	11.4	124.7		0	0	-0.3	-0.3	-18.3
GEW-009	11/7/2016 15:35	49.2	40.6	0.0	10.2	124.9		22	21	-0.3	-0.3	-18.1
GEW-009	11/7/2016 15:43	49.9	41.2	0.0	8.9	125.0		39	39	-0.3	-0.3	-18.1
GEW-009	11/15/2016 11:40	50.2	39.3	0.0	10.5	123.7		30	30	-0.3	-0.2	-18.5
GEW-009	11/21/2016 11:37	49.3	39.8	0.0	10.9	123.4		35	35	-0.2	-0.2	-18.8
GEW-009	11/29/2016 11:25	49.3	41.5	0.0	9.2	121.5		27	28	-0.2	-0.2	-18.5
GEW-010	11/4/2016 15:10	40.4	47.8	1.8	10.0	100.6		3	5	-18.3	-18.3	-18.4
GEW-010	11/4/2016 15:11	39.4	47.7	0.9	12.0	99.6		3	2	-16.4	-16.4	-19.2
GEW-010	11/9/2016 11:47	43.5	48.0	0.3	8.2	91.5		2	3	-13.8	-13.8	-18.4
GEW-010	11/9/2016 11:55	44.9	46.0	0.4	8.7	91.5		3	4	-13.8	-13.8	-18.0
GEW-010	11/15/2016 13:38	44.3	46.6	0.1	9.0	92.4		4	4	-14.3	-14.2	-18.4
GEW-010	11/22/2016 16:20	41.1	52.4	0.1	6.4	73.2		2	1	-14.3	-14.3	-19.4
GEW-010	11/29/2016 14:03	38.2	55.8	0.0	6.0	86.1		3	3	-13.8	-13.8	-18.1
GEW-013A	11/17/2016 9:08	6.0	55.7	0.8	37.5	191.6		NFD		0.0	0.0	-16.8
GEW-013A	11/17/2016 9:09	11.9	53.0	3.4	31.7	139.3		NFD		-8.7	-9.8	-14.4
GEW-016R	11/21/2016 13:46	6.3	45.9	1.6	46.2	190.9		NFD		-17.4	-17.3	-17.7
GEW-016R	11/21/2016 13:47	4.3	50.8	1.7	43.2	191.2		NFD		-17.3	-17.3	-17.3
GEW-018B	11/21/2016 14:09	1.4	54.3	0.1	44.2	196.5		NFD		-7.9	-8.0	-11.9
GEW-018B	11/21/2016 14:10	1.2	56.2	0.0	42.6	196.7		NFD		-8.0	-8.0	-12.7
GEW-022R	11/11/2016 8:42	1.3	63.6	0.0	35.1	67.9		5	7	0.4	0.4	0.7
GEW-022R	11/11/2016 8:50	1.1	64.4	0.0	34.5	66.7		2	2	0.4	0.4	0.0
GEW-038	11/4/2016 14:54	9.7	44.3	6.7	39.3	81.0		5	4	-9.6	-9.5	-12.1
GEW-038	11/4/2016 14:59	10.0	41.3	6.4	42.3	86.3		3	6	-9.4	-9.4	-12.1
GEW-038	11/9/2016 10:19	9.2	42.0	5.8	43.0	72.5		3	12	-11.8	-11.8	-14.7
GEW-038	11/9/2016 10:30	9.8	42.1	5.9	42.2	76.1		14	2	-11.7	-11.8	-10.8
GEW-038	11/15/2016 13:28	11.2	52.4	0.4	36.0	74.8		2	4	-7.8	-7.8	-8.1
GEW-038	11/22/2016 16:01	11.1	54.4	0.3	34.2	50.7		8	5	-8.9	-8.9	-10.2
GEW-038	11/29/2016 13:51	11.8	49.7	0.7	37.8	68.8		8	5	-7.5	-7.6	-8.3
GEW-039	11/4/2016 15:05	43.9	51.4	0.2	4.5	121.6		8	5	-0.2	-0.2	-18.2
GEW-039	11/8/2016 8:27	48.5	44.0	0.0	7.5	115.2		9	2	-0.2	-0.2	-16.1
GEW-039	11/8/2016 8:36	45.5	50.3	0.0	4.2	115.5		10	14	-0.2	-0.2	-16.4
GEW-039	11/15/2016 13:34	45.1	51.3	0.0	3.6	118.3		12	13	-0.2	-0.2	-17.8
GEW-039	11/22/2016 16:13	45.0	50.0	0.0	5.0	107.9		8	7	-0.2	-0.2	-19.1
GEW-039	11/29/2016 13:57	42.0	49.6	0.0	8.4	113.8		8	5	-0.1	-0.1	-17.2
GEW-040	11/2/2016 10:55	56.1	40.4	0.1	3.4	91.7		11	11	-0.2	-0.2	-12.1
GEW-040	11/7/2016 8:04	57.4	41.5	0.0	1.1	87.8		32	32	-0.3	-0.3	-12.9
GEW-040	11/7/2016 8:12	58.3	40.2	0.0	1.5	88.2		43	43	-0.3	-0.3	-12.3
GEW-040	11/15/2016 9:23	58.3	39.7	0.1	1.9	87.7		8	8	-0.3	-0.3	-12.3
GEW-040	11/21/2016 9:47	57.2	40.3	0.0	2.5	84.1		10	9	-0.3	-0.3	-12.6

November 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-040	11/29/2016 8:01	54.3	43.8	0.0	1.9	78.0		35	35	-0.1	-0.1	-7.5
GEW-041R	11/2/2016 11:00	52.4	37.3	0.6	9.7	100.8		11	11	-0.4	-0.4	-10.2
GEW-041R	11/7/2016 8:19	52.3	37.4	0.6	9.7	97.9		40	40	-0.4	-0.4	-9.7
GEW-041R	11/7/2016 8:28	52.4	37.3	0.8	9.5	98.1		15	16	-0.4	-0.4	-10.4
GEW-041R	11/15/2016 9:29	52.1	36.6	0.7	10.6	96.7		39	39	-0.4	-0.4	-10.2
GEW-041R	11/21/2016 9:53	50.6	36.6	1.1	11.7	92.7		38	36	-0.3	-0.4	-11.2
GEW-041R	11/29/2016 8:06	54.2	38.0	0.5	7.3	88.9		6	7	-0.2	-0.2	-5.6
GEW-042R	11/2/2016 11:04	54.8	37.5	0.3	7.4	106.5		32	32	-0.6	-0.6	-10.3
GEW-042R	11/2/2016 11:06	53.5	40.7	0.4	5.4	106.0		10	10	-0.5	-0.5	-10.8
GEW-042R	11/7/2016 8:36	54.0	40.5	0.1	5.4	99.6		31	30	-0.6	-0.6	-11.9
GEW-042R	11/7/2016 8:44	54.3	41.5	0.3	3.9	99.9		6	0	-0.6	-0.6	-12.2
GEW-042R	11/15/2016 9:33	54.8	40.1	0.1	5.0	98.9		0	0	-0.6	-0.6	-11.6
GEW-042R	11/21/2016 9:57	55.1	39.8	0.1	5.0	94.8		10	7	-0.6	-0.5	-11.6
GEW-042R	11/29/2016 8:11	54.7	41.2	0.0	4.1	88.4		11	12	-0.2	-0.2	-7.6
GEW-043R	11/2/2016 11:10	52.3	39.8	0.3	7.6	128.9		33	33	-1.1	-1.1	-11.8
GEW-043R	11/2/2016 11:12	51.8	40.1	0.3	7.8	128.6		28	31	-1.0	-1.0	-11.8
GEW-043R	11/7/2016 8:50	53.3	40.7	0.0	6.0	128.3		21	18	-1.0	-1.0	-12.3
GEW-043R	11/7/2016 8:59	53.5	41.9	0.2	4.4	127.8		26	26	-0.9	-0.9	-12.3
GEW-043R	11/15/2016 9:38	50.9	40.1	0.5	8.5	122.4		14	9	-1.3	-1.3	-12.4
GEW-043R	11/15/2016 9:40	50.6	39.5	0.5	9.4	122.1		14	18	-1.3	-1.3	-12.3
GEW-043R	11/21/2016 10:02	50.2	38.9	0.7	10.2	118.6		16	13	-1.1	-1.1	-12.6
GEW-043R	11/21/2016 10:04	49.9	38.4	0.7	11.0	116.8		0	0	-0.9	-0.9	-12.6
GEW-043R	11/29/2016 8:16	54.0	40.9	0.0	5.1	126.3		13	13	-0.3	-0.3	-12.9
GEW-044	11/2/2016 11:16	53.9	39.6	0.1	6.4	84.5		10	10	-0.3	-0.3	-11.8
GEW-044	11/7/2016 9:06	55.5	39.5	0.0	5.0	67.9		7	6	-0.3	-0.3	-12.5
GEW-044	11/7/2016 9:14	55.9	40.4	0.0	3.7	69.2		6	9	-0.3	-0.3	-12.6
GEW-044	11/15/2016 9:44	56.1	37.5	0.0	6.4	67.7		4	0	-0.4	-0.4	-12.2
GEW-044	11/21/2016 10:08	54.8	38.3	0.0	6.9	54.7		10	10	-0.2	-0.2	-12.4
GEW-044	11/29/2016 8:47	52.6	38.5	1.0	7.9	51.0		9	9	-0.2	-0.1	-12.9
GEW-045R	11/2/2016 11:19	54.8	39.2	0.0	6.0	90.8		10	10	0.5	0.5	-11.8
GEW-045R	11/2/2016 11:22	53.4	41.4	0.2	5.0	92.7		9	9	-0.2	-0.2	-11.8
GEW-045R	11/7/2016 9:21	55.0	41.0	0.0	4.0	85.6		7	8	-0.1	-0.1	-12.4
GEW-045R	11/7/2016 9:30	54.9	38.5	0.0	6.6	86.1		6	9	-0.1	-0.1	-12.2
GEW-045R	11/15/2016 9:47	56.5	39.1	0.0	4.4	85.4		0	0	0.0	0.0	-12.2
GEW-045R	11/15/2016 9:49	53.7	41.8	0.0	4.5	86.1		0	0	-0.2	-0.2	-12.3
GEW-045R	11/21/2016 10:15	57.2	39.3	0.0	3.5	78.9		10	11	0.0	0.0	-12.2
GEW-045R	11/21/2016 10:17	54.9	41.6	0.0	3.5	80.3		8	8	-0.5	-0.5	-12.3
GEW-045R	11/29/2016 8:52	54.4	40.3	0.0	5.3	78.0		10	10	-0.5	-0.5	-13.0
GEW-046R	11/2/2016 11:26	54.9	39.8	0.1	5.2	98.4		0	0	-0.4	-0.4	-11.8
GEW-046R	11/7/2016 9:36	57.7	38.3	0.1	3.9	97.0		10	12	-0.3	-0.3	-12.6
GEW-046R	11/7/2016 9:43	55.7	41.0	0.0	3.3	97.4		0	0	-0.4	-0.4	-11.9
GEW-046R	11/15/2016 9:52	54.5	40.4	0.0	5.1	96.7		6	10	-0.3	-0.3	-12.2
GEW-046R	11/21/2016 10:21	56.2	39.8	0.0	4.0	94.3		0	9	-0.2	-0.2	-12.6

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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	11/29/2016 8:55	55.5	40.6	0.0	3.9	93.1		10	13	-0.4	-0.4	-12.7
GEW-047R	11/2/2016 12:02	49.4	39.4	0.1	11.1	110.5		10	6	-0.2	-0.2	-11.7
GEW-047R	11/7/2016 10:58	49.7	38.8	0.0	11.5	109.2		7	14	-0.2	-0.2	-12.0
GEW-047R	11/7/2016 11:06	50.6	37.2	0.0	12.2	109.5		0	0	-0.2	-0.2	-11.8
GEW-047R	11/15/2016 10:50	49.4	41.4	0.0	9.2	109.2		0	0	-0.1	-0.1	-11.9
GEW-047R	11/21/2016 11:02	50.2	40.9	0.0	8.9	107.1		6	10	-0.1	-0.1	-12.4
GEW-047R	11/29/2016 9:30	49.9	40.2	0.0	9.9	103.3		9	6	-0.3	-0.3	-13.0
GEW-048	11/2/2016 12:09	52.6	36.6	0.1	10.7	104.3		14	8	-0.5	-0.4	-7.3
GEW-048	11/7/2016 11:26	53.8	38.7	0.0	7.5	103.3		0	0	-0.4	-0.4	-7.3
GEW-048	11/7/2016 11:34	54.4	38.5	0.0	7.1	103.3		47	48	-0.3	-0.3	-8.6
GEW-048	11/15/2016 10:57	54.2	36.1	0.0	9.7	103.0		14	4	-0.3	-0.3	-5.6
GEW-048	11/21/2016 11:09	53.7	35.9	0.0	10.4	102.0		32	33	-0.3	-0.2	-7.1
GEW-048	11/29/2016 9:37	53.8	38.5	0.0	7.7	99.6		0	12	-0.4	-0.5	-6.9
GEW-049	11/2/2016 12:25	45.6	37.4	0.1	16.9	111.2		16	13	-0.4	-0.4	-11.3
GEW-049	11/7/2016 14:17	51.7	38.2	0.0	10.1	110.8		14	14	-0.2	-0.2	-12.2
GEW-049	11/7/2016 14:25	52.4	38.0	0.0	9.6	110.7		32	32	-0.2	-0.2	-12.4
GEW-049	11/15/2016 11:14	48.0	38.3	0.0	13.7	109.0		7	11	-0.3	-0.3	-12.4
GEW-049	11/21/2016 9:20	46.8	37.2	0.1	15.9	106.1		33	33	-0.5	-0.4	-12.7
GEW-049	11/29/2016 9:57	48.6	37.4	0.0	14.0	106.2		9	12	-0.3	-0.3	-12.8
GEW-050	11/2/2016 12:19	53.1	37.9	0.0	9.0	108.4		19	19	-0.6	-0.6	-5.3
GEW-050	11/7/2016 13:52	54.9	37.6	0.0	7.5	108.3		21	27	-0.4	-0.4	-8.5
GEW-050	11/7/2016 13:59	55.2	38.8	0.0	6.0	108.5		22	19	-0.4	-0.4	-7.5
GEW-050	11/15/2016 11:07	54.2	36.8	0.0	9.0	107.7		17	16	-0.5	-0.5	-7.4
GEW-050	11/21/2016 11:20	53.5	37.2	0.0	9.3	106.6		18	19	-0.4	-0.5	-5.8
GEW-050	11/29/2016 9:49	52.4	38.8	0.0	8.8	105.0		25	29	-0.6	-0.6	-8.8
GEW-051	11/2/2016 10:35	54.1	40.3	0.2	5.4	126.1		6	13	-0.6	-0.6	-11.8
GEW-051	11/2/2016 10:36	53.4	41.0	0.1	5.5	125.3		13	12	-0.5	-0.5	-11.6
GEW-051	11/7/2016 14:30	54.9	40.0	0.0	5.1	125.6		28	28	0.0	0.0	-12.1
GEW-051	11/7/2016 14:38	55.2	39.9	0.0	4.9	125.3		27	27	0.0	0.0	-12.4
GEW-051	11/15/2016 11:18	54.6	38.4	0.0	7.0	125.6		14	14	-0.3	-0.3	-11.6
GEW-051	11/21/2016 9:23	55.5	39.3	0.0	5.2	124.7		10	13	-0.5	-0.6	-12.3
GEW-051	11/29/2016 10:01	55.1	39.2	0.0	5.7	122.8		22	22	-0.3	-0.3	-12.8
GEW-052	11/2/2016 12:22	49.3	37.9	0.1	12.7	113.5		15	15	-0.2	-0.2	-11.1
GEW-052	11/7/2016 14:04	52.4	39.0	0.0	8.6	113.7		14	11	-0.1	-0.1	-12.4
GEW-052	11/7/2016 14:11	53.2	39.6	0.0	7.2	113.7		14	15	-0.1	-0.1	-12.4
GEW-052	11/15/2016 11:10	51.4	36.6	0.0	12.0	112.5		33	33	-0.1	-0.1	-11.9
GEW-052	11/21/2016 11:24	50.3	37.0	0.0	12.7	111.7		32	30	-0.1	-0.1	-12.3
GEW-052	11/29/2016 9:52	47.8	37.7	0.0	14.5	110.0		0	0	-0.2	-0.2	-13.0
GEW-053	11/2/2016 10:40	49.9	39.1	0.1	10.9	141.5		22	21	-1.3	-1.3	-11.9
GEW-053	11/2/2016 10:41	49.2	40.5	0.1	10.2	141.2		21	22	-1.3	-1.3	-11.8
GEW-053	11/7/2016 14:48	50.7	39.0	0.0	10.3	140.9		31	30	-0.9	-1.0	-12.6
GEW-053	11/7/2016 14:56	49.6	38.7	0.0	11.7	141.8		30	34	-1.4	-1.3	-12.3
GEW-053	11/15/2016 11:21	50.1	38.5	0.0	11.4	140.9		26	36	-1.8	-1.8	-11.5

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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-053	11/15/2016 11:23	49.5	40.3	0.0	10.2	141.0		44	40	-2.3	-2.3	-11.5
GEW-053	11/21/2016 9:27	50.5	38.9	0.1	10.5	139.9		43	42	-2.9	-2.8	-12.9
GEW-053	11/21/2016 9:29	49.7	39.9	0.1	10.3	140.2		28	39	-2.8	-2.8	-13.3
GEW-053	11/29/2016 10:05	51.3	38.8	0.0	9.9	136.2		34	44	-2.7	-2.6	-12.2
GEW-053	11/29/2016 10:07	49.5	40.2	0.0	10.3	136.5		35	35	-2.9	-2.9	-12.6
GEW-054	11/2/2016 10:46	51.2	39.8	0.1	8.9	144.9		56	65	-6.0	-6.5	-8.4
GEW-054	11/2/2016 10:48	50.4	41.3	0.0	8.3	144.9		49	46	-6.1	-5.9	-8.5
GEW-054	11/7/2016 15:05	51.7	41.3	0.0	7.0	144.2		68	66	-6.7	-6.7	-9.2
GEW-054	11/7/2016 15:12	50.9	39.3	0.0	9.8	144.2		61	54	-6.7	-6.7	-10.0
GEW-054	11/15/2016 11:30	53.2	37.7	0.1	9.0	143.9		59	57	-6.4	-6.5	-9.1
GEW-054	11/15/2016 11:32	51.1	40.2	0.0	8.7	143.9		71	70	-6.5	-6.5	-9.4
GEW-054	11/21/2016 9:35	53.0	39.2	0.1	7.7	143.5		68	69	-7.0	-6.9	-9.7
GEW-054	11/21/2016 9:37	51.8	40.4	0.0	7.8	143.5		62	67	-7.0	-6.9	-10.0
GEW-054	11/29/2016 11:13	52.6	39.9	0.0	7.5	141.5		42	49	-3.6	-3.7	-5.0
GEW-054	11/29/2016 11:15	51.2	42.0	0.0	6.8	141.5		41	62	-3.7	-3.5	-4.4
GEW-055	11/2/2016 10:52	51.7	41.2	0.2	6.9	127.5		12	10	-0.7	-0.7	-8.1
GEW-055	11/7/2016 15:18	52.1	41.6	0.0	6.3	127.4		39	38	-0.5	-0.4	-8.2
GEW-055	11/7/2016 15:26	52.3	42.1	0.0	5.6	127.5		12	10	-0.5	-0.5	-8.2
GEW-055	11/15/2016 11:35	52.3	41.0	0.1	6.6	125.8		0	0	-0.5	-0.5	-7.8
GEW-055	11/21/2016 9:40	53.6	40.1	0.3	6.0	124.1		10	5	-0.8	-0.8	-8.3
GEW-055	11/21/2016 9:42	52.1	41.1	0.1	6.7	121.3		0	0	-0.7	-0.7	-8.0
GEW-055	11/29/2016 11:18	52.9	42.2	0.0	4.9	102.4		9	9	-0.1	0.0	-2.6
GEW-056R	11/4/2016 15:33	6.6	38.2	1.3	53.9	126.9		6	6	-0.9	-0.9	-18.8
GEW-056R	11/9/2016 12:02	11.6	47.0	0.0	41.4	118.4		2	5	-0.2	-0.2	-17.6
GEW-056R	11/9/2016 12:09	11.0	50.2	0.0	38.8	119.4		5	4	-0.2	-0.3	-17.6
GEW-056R	11/15/2016 13:54	10.8	41.1	0.0	48.1	116.8		2	3	-0.3	-0.3	-19.2
GEW-056R	11/22/2016 16:17	19.6	46.0	0.0	34.4	99.6		4	3	-0.4	-0.4	-19.2
GEW-056R	11/29/2016 14:00	16.4	48.3	0.0	35.3	111.2		2	1	-0.4	-0.4	-17.8
GEW-057B	11/17/2016 11:02	4.3	50.2	0.5	45.0	82.1		7	15	-11.5	-11.6	-11.9
GEW-057R	11/10/2016 10:22	1.0	26.1	7.4	65.5	105.0		1	4	-8.9	-8.9	-9.9
GEW-057R	11/10/2016 10:24	1.0	26.6	7.0	65.4	98.7		6	7	-3.8	-3.9	-11.5
GEW-058	11/11/2016 14:13	0.5	48.4	3.6	47.5	175.9		11	18	-18.2	-16.8	-18.5
GEW-058	11/11/2016 14:22	0.4	43.3	5.6	50.7	165.2		5	2	-17.2	-18.6	-17.6
GEW-058A	11/11/2016 14:27	25.1	40.9	3.9	30.1	131.3		8	6	-12.1	-12.3	-14.7
GEW-058A	11/11/2016 14:34	25.0	40.0	4.2	30.8	145.6		5	5	-16.3	-16.4	-18.8
GEW-059R	11/10/2016 8:26	6.0	48.8	2.0	43.2	185.2		8	5	-10.9	-10.7	-11.9
GEW-059R	11/10/2016 8:36	6.6	43.1	2.2	48.1	185.7		8	9	-11.8	-11.8	-12.4
GEW-067A	11/17/2016 9:42	5.5	54.9	0.5	39.1	169.0		15	16	-14.8	-12.8	-17.7
GEW-067A	11/17/2016 9:43	5.0	58.2	0.2	36.6	171.6		10	14	-17.3	-14.3	-17.8
GEW-077	11/17/2016 11:28	0.9	55.4	0.0	43.7	156.5		NFD		-14.2	-11.7	-14.0
GEW-077	11/17/2016 11:30	0.9	59.5	0.0	39.6	156.1		NFD		-14.2	-12.4	-14.0
GEW-078R	11/17/2016 11:09	10.7	49.3	0.1	39.9	183.9		3	18	-14.8	-15.3	-15.1
GEW-078R	11/17/2016 11:11	10.9	51.9	0.0	37.2	183.9		21	17	-14.3	-14.3	-13.9

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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-081	11/17/2016 11:19	1.4	53.4	0.0	45.2	193.6		NR	NR	-12.4	-12.4	-12.7
GEW-081	11/17/2016 11:20	0.9	58.0	0.0	41.1	194.3		NR	NR	-13.4	-13.2	-13.9
GEW-082R	11/11/2016 11:43	6.5	53.7	0.0	39.8	182.4		5	5	-13.2	-13.5	-13.1
GEW-082R	11/11/2016 11:48	6.6	54.4	0.0	39.0	182.4		6	6	-13.5	-13.5	-13.4
GEW-086	11/11/2016 11:32	11.6	32.2	6.4	49.8	90.9		28	28	-3.9	-3.8	-16.8
GEW-086	11/11/2016 11:37	12.0	31.5	6.3	50.2	91.2		26	28	-3.4	-3.2	-17.9
GEW-087	11/21/2016 14:41	2.9	51.7	0.2	45.2	196.4		NR	NR	-19.6	-18.7	-19.8
GEW-087	11/21/2016 14:42	1.4	54.8	0.3	43.5	196.4		NR	NR	-17.2	-17.3	-16.9
GEW-088	11/17/2016 9:03	9.9	44.0	3.0	43.1	122.6		56	55	-11.8	-12.3	-17.8
GEW-090	11/11/2016 13:35	12.2	49.4	0.1	38.3	174.7		13	20	-17.2	-17.2	-18.0
GEW-090	11/11/2016 13:43	11.1	50.8	0.0	38.1	174.7		38	38	-17.3	-18.1	-17.1
GEW-091	11/17/2016 10:46	5.7	53.0	0.0	41.3	195.7		23	24	-17.2	-15.1	-18.6
GEW-091	11/17/2016 10:48	4.0	58.7	0.0	37.3	196.4		19	21	-16.6	-16.7	-16.8
GEW-101	11/17/2016 14:13	11.6	51.9	3.6	32.9	93.2		28	29	-1.3	-2.6	-4.2
GEW-102	11/10/2016 10:56	5.1	61.4	0.0	33.5	196.4		NFD		-14.3	-14.8	-13.5
GEW-102	11/10/2016 11:03	3.6	55.8	0.0	40.6	196.4		NFD		-12.7	-12.4	-12.5
GEW-104	11/17/2016 11:37	0.9	53.9	0.0	45.2	85.4		3	4	2.5	2.4	2.2
GEW-104	11/17/2016 11:38	1.0	57.1	0.0	41.9	84.9		7	4	2.6	2.7	3.7
GEW-105	11/21/2016 14:21	1.7	61.9	0.1	36.3	197.9		12	4	-10.1	-10.4	-14.0
GEW-105	11/21/2016 14:24	3.5	62.9	0.0	33.6	194.4		13	19	-15.6	-15.4	-3.1
GEW-106	11/21/2016 14:29	6.4	49.1	4.2	40.3	100.6		18	14	-15.9	-18.5	-16.4
GEW-106	11/21/2016 14:31	6.8	48.0	4.2	41.0	99.6		8	11	-14.9	-14.0	-14.9
GEW-107	11/16/2016 15:13	27.8	48.7	0.3	23.2	80.5		16	16	-16.7	-16.7	-18.5
GEW-107	11/16/2016 15:15	27.2	50.8	0.3	21.7	81.7		21	15	-18.6	-18.4	-18.6
GEW-108	11/17/2016 10:56	1.3	46.4	2.6	49.7	79.4		4	6	-17.8	-17.3	-17.8
GEW-109	11/4/2016 15:02	21.1	47.1	1.2	30.6	121.8		10	11	-14.3	-14.3	-17.5
GEW-109	11/8/2016 8:40	21.1	47.0	0.0	31.9	99.6		2	4	-14.3	-14.3	-16.7
GEW-109	11/8/2016 8:47	20.3	48.3	0.0	31.4	99.6		3	3	-14.6	-14.5	-17.1
GEW-109	11/15/2016 13:31	21.4	52.2	0.0	26.4	99.1		2	3	-15.6	-15.7	-17.8
GEW-109	11/22/2016 16:09	25.0	44.6	0.1	30.3	91.0		6	5	-16.2	-16.2	-19.5
GEW-109	11/29/2016 13:54	20.9	53.6	0.0	25.5	85.6		0	3	-16.4	-16.5	-18.7
GEW-110	11/4/2016 15:15	2.2	22.2	13.0	62.6	89.2		7	0	-0.2	-0.2	-18.5
GEW-110	11/4/2016 15:17	1.6	19.9	13.0	65.5	89.3		5	2	-0.2	-0.2	-18.8
GEW-110	11/9/2016 14:49	2.1	36.5	8.7	52.7	86.3		2	4	-0.1	-0.1	-18.3
GEW-110	11/9/2016 14:56	2.2	33.3	8.7	55.8	86.8		3	3	-0.1	-0.1	-18.1
GEW-110	11/15/2016 13:42	3.0	38.2	6.5	52.3	89.1		3	4	-0.1	-0.1	-18.4
GEW-110	11/15/2016 13:43	2.6	39.5	6.7	51.2	89.1		3	2	-0.1	-0.1	-18.4
GEW-110	11/22/2016 16:24	3.1	36.2	8.2	52.5	60.9		3	3	-0.1	-0.1	-19.2
GEW-110	11/22/2016 16:25	2.4	38.1	8.5	51.0	60.9		2	3	0.0	-0.1	-19.2
GEW-110	11/29/2016 14:07	6.1	34.9	6.1	52.9	82.3		4	4	-0.1	-0.1	-18.2
GEW-110	11/29/2016 14:09	2.8	39.7	6.1	51.4	82.1		4	4	-0.1	-0.1	-18.9
GEW-113	11/16/2016 8:42	12.0	47.2	0.3	40.5	171.0		NFD		-4.6	-4.6	-17.4
GEW-113	11/16/2016 8:43	12.2	54.0	0.1	33.7	171.0		NFD		-4.6	-4.6	-17.8

November 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-117	11/11/2016 12:08	10.2	59.8	0.7	29.3	82.8		NFD		-16.2	-16.6	-16.4
GEW-117	11/11/2016 12:13	10.2	57.9	1.5	30.4	82.2		NFD		-16.9	-16.9	-17.0
GEW-118	11/11/2016 11:53	2.9	51.9	0.0	45.2	193.7		76	81	-3.5	-3.8	-9.8
GEW-118	11/11/2016 12:02	3.9	50.1	1.7	44.3	192.5		67	66	-6.4	-6.4	-11.1
GEW-120	11/10/2016 13:53	29.6	57.2	0.1	13.1	78.9		38	35	-12.1	-13.1	-12.5
GEW-120	11/10/2016 13:59	28.9	56.2	0.1	14.8	78.0		21	22	-13.1	-13.5	-12.5
GEW-120	11/23/2016 11:14	29.8	57.1	0.0	13.1	56.3		20	14	-14.3	-12.9	-14.8
GEW-120	11/23/2016 11:16	30.6	58.0	0.0	11.4	56.0		23	17	-13.4	-11.1	-12.4
GEW-121	11/11/2016 8:11	10.2	49.1	0.0	40.7	177.2		33	29	-14.2	-12.8	-16.0
GEW-121	11/11/2016 8:17	10.0	55.3	0.0	34.7	176.7		32	34	-18.3	-18.7	-20.3
GEW-121	11/23/2016 11:09	9.8	54.1	0.0	36.1	174.2		31	27	-15.9	-14.5	-16.9
GEW-121	11/23/2016 11:11	10.1	57.0	0.0	32.9	174.2		45	36	-14.5	-15.6	-15.7
GEW-122	11/23/2016 10:56	22.1	52.1	0.0	25.8	183.3		20	21	-9.5	-9.7	-12.7
GEW-122	11/23/2016 10:58	23.7	50.9	0.0	25.4	182.7		23	25	-12.8	-12.9	-13.5
GEW-123	11/11/2016 8:32	10.0	54.1	2.2	33.7	176.2		19	13	-19.0	-17.9	-19.3
GEW-123	11/11/2016 8:38	9.7	55.2	1.9	33.2	175.2		20	26	-16.2	-17.8	-15.6
GEW-123	11/23/2016 11:03	9.2	51.3	1.8	37.7	175.3		10	18	-18.8	-18.7	-18.1
GEW-123	11/23/2016 11:05	7.2	53.4	1.7	37.7	173.5		12	14	-17.8	-17.8	-17.8
GEW-125	11/11/2016 10:12	1.6	58.6	0.0	39.8	190.8		22	33	-12.9	-12.2	-14.1
GEW-125	11/11/2016 10:19	1.6	58.1	0.0	40.3	190.8		25	28	-11.5	-12.4	-13.2
GEW-125	11/23/2016 10:42	1.3	57.9	0.0	40.8	192.2		18	11	-12.9	-11.3	-14.6
GEW-125	11/23/2016 10:44	1.7	60.2	0.0	38.1	192.3		33	27	-14.3	-13.9	-14.8
GEW-126	11/11/2016 10:47	24.3	51.6	0.1	24.0	101.8		13	7	-13.3	-13.8	-13.8
GEW-126	11/11/2016 10:52	24.0	51.9	0.0	24.1	103.2		11	9	-12.5	-12.9	-14.1
GEW-126	11/23/2016 10:16	34.4	48.7	0.0	16.9	56.7		5	2	-12.9	-12.9	-13.3
GEW-127	11/11/2016 10:25	5.4	66.8	0.1	27.7	187.0		18	35	-12.7	-12.7	-12.5
GEW-127	11/11/2016 10:34	5.4	66.0	0.1	28.5	187.1		29	32	-13.2	-13.2	-13.6
GEW-127	11/23/2016 10:02	4.1	62.8	0.0	33.1	185.7		29	31	-13.4	-13.4	-14.1
GEW-127	11/23/2016 10:04	3.9	65.0	0.0	31.1	185.7		29	32	-11.2	-11.9	-11.9
GEW-128	11/11/2016 9:57	6.9	64.8	0.0	28.3	172.6		22	26	-9.3	-9.3	-13.8
GEW-128	11/11/2016 10:05	7.3	66.8	0.0	25.9	172.6		23	19	-10.2	-10.1	-13.7
GEW-128	11/23/2016 9:38	7.3	56.8	0.0	35.9	171.0		19	18	-11.1	-11.4	-14.4
GEW-128	11/23/2016 9:40	6.5	62.3	0.0	31.2	171.0		19	18	-11.9	-11.8	-14.4
GEW-129	11/11/2016 9:41	2.3	71.7	0.1	25.9	119.7		7	9	-14.2	-14.2	-13.6
GEW-129	11/11/2016 9:49	2.4	68.1	0.1	29.4	120.2		5	10	-14.2	-13.2	-14.6
GEW-129	11/23/2016 9:44	2.3	61.9	0.0	35.8	174.2		9	7	-14.0	-13.5	-14.6
GEW-129	11/23/2016 9:46	2.2	64.5	0.0	33.3	168.5		12	22	-13.9	-14.1	-14.0
GEW-130	11/11/2016 10:42	5.6	46.3	5.6	42.5	175.8		52	67	-4.5	-4.9	-5.7
GEW-130	11/11/2016 10:50	5.8	47.1	5.8	41.3	176.4		68	108	-4.9	-6.8	-6.8
GEW-131	11/11/2016 10:59	8.3	51.7	0.0	40.0	70.9		NFD		4.2	4.2	4.0
GEW-131	11/11/2016 11:06	9.2	50.7	0.0	40.1	71.6		NFD		4.0	4.0	4.0
GEW-131	11/23/2016 10:27	9.6	49.8	0.0	40.6	53.4		NFD		2.9	2.9	2.9
GEW-131	11/23/2016 10:28	9.9	50.3	0.0	39.8	53.4		NFD		2.8	3.2	3.4

November 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-132	11/10/2016 14:08	12.6	44.7	1.2	41.5	166.4		13	15	-2.0	-2.0	-17.4
GEW-132	11/10/2016 14:15	13.2	44.6	1.1	41.1	166.4		15	14	-2.0	-1.9	-17.4
GEW-132	11/23/2016 11:26	13.7	40.5	2.6	43.2	162.9		7	9	-2.0	-2.0	-16.5
GEW-132	11/23/2016 11:27	13.6	42.4	2.3	41.7	162.4		13	11	-2.0	-2.0	-17.8
GEW-133	11/10/2016 13:46	0.2	10.4	18.1	71.3	72.6		8	8	-17.2	-17.2	-17.0
GEW-133	11/10/2016 13:47	0.1	9.7	18.2	72.0	72.9		8	8	-17.1	-17.1	-16.8
GEW-133	11/25/2016 10:01	0.2	7.5	22.6	69.7	50.2		3	3	-12.0	-11.8	-17.8
GEW-133	11/25/2016 10:02	0.1	3.6	23.0	73.3	49.6		5	3	-10.9	-10.8	-17.3
GEW-134	11/10/2016 13:32	8.0	33.1	5.7	53.2	121.8		22	23	-10.8	-11.1	-18.3
GEW-134	11/10/2016 13:39	8.1	32.0	5.7	54.2	121.5		20	20	-9.3	-9.3	-18.2
GEW-134	11/25/2016 10:05	11.4	35.5	3.8	49.3	115.0		18	16	-7.4	-7.4	-16.9
GEW-134	11/25/2016 10:06	10.7	39.3	3.4	46.6	115.3		22	18	-7.4	-7.4	-17.3
GEW-135	11/10/2016 13:20	5.7	40.6	4.6	49.1	161.5		27	28	-14.1	-14.1	-17.5
GEW-135	11/10/2016 13:26	5.4	40.0	4.6	50.0	161.4		26	26	-13.7	-13.5	-17.4
GEW-135	11/25/2016 10:09	7.0	39.5	5.3	48.2	138.7		24	21	-14.2	-14.0	-17.7
GEW-135	11/25/2016 10:11	6.8	39.9	5.3	48.0	138.7		24	5	-14.3	-3.2	-17.9
GEW-136	11/10/2016 13:06	4.1	23.0	11.1	61.8	115.8		10	9	-1.0	-1.0	-16.6
GEW-136	11/10/2016 13:12	4.5	22.3	11.1	62.1	115.7		10	11	-1.0	-1.0	-15.9
GEW-136	11/25/2016 10:14	3.8	30.3	10.6	55.3	100.8		8	9	-0.9	-0.9	-16.0
GEW-136	11/25/2016 10:15	3.6	26.2	10.9	59.3	101.6		6	9	-0.9	-1.0	-17.1
GEW-137	11/10/2016 11:30	0.6	56.7	0.0	42.7	74.3		9	9	0.7	0.7	1.4
GEW-137	11/10/2016 11:36	0.4	54.9	0.0	44.7	75.0		11	8	0.7	0.7	1.0
GEW-137	11/25/2016 10:17	16.5	30.5	0.7	52.3	56.0		3	3	-11.8	-11.8	-13.8
GEW-138	11/10/2016 14:34	4.4	29.5	6.0	60.1	155.4		20	5	-4.0	-4.5	-15.4
GEW-138	11/10/2016 14:40	5.0	28.1	6.0	60.9	155.3		13	12	-0.6	-0.6	-16.5
GEW-138	11/25/2016 10:20	8.6	33.7	0.6	57.1	146.3		30	13	-8.4	-6.1	-14.4
GEW-138	11/25/2016 10:21	7.2	38.7	0.5	53.6	147.7		3	14	-4.4	-4.7	-15.3
GEW-139	11/11/2016 9:17	4.4	47.6	3.9	44.1	151.3		19	23	-10.2	-10.2	-14.7
GEW-139	11/11/2016 9:25	4.6	49.5	3.8	42.1	151.0		24	20	-9.3	-9.3	-15.3
GEW-139	11/25/2016 10:24	3.3	40.5	3.3	52.9	138.8		27	16	-8.9	-7.8	-15.2
GEW-139	11/25/2016 10:25	3.7	49.2	3.0	44.1	138.9		24	26	-9.3	-9.3	-15.3
GEW-140	11/11/2016 8:16	8.5	50.8	1.2	39.5	146.3		6	9	-5.9	-5.9	-15.9
GEW-140	11/11/2016 8:22	9.3	52.7	1.1	36.9	146.3		6	6	-5.9	-5.9	-15.4
GEW-140	11/25/2016 10:28	7.9	52.2	0.6	39.3	126.9		19	14	-7.6	-8.3	-13.3
GEW-140	11/25/2016 10:29	8.1	54.0	0.4	37.5	134.1		12	12	-8.8	-8.4	-11.3
GEW-141	11/11/2016 8:41	0.4	60.4	3.2	36.0	81.9		13	25	-14.2	-15.4	-14.0
GEW-141	11/11/2016 8:49	0.4	53.0	3.5	43.1	82.3		4	16	-14.2	-13.8	-14.3
GEW-141	11/25/2016 10:33	3.1	49.3	3.9	43.7	155.7		11	3	-14.2	-13.2	-14.6
GEW-141	11/25/2016 10:33	0.6	50.5	4.0	44.9	153.7		15	9	-12.9	-14.5	-13.2
GEW-142	11/25/2016 10:37	0.6	57.3	0.8	41.3	55.5		7	12	-9.3	-8.8	-9.2
GEW-143	11/11/2016 9:08	0.2	15.9	15.8	68.1	64.7		3	6	-12.7	-12.7	-14.1
GEW-143	11/11/2016 9:10	0.1	10.9	18.7	70.3	65.7		1	1	-13.6	-13.7	-14.0
GEW-143	11/25/2016 10:39	0.2	34.7	17.9	47.2	53.7		19	10	-7.4	-7.4	-11.4

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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-143	11/25/2016 10:40	0.1	15.6	17.2	67.1	52.9		7	9	-11.2	-11.0	-13.8
GEW-144	11/11/2016 8:30	3.8	46.8	9.1	40.3	81.2		8	3	-14.2	-14.2	-14.1
GEW-144	11/11/2016 8:33	2.9	39.2	7.3	50.6	79.1		8	14	-10.8	-13.2	-10.7
GEW-144	11/25/2016 10:43	0.1	20.5	13.2	66.2	56.2		2	3	-14.3	-14.3	-14.6
GEW-144	11/25/2016 10:44	0.1	25.9	12.4	61.6	56.7		19	8	-11.8	-13.3	-12.3
GEW-145	11/10/2016 10:42	4.9	38.3	1.9	54.9	160.2		6	9	-16.7	-16.0	-17.0
GEW-145	11/10/2016 10:51	1.1	61.5	1.0	36.4	158.1		3	2	-13.7	-13.7	-14.4
GEW-145	11/25/2016 11:20	1.4	30.0	1.4	67.2	121.8		11	20	-13.8	-14.2	-14.4
GEW-145	11/25/2016 11:21	1.7	45.9	1.5	50.9	121.5		6	11	-16.7	-17.2	-17.0
GEW-146	11/10/2016 11:23	2.9	5.1	18.8	73.2	90.1		2	2	-0.3	-0.3	-17.4
GEW-146	11/10/2016 11:25	2.9	5.3	18.8	73.0	90.3		2	3	-0.2	-0.3	-17.0
GEW-146	11/25/2016 10:49	1.5	26.3	18.5	53.7	82.0		11	12	-0.2	-0.3	-17.1
GEW-146	11/25/2016 10:50	1.9	11.3	20.7	66.1	81.9		12	15	-0.2	-0.2	-17.4
GEW-147	11/11/2016 11:50	8.9	55.3	0.0	35.8	189.6		10	6	-3.1	-3.1	-16.8
GEW-147	11/11/2016 11:58	9.3	54.6	0.0	36.1	189.6		14	14	-2.8	-2.8	-16.6
GEW-147	11/25/2016 10:56	15.7	49.9	0.0	34.4	159.0		9	12	-10.4	-10.4	-17.6
GEW-147	11/25/2016 10:57	14.9	52.6	0.0	32.5	159.0		11	17	-10.4	-10.4	-17.4
GEW-148	11/10/2016 11:01	0.0	0.3	22.9	76.8	75.0		8	8	-17.8	-18.2	-17.9
GEW-148	11/10/2016 11:02	0.0	0.2	22.9	76.9	75.3		7	2	-17.6	-17.7	-17.6
GEW-148	11/25/2016 14:08	0.1	18.1	19.5	62.3	49.5		7	13	-18.3	-18.4	-18.1
GEW-148	11/25/2016 14:09	0.0	5.1	21.1	73.8	49.2		21	10	-18.0	-18.0	-18.1
GEW-149	11/10/2016 10:31	12.0	51.6	1.4	35.0	165.5		28	24	-0.5	-0.7	-18.2
GEW-149	11/10/2016 10:38	11.7	49.5	1.5	37.3	165.0		21	20	-0.7	-0.6	-19.1
GEW-149	11/25/2016 14:13	6.9	13.1	6.6	73.4	145.3		11	21	-1.0	-0.8	-19.7
GEW-149	11/25/2016 14:14	10.2	36.1	5.6	48.1	145.9		26	23	-0.8	-0.8	-19.5
GEW-150	11/10/2016 9:41	2.4	60.7	0.0	36.9	174.4		2	1	-0.2	-0.2	-15.2
GEW-150	11/10/2016 9:52	2.0	66.1	0.0	31.9	183.3		7	4	-0.9	-0.8	-16.9
GEW-150	11/25/2016 14:38	0.9	17.0	7.4	74.7	164.8		8	5	-0.5	-0.6	-16.5
GEW-150	11/25/2016 14:38	3.0	41.6	6.3	49.1	166.1		4	6	-0.5	-0.6	-15.7
GEW-151	11/10/2016 10:47	2.6	50.8	3.4	43.2	73.6		9	7	-16.7	-17.2	-18.8
GEW-151	11/10/2016 10:54	1.9	56.8	0.3	41.0	76.2		10	7	-17.6	-17.8	-17.4
GEW-151	11/25/2016 14:17	1.5	23.4	15.9	59.2	49.0		4	6	-18.4	-18.9	-17.9
GEW-151	11/25/2016 14:18	0.9	14.5	17.1	67.5	48.8		13	3	-18.4	-18.4	-18.2
GEW-152	11/9/2016 16:21	20.4	46.6	0.0	33.0	180.3		11	12	-15.4	-15.4	-15.5
GEW-152	11/9/2016 16:28	20.2	48.7	0.0	31.1	180.3		14	12	-14.9	-15.4	-8.7
GEW-152	11/25/2016 14:27	21.3	43.3	0.1	35.3	127.8		17	19	-17.5	-17.1	-19.4
GEW-152	11/25/2016 14:28	26.5	41.1	0.0	32.4	128.5		13	24	-17.0	-17.2	-19.0
GEW-153	11/9/2016 16:07	30.3	43.1	0.0	26.6	136.2		15	16	-9.7	-9.5	-13.5
GEW-153	11/9/2016 16:14	31.0	40.9	0.0	28.1	137.7		20	18	-10.8	-10.5	-12.7
GEW-153	11/25/2016 14:30	4.5	25.8	17.9	51.8	49.8		7	3	-19.0	-19.0	-18.7
GEW-153	11/25/2016 14:34	0.1	3.5	21.4	75.0	48.0		6	6	-18.9	-19.3	-18.7
GEW-154	11/10/2016 10:11	4.1	28.7	11.4	55.8	62.0		2	5	-17.6	-17.2	-17.5
GEW-154	11/10/2016 10:12	4.2	29.0	11.4	55.4	62.2		5	1	-16.2	-16.7	-16.5

November 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-154	11/25/2016 14:24	7.0	43.8	4.0	45.2	49.9		10	10	-18.0	-18.4	-18.0
GEW-155	11/10/2016 14:21	0.7	54.7	0.0	44.6	79.5		14	3	1.1	0.9	1.2
GEW-155	11/10/2016 14:27	0.6	53.9	0.0	45.5	79.8		6	11	0.7	0.6	0.7
GEW-155	11/23/2016 11:31	3.4	26.4	5.3	64.9	126.3		18	20	-1.9	-1.9	-13.9
GEW-155	11/23/2016 11:32	3.1	24.4	5.3	67.2	126.4		24	21	-2.0	-1.9	-14.9
GEW-156	11/10/2016 10:32	3.1	16.6	16.0	64.3	101.0		14	14	-0.6	-0.6	-18.6
GEW-156	11/10/2016 10:34	3.9	9.5	16.8	69.8	100.9		13	4	-0.6	-0.7	-18.8
GEW-156	11/25/2016 14:47	2.7	33.5	15.3	48.5	84.0		10	7	-0.7	-0.7	-19.1
GEW-156	11/25/2016 14:48	3.0	12.1	17.7	67.2	84.0		10	6	-0.8	-0.8	-18.9
GEW-157	11/10/2016 10:16	0.8	25.0	11.3	62.9	69.8		8	10	0.6	1.0	0.7
GEW-157	11/10/2016 10:17	0.8	26.5	11.0	61.7	70.4		7	7	-0.2	-0.4	-0.3
GEW-157	11/25/2016 14:50	1.4	8.7	20.1	69.8	48.5		4	11	-7.8	-9.1	-7.4
GEW-158	11/10/2016 9:31	0.5	59.6	0.0	39.9	64.3		2	1	4.2	4.2	4.1
GEW-158	11/10/2016 9:35	0.1	54.9	0.0	45.0	64.7		5	3	4.1	4.1	4.1
GEW-158	11/25/2016 14:57	6.3	18.9	0.4	74.4	182.1		9	7	-0.5	-0.5	-0.5
GEW-158	11/25/2016 14:58	15.0	53.4	0.0	31.6	183.3		7	6	-0.5	-0.7	-1.0
GEW-159	11/8/2016 15:00	8.3	43.1	4.5	44.1	61.4		3	3	-0.8	-0.8	-14.3
GEW-159	11/8/2016 15:26	0.0	0.9	20.7	78.4	62.3		4	4	-0.8	-0.8	-15.6
GEW-159	11/25/2016 15:01	7.7	45.9	15.5	30.9	50.8		12	13	-0.8	-0.8	-9.9
GEW-159	11/25/2016 15:01	2.1	14.5	19.0	64.4	51.0		8	9	-1.0	-1.0	-9.7
GEW-160	11/10/2016 9:51	4.9	54.4	0.2	40.5	131.6		19	14	-13.8	-13.8	-13.8
GEW-160	11/10/2016 9:59	4.1	55.7	0.0	40.2	129.7		10	12	-13.3	-13.5	-13.4
GEW-160	11/25/2016 15:04	1.4	35.3	0.5	62.8	165.7		6	9	-7.3	-7.4	-7.3
GEW-160	11/25/2016 15:04	4.1	56.4	0.0	39.5	169.0		12	8	-7.2	-7.2	-6.9
GEW-161	11/10/2016 10:02	2.9	24.7	11.7	60.7	63.8		6	5	-13.3	-13.3	-13.2
GEW-161	11/10/2016 10:03	3.7	28.8	10.2	57.3	62.5		3	4	-13.8	-13.3	-13.8
GEW-161	11/25/2016 15:06	4.1	43.8	13.6	38.5	57.7		11	6	-7.2	-7.4	-6.9
GEW-161	11/25/2016 15:07	1.7	22.1	15.0	61.2	57.5		29	9	-6.8	-7.0	-6.9
GEW-162	11/10/2016 10:19	8.1	59.7	0.1	32.1	162.3		21	15	-17.7	-16.2	-17.7
GEW-162	11/10/2016 10:25	7.6	58.4	0.0	34.0	165.0		15	18	-17.6	-17.3	-18.0
GEW-162	11/25/2016 14:22	0.4	27.7	1.4	70.5	109.0		5	41	-18.7	-18.0	-18.2
GEW-163	11/4/2016 12:49	3.5	37.8	8.5	50.2	180.9		28	27	-0.4	-0.4	-13.6
GEW-163	11/4/2016 12:51	3.4	37.3	8.6	50.7	180.9		32	35	-0.4	-0.4	-13.7
GEW-163	11/11/2016 8:22	5.0	36.0	9.0	50.0	158.3		32	35	-1.1	-1.0	-15.9
GEW-163	11/11/2016 8:28	5.1	34.3	9.2	51.4	158.3		30	30	-1.1	-1.0	-16.2
GEW-163	11/16/2016 10:12	5.3	32.9	11.1	50.7	149.5		23	24	-1.3	-1.2	-13.8
GEW-163	11/16/2016 10:14	3.7	25.5	11.6	59.2	149.5		23	31	-1.3	-1.3	-14.1
GEW-163	11/22/2016 14:13	3.2	37.1	10.9	48.8	161.6		26	32	-0.9	-0.9	-13.3
GEW-163	11/22/2016 14:14	3.3	30.4	11.8	54.5	161.6		28	29	-0.9	-0.9	-15.7
GEW-163	11/29/2016 14:57	1.6	62.6	0.0	35.8	191.6		28	24	-0.1	-0.1	-12.8
GEW-163	11/29/2016 14:58	1.9	64.0	0.0	34.1	192.9		20	11	-0.4	-0.4	-13.3
GEW-164	11/4/2016 12:42	9.3	66.6	0.1	24.0	167.1		11	10	-10.7	-10.3	-10.6
GEW-164	11/4/2016 12:44	8.5	69.9	0.2	21.4	167.1		23	36	-11.6	-12.7	-12.1

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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-164	11/11/2016 9:01	9.7	64.2	0.0	26.1	170.2		32	35	-13.7	-14.2	-14.8
GEW-164	11/11/2016 9:06	9.9	64.7	0.0	25.4	170.2		25	21	-13.5	-14.2	-13.4
GEW-164	11/16/2016 10:17	10.4	58.8	0.0	30.8	167.1		14	25	-12.3	-12.5	-12.4
GEW-164	11/16/2016 10:18	10.2	63.2	0.0	26.6	169.0		11	12	-13.4	-13.0	-13.5
GEW-164	11/22/2016 14:06	10.2	64.5	0.0	25.3	165.7		16	20	-14.1	-14.3	-14.6
GEW-164	11/22/2016 14:08	10.3	66.2	0.0	23.5	165.7		16	20	-14.3	-14.9	-14.8
GEW-164	11/29/2016 15:02	10.3	65.9	0.0	23.8	153.3		17	8	-14.5	-14.3	-14.8
GEW-164	11/29/2016 15:06	10.2	64.8	0.0	25.0	153.4		10	8	-14.8	-14.4	-14.8
GEW-165	11/4/2016 12:35	1.8	62.1	0.0	36.1	195.0		19	25	-11.2	-10.2	-12.0
GEW-165	11/4/2016 12:38	1.9	65.7	0.0	32.4	195.1		15	22	-12.3	-12.6	-12.6
GEW-165	11/11/2016 9:15	1.9	62.9	0.0	35.2	193.6		18	26	-13.5	-13.5	-13.7
GEW-165	11/11/2016 9:21	1.8	61.5	0.0	36.7	193.1		19	22	-12.9	-13.4	-13.2
GEW-165	11/16/2016 10:29	2.7	57.1	0.0	40.2	195.0		17	15	-11.8	-12.4	-12.4
GEW-165	11/16/2016 10:31	2.1	61.3	0.0	36.6	195.1		15	16	-13.1	-13.0	-13.6
GEW-165	11/23/2016 10:48	2.6	63.5	0.0	33.9	193.9		26	28	-14.9	-15.1	-15.2
GEW-165	11/23/2016 10:49	2.6	63.8	0.0	33.6	194.3		38	31	-14.4	-14.4	-14.1
GEW-165	11/29/2016 15:10	3.2	61.6	0.0	35.2	181.5		17	24	-12.2	-12.4	-12.4
GEW-165	11/29/2016 15:12	3.1	62.4	0.0	34.5	180.3		18	26	-13.8	-13.8	-13.8
GEW-166	11/11/2016 9:25	0.6	58.6	0.0	40.8	194.8		28	17	-1.3	-2.0	-2.3
GEW-166	11/11/2016 9:31	0.6	58.1	0.0	41.3	194.9		35	21	-1.1	-1.2	-3.0
GEW-166	11/16/2016 10:34	0.5	53.9	0.1	45.5	196.8		9	25	-5.0	-5.0	-11.9
GEW-166	11/16/2016 10:36	0.5	56.8	0.0	42.7	196.4		26	23	-4.7	-4.6	-5.7
GEW-166	11/23/2016 10:37	1.1	54.0	0.4	44.5	193.6		15	27	-14.4	-14.9	-14.5
GEW-166	11/23/2016 10:38	0.9	57.8	0.2	41.1	193.6		12	24	-15.4	-15.4	-15.2
GEW-166	11/29/2016 15:16	2.2	43.0	5.7	49.1	175.8		42	13	-13.4	-14.3	-13.8
GEW-166	11/29/2016 15:18	2.4	42.6	5.7	49.3	174.7		15	8	-14.3	-14.0	-14.3
GEW-167	11/4/2016 12:23	1.4	32.3	8.7	57.6	185.1		17	15	-0.5	-0.5	-15.7
GEW-167	11/4/2016 12:25	1.5	34.8	8.6	55.1	185.1		18	18	-0.7	-0.7	-16.3
GEW-167	11/11/2016 9:42	3.2	48.5	3.1	45.2	189.1		55	55	-1.3	-1.2	-14.5
GEW-167	11/11/2016 9:49	3.3	47.3	3.4	46.0	188.5		15	16	-0.4	-0.4	-15.1
GEW-167	11/16/2016 10:39	3.4	50.4	2.8	43.4	189.6		6	15	-0.4	-0.4	-13.8
GEW-167	11/16/2016 10:41	3.6	49.9	2.8	43.7	189.1		25	26	-0.6	-0.6	-13.6
GEW-167	11/23/2016 10:32	3.5	47.6	4.2	44.7	187.6		9	9	-0.4	-0.4	-14.9
GEW-167	11/23/2016 10:33	3.4	48.4	4.2	44.0	188.3		34	33	-0.8	-0.8	-15.6
GEW-167	11/29/2016 15:22	3.1	44.0	4.3	48.6	181.5		12	8	-0.4	-0.5	-14.2
GEW-167	11/29/2016 15:24	3.1	46.1	4.2	46.6	181.5		43	40	-1.0	-0.9	-14.8
GEW-168	11/1/2016 17:28	2.6	45.8	5.9	45.7	177.9		16	20	-13.8	-13.8	-15.2
GEW-168	11/1/2016 17:30	2.6	45.9	5.7	45.8	177.5		11	20	-13.8	-13.8	-15.4
GEW-168	11/11/2016 10:24	2.9	48.2	5.8	43.1	171.8		8	13	-10.8	-10.8	-11.9
GEW-168	11/11/2016 10:30	3.2	47.8	5.4	43.6	174.7		9	5	-11.5	-10.9	-12.7
GEW-168	11/16/2016 10:46	3.2	44.0	5.5	47.3	176.4		9	8	-10.4	-10.5	-12.2
GEW-168	11/16/2016 10:47	3.0	46.0	5.5	45.5	176.1		5	20	-9.9	-10.0	-10.8
GEW-168	11/23/2016 10:19	3.3	44.7	6.5	45.5	168.5		14	8	-12.4	-12.4	-13.4

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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-168	11/23/2016 10:20	2.9	45.9	6.7	44.5	167.6		15	15	-12.4	-12.4	-13.3
GEW-168	11/29/2016 15:28	2.8	44.8	5.9	46.5	157.3		5	15	-12.3	-12.3	-14.3
GEW-168	11/29/2016 15:30	2.8	46.7	6.1	44.4	158.1		7	6	-11.3	-11.5	-12.4
GEW-169	11/1/2016 17:23	5.4	48.8	3.6	42.2	191.6		34	35	-3.4	-3.3	-17.7
GEW-169	11/1/2016 17:25	4.0	52.5	3.6	39.9	191.6		28	27	-3.5	-3.6	-17.3
GEW-169	11/11/2016 10:35	2.1	44.2	8.0	45.7	186.3		27	30	-3.9	-3.9	-13.8
GEW-169	11/11/2016 10:41	2.2	44.2	8.0	45.6	186.3		28	28	-4.0	-4.0	-13.3
GEW-169	11/16/2016 10:50	3.8	40.5	6.8	48.9	186.4		34	26	-4.3	-4.3	-15.4
GEW-169	11/16/2016 10:52	3.8	44.1	6.6	45.5	186.4		28	28	-4.1	-4.1	-14.3
GEW-169	11/23/2016 10:09	3.5	47.4	7.2	41.9	185.7		30	35	-3.9	-3.8	-14.4
GEW-169	11/23/2016 10:11	3.3	46.6	7.0	43.1	185.6		24	26	-2.8	-2.8	-14.3
GEW-169	11/29/2016 15:34	2.7	51.2	2.9	43.2	180.3		25	26	-1.5	-1.5	-13.0
GEW-169	11/29/2016 15:35	2.9	54.8	2.8	39.5	179.7		10	31	-1.8	-1.6	-13.7
GEW-170	11/11/2016 10:13	4.8	60.2	3.0	32.0	186.4		24	20	-1.2	-1.1	-14.6
GEW-170	11/11/2016 10:20	4.5	58.7	3.0	33.8	186.4		28	27	-1.0	-1.0	-14.0
GEW-170	11/23/2016 9:56	3.3	66.7	0.0	30.0	188.9		33	36	-0.6	-0.6	-15.4
GEW-170	11/23/2016 9:59	5.7	68.9	0.0	25.4	186.4		57	57	-4.2	-4.2	-15.9
GEW-171	11/25/2016 11:06	7.7	56.5	0.0	35.8	141.2		9	58	-12.3	-12.4	-12.6
GEW-171	11/25/2016 11:07	7.2	57.6	0.6	34.6	142.2		12	13	-11.9	-11.8	-12.1
GEW-172	11/11/2016 8:59	0.0	39.1	8.0	52.9	70.0		10	9	-9.3	-9.3	-6.8
GEW-172	11/11/2016 9:00	0.1	36.0	8.9	55.0	70.6		3	5	-9.3	-9.6	-7.3
GEW-172	11/25/2016 11:10	0.3	53.9	4.6	41.2	60.3		3	17	-8.5	-9.8	-5.5
GEW-173	11/11/2016 8:10	7.7	21.5	9.6	61.2	122.3		29	27	-0.7	-0.7	-15.2
GEW-173	11/11/2016 8:11	7.6	23.0	9.5	59.9	123.4		31	36	-0.7	-0.7	-14.4
GEW-173	11/25/2016 11:13	6.8	31.5	9.5	52.2	98.7		39	44	-0.8	-0.9	-16.4
GEW-173	11/25/2016 11:14	7.8	28.4	9.7	54.1	98.7		41	47	-0.9	-0.8	-16.7
GEW-174	11/10/2016 11:12	6.3	34.2	7.2	52.3	171.6		49	26	-0.9	-1.0	-9.0
GEW-174	11/10/2016 11:19	7.4	32.7	7.4	52.5	171.1		45	46	-1.0	-1.1	-9.7
GEW-174	11/25/2016 11:16	5.3	27.1	10.5	57.1	160.6		69	67	-1.6	-1.6	-11.9
GEW-174	11/25/2016 11:17	4.1	26.8	10.5	58.6	161.1		48	48	-1.6	-1.6	-13.3
GEW-175	11/10/2016 9:58	11.1	36.6	7.5	44.8	138.3		175	170	-8.3	-8.3	-15.8
GEW-175	11/10/2016 10:06	11.5	34.9	7.7	45.9	138.3		179	174	-8.0	-8.1	-16.6
GEW-175	11/25/2016 11:24	2.1	37.2	6.6	54.1	133.5		184	182	-8.3	-7.9	-16.5
GEW-175	11/25/2016 11:27	12.5	39.3	6.8	41.4	133.5		171	48	-7.7	-1.5	-16.3
GEW-176	11/10/2016 8:53	11.6	50.4	3.9	34.1	141.2		33	38	-0.7	-0.7	-19.1
GEW-176	11/10/2016 8:59	11.5	49.7	3.8	35.0	140.9		34	29	-0.7	-0.7	-18.3
GEW-176	11/25/2016 11:30	12.1	48.1	3.4	36.4	127.2		14	15	-0.7	-0.7	-20.3
GEW-176	11/25/2016 11:30	11.7	50.5	3.4	34.4	126.7		10	13	-0.8	-0.7	-19.5
GEW-177	11/23/2016 9:50	0.2	66.4	0.0	33.4	55.2		9	3	3.4	3.4	3.3
GEW-177	11/23/2016 9:52	0.2	65.8	0.0	34.0	55.8		18	15	3.7	3.9	3.8
GEW-177	11/25/2016 11:36	1.1	60.2	0.0	38.7	65.8		16	4	3.5	3.5	3.7
GEW-177	11/25/2016 11:37	0.3	63.9	0.0	35.8	64.4		83	11	2.5	3.0	2.9
GEW-1A	11/2/2016 11:30	1.5	9.8	19.3	69.4	84.6		4	3	-9.6	-9.5	-11.9

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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-1A	11/2/2016 11:32	0.8	1.1	20.5	77.6	86.3		1	1	-10.5	-10.5	-11.8
GEW-1A	11/7/2016 9:49	1.6	11.5	20.7	66.2	69.8		4	3	-10.8	-10.8	-12.4
GEW-1A	11/10/2016 13:24	0.1	0.0	20.4	79.5	73.4		2	2	-10.6	-10.7	-12.2
GEW-1A	11/10/2016 13:26	0.2	0.5	20.2	79.1	72.8		2	2	-10.7	-10.7	-12.2
GEW-1A	11/15/2016 9:58	0.4	3.6	21.0	75.0	67.3		4	4	-9.3	-9.3	-12.3
GEW-1A	11/15/2016 9:59	0.5	0.7	21.4	77.4	67.0		3	3	-9.9	-9.9	-12.3
GEW-1A	11/21/2016 10:27	0.5	6.7	21.4	71.4	54.9		5	5	-9.9	-9.9	-12.3
GEW-1A	11/21/2016 10:29	0.2	2.4	22.4	75.0	54.9		3	3	-10.5	-10.5	-12.7
GEW-1A	11/29/2016 9:01	2.2	13.9	20.0	63.9	50.9		6	7	-9.7	-9.6	-13.0
GEW-1A	11/29/2016 9:02	0.3	4.6	22.1	73.0	51.0		5	5	-10.0	-10.0	-12.9
GEW-2S	11/2/2016 11:39	55.8	38.0	0.1	6.1	90.8		4	4	-1.4	-1.4	-11.8
GEW-2S	11/7/2016 10:03	56.1	42.4	0.0	1.5	76.9		10	3	-3.6	-3.6	-12.2
GEW-2S	11/7/2016 10:11	56.6	41.4	0.0	2.0	73.4		3	3	-2.7	-2.7	-12.2
GEW-2S	11/15/2016 10:11	57.9	40.1	0.0	2.0	70.9		1	1	-1.9	-1.9	-12.3
GEW-2S	11/21/2016 10:37	59.0	38.2	0.0	2.8	57.8		5	4	-0.8	-0.8	-12.4
GEW-2S	11/29/2016 9:10	59.1	38.2	0.0	2.7	52.1		11	16	-2.1	-1.9	-13.0
GIW-01	11/4/2016 16:04	4.4	63.2	0.4	32.0	183.7		11	12	-2.4	-2.3	-19.4
GIW-01	11/4/2016 16:06	4.0	70.0	0.4	25.6	183.5		10	8	-2.4	-2.4	-19.6
GIW-01	11/9/2016 15:04	3.4	61.8	0.1	34.7	184.3		12	12	-2.0	-2.1	-19.7
GIW-01	11/9/2016 15:18	3.4	62.9	0.0	33.7	184.3		11	12	-1.7	-1.7	-19.3
GIW-01	11/15/2016 14:23	3.7	58.2	0.0	38.1	183.9		13	12	-1.3	-1.3	-19.2
GIW-01	11/15/2016 14:24	3.3	64.5	0.0	32.2	183.9		14	16	-1.2	-1.3	-20.2
GIW-01	11/22/2016 16:43	4.1	62.9	0.0	33.0	179.2		17	7	-3.9	-4.3	-19.2
GIW-01	11/22/2016 16:45	5.1	65.2	0.0	29.7	179.2		16	16	-4.1	-4.1	-20.3
GIW-01	11/29/2016 14:33	3.6	58.0	0.1	38.3	177.0		8	9	-0.7	-0.6	-19.8
GIW-01	11/29/2016 14:34	3.1	64.8	0.0	32.1	178.0		10	9	-0.6	-0.6	-18.9
GIW-02	11/4/2016 16:09	0.3	15.7	18.8	65.2	74.8		4	4	-0.2	-0.2	-18.0
GIW-02	11/4/2016 16:12	0.3	10.0	18.5	71.2	75.0		1	1	-0.1	-0.1	-18.6
GIW-02	11/9/2016 15:24	2.8	63.2	0.1	33.9	65.2		4	3	-0.1	-0.1	-18.7
GIW-02	11/9/2016 15:32	3.1	61.1	0.2	35.6	64.0		5	5	-0.1	-0.1	-18.3
GIW-02	11/15/2016 14:27	2.9	65.2	0.0	31.9	71.6		14	14	-0.2	-0.2	-18.7
GIW-02	11/22/2016 16:48	3.9	65.7	0.0	30.4	52.5		5	4	-0.1	-0.1	-18.9
GIW-02	11/29/2016 14:37	4.1	66.3	0.0	29.6	68.4		4	4	-0.1	-0.1	-18.7
GIW-03	11/4/2016 16:15	0.5	46.2	7.2	46.1	81.4		13	13	-2.3	-2.3	-12.6
GIW-03	11/4/2016 16:17	0.7	50.3	5.9	43.1	82.2		10	10	-1.0	-1.0	-12.6
GIW-03	11/9/2016 15:52	0.7	63.4	0.1	35.8	70.9		0	0	0.1	0.0	-13.2
GIW-03	11/9/2016 15:59	0.7	60.2	0.3	38.8	71.1		4	0	0.0	0.0	-13.3
GIW-03	11/15/2016 14:30	1.4	57.7	3.1	37.8	74.3		2	4	-0.6	-0.6	-7.7
GIW-03	11/22/2016 16:51	1.6	59.6	3.3	35.5	51.5		4	3	-0.6	-0.7	-11.0
GIW-03	11/29/2016 14:40	0.9	64.5	0.3	34.3	70.9		1	4	-0.1	-0.1	-8.6
GIW-04	11/4/2016 16:21	0.9	51.0	1.1	47.0	80.3		6	7	-5.1	-5.0	-12.5
GIW-04	11/9/2016 15:38	1.2	53.8	1.7	43.3	77.1		2	2	-6.1	-6.1	-13.1
GIW-04	11/9/2016 15:46	1.2	50.6	2.0	46.2	77.5		1	1	-6.5	-6.5	-12.7

November 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-04	11/15/2016 14:33	2.1	54.7	1.8	41.4	76.5		2	4	-4.9	-4.8	-8.5
GIW-04	11/22/2016 16:54	1.9	56.6	1.4	40.1	51.5		2	3	-6.1	-6.1	-10.3
GIW-04	11/29/2016 14:44	1.4	56.8	1.5	40.3	69.3		2	5	-5.5	-5.4	-7.9
GIW-05	11/4/2016 15:57	0.3	17.0	19.9	62.8	75.0		0	0	-1.3	-1.3	-12.9
GIW-05	11/4/2016 15:59	0.0	1.0	21.7	77.3	76.4		10	8	-2.0	-1.9	-12.4
GIW-05	11/9/2016 11:10	0.0	2.2	21.8	76.0	67.9		9	6	-2.3	-2.2	-13.9
GIW-05	11/9/2016 11:18	0.0	0.3	22.4	77.3	71.0		9	9	-2.4	-2.3	-13.3
GIW-05	11/15/2016 14:11	0.1	8.7	20.1	71.1	68.5		0	0	-1.2	-1.1	-6.1
GIW-05	11/15/2016 14:13	0.0	2.7	21.4	75.9	68.9		6	0	-1.3	-1.0	-6.6
GIW-05	11/22/2016 17:02	0.2	20.8	19.3	59.7	52.2		0	0	-0.9	-0.8	-6.5
GIW-05	11/22/2016 17:03	0.0	5.8	21.9	72.3	51.8		0	0	-1.1	-0.9	-6.6
GIW-05	11/29/2016 14:26	0.1	15.3	19.7	64.9	67.9		0	0	-0.6	-0.5	-6.0
GIW-05	11/29/2016 14:27	0.0	4.0	21.7	74.3	67.9		0	0	-0.6	-0.6	-5.9
GIW-06	11/4/2016 14:45	12.4	55.1	0.5	32.0	83.0		3	4	-8.5	-8.5	-10.7
GIW-06	11/8/2016 8:56	18.4	53.3	0.3	28.0	60.6		5	2	-10.4	-10.5	-13.3
GIW-06	11/8/2016 9:24	17.4	51.3	0.2	31.1	60.9		3	3	-10.4	-10.4	-13.3
GIW-06	11/15/2016 13:17	14.7	51.3	0.0	34.0	74.1		5	5	-6.4	-6.4	-9.5
GIW-06	11/22/2016 15:50	27.3	48.5	0.2	24.0	51.8		7	7	-7.0	-7.0	-9.9
GIW-06	11/29/2016 13:35	26.5	38.0	0.3	35.2	69.7		8	6	-6.1	-6.0	-8.5
GIW-07	11/4/2016 14:48	11.8	61.2	1.2	25.8	75.0		4	5	-1.1	-1.1	-12.1
GIW-07	11/8/2016 15:36	13.1	55.3	1.7	29.9	61.6		2	2	-2.2	-2.2	-14.6
GIW-07	11/8/2016 15:46	12.2	53.4	1.7	32.7	61.9		2	1	-2.0	-2.0	-14.7
GIW-07	11/15/2016 13:20	20.2	55.0	0.0	24.8	72.7		3	3	0.1	0.1	-8.6
GIW-07	11/15/2016 13:22	20.6	56.0	0.2	23.2	75.5		3	4	-4.7	-4.7	-8.5
GIW-07	11/22/2016 15:55	24.6	46.4	1.8	27.2	51.8		5	5	-7.0	-7.1	-10.3
GIW-07	11/29/2016 13:38	20.2	51.4	1.6	26.8	69.8		5	4	-6.1	-6.1	-8.9
GIW-07	11/29/2016 13:41	18.8	52.7	2.0	26.5	70.2		5	4	-3.5	-3.5	-8.9
GIW-08	11/4/2016 14:51	22.0	59.2	0.3	18.5	76.8		3	1	-5.0	-5.0	-11.0
GIW-08	11/8/2016 15:52	23.6	52.4	0.1	23.9	62.8		1	3	-5.9	-5.8	-14.2
GIW-08	11/8/2016 16:03	24.5	52.7	0.3	22.5	62.4		4	5	-5.8	-5.8	-14.3
GIW-08	11/15/2016 13:25	32.9	51.8	0.0	15.3	69.0		3	4	-3.4	-3.4	-8.5
GIW-08	11/22/2016 15:58	26.6	56.6	0.0	16.8	52.0		5	5	-4.6	-4.6	-9.9
GIW-08	11/29/2016 13:49	28.2	55.7	0.0	16.1	68.1		5	9	-4.0	-4.0	-8.5
GIW-09	11/4/2016 15:47	4.2	22.0	13.7	60.1	79.8		21	12	-4.0	-3.9	-12.3
GIW-09	11/4/2016 15:49	4.1	13.4	14.2	68.3	80.3		5	5	-1.1	-1.1	-12.3
GIW-09	11/9/2016 10:57	0.8	7.6	18.0	73.6	69.8		7	4	-1.1	-1.1	-14.6
GIW-09	11/9/2016 11:04	0.8	8.1	17.8	73.3	70.1		7	8	-1.1	-1.1	-13.1
GIW-09	11/15/2016 14:01	7.8	22.9	10.9	58.4	71.6		6	7	-0.5	-0.5	-8.6
GIW-09	11/15/2016 14:02	7.9	22.1	11.0	59.0	71.6		3	4	-0.5	-0.5	-8.8
GIW-09	11/22/2016 16:05	1.6	13.9	17.5	67.0	52.1		5	5	-0.8	-0.9	-10.2
GIW-09	11/22/2016 16:07	1.7	11.3	17.8	69.2	52.1		4	5	-0.9	-0.9	-10.0
GIW-09	11/29/2016 13:44	5.8	27.4	9.4	57.4	68.4		5	6	-0.7	-0.7	-8.5
GIW-09	11/29/2016 13:45	6.3	21.9	9.8	62.0	68.4		4	4	-0.7	-0.7	-8.3

November 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-10	11/4/2016 15:53	5.0	50.9	0.2	43.9	79.8		3	3	-2.3	-2.3	-12.6
GIW-10	11/9/2016 11:26	4.7	49.9	0.0	45.4	70.5		3	3	-2.0	-2.0	-13.2
GIW-10	11/9/2016 11:34	4.4	51.0	0.0	44.6	71.1		1	1	-1.9	-1.9	-12.7
GIW-10	11/15/2016 14:06	8.2	49.9	0.0	41.9	73.0		0	5	-1.3	-1.3	-8.1
GIW-10	11/22/2016 16:58	4.9	53.5	0.0	41.6	51.6		2	3	-1.9	-1.9	-9.9
GIW-10	11/29/2016 14:22	5.9	54.3	0.0	39.8	69.4		2	0	-1.7	-1.7	-8.4
GIW-11	11/4/2016 15:38	8.4	43.2	2.8	45.6	82.8		10	15	-6.0	-6.0	-19.4
GIW-11	11/4/2016 15:42	9.0	44.4	2.4	44.2	83.4		3	0	-0.9	-0.9	-18.3
GIW-11	11/9/2016 14:11	1.1	57.4	0.0	41.5	71.6		0	1	0.2	0.2	-17.6
GIW-11	11/9/2016 14:19	0.8	59.6	0.0	39.6	72.6		3	3	0.0	0.0	-17.4
GIW-11	11/15/2016 13:57	2.3	62.0	0.0	35.7	72.0		4	3	-0.3	-0.3	-19.2
GIW-11	11/22/2016 16:39	3.8	60.4	0.0	35.8	51.4		6	6	-0.5	-0.5	-19.0
GIW-11	11/29/2016 14:19	2.8	59.8	0.0	37.4	69.1		3	4	-0.5	-0.5	-18.9
GIW-12	11/4/2016 15:28	6.3	23.1	9.5	61.1	84.1		31	30	-10.5	-10.4	-18.0
GIW-12	11/4/2016 15:30	6.5	22.9	9.7	60.9	83.0		7	6	-1.2	-1.2	-18.4
GIW-12	11/9/2016 14:24	8.5	36.9	6.9	47.7	69.0		4	6	-0.5	-0.5	-16.2
GIW-12	11/9/2016 14:31	8.9	34.4	7.1	49.6	69.8		1	5	-0.5	-0.5	-16.2
GIW-12	11/15/2016 13:50	8.2	44.0	7.5	40.3	70.2		7	6	-0.5	-0.4	-16.2
GIW-12	11/15/2016 13:51	9.5	34.8	7.9	47.8	70.7		7	2	-0.5	-0.5	-14.4
GIW-12	11/22/2016 16:34	9.2	36.6	8.4	45.8	52.1		2	4	-0.5	-0.5	-17.4
GIW-12	11/22/2016 16:35	9.3	35.3	8.5	46.9	52.1		5	6	-0.5	-0.5	-17.5
GIW-12	11/29/2016 14:14	8.7	45.1	7.4	38.8	69.4		3	4	-0.6	-0.5	-16.2
GIW-12	11/29/2016 14:16	9.5	35.8	8.0	46.7	69.8		14	16	-0.8	-0.8	-17.5
GIW-13	11/4/2016 15:21	9.8	44.9	4.3	41.0	78.7		18	20	-15.3	-15.3	-18.3
GIW-13	11/4/2016 15:23	12.4	53.0	2.1	32.5	80.0		12	13	-5.6	-5.6	-18.3
GIW-13	11/9/2016 14:37	12.1	58.6	0.0	29.3	71.3		4	4	-2.3	-2.2	-14.2
GIW-13	11/9/2016 14:45	10.4	58.3	0.0	31.3	72.0		3	2	-2.1	-2.1	-14.8
GIW-13	11/15/2016 13:46	11.8	61.8	0.0	26.4	73.0		3	4	-1.8	-1.8	-14.4
GIW-13	11/22/2016 16:29	12.1	62.9	0.0	25.0	51.5		8	5	-1.8	-1.8	-15.4
GIW-13	11/29/2016 14:11	11.6	53.7	0.0	34.7	70.9		5	6	-1.9	-1.9	-14.3
LCS-1D	11/17/2016 10:38	48.5	50.8	0.0	0.7	107.5		4	2	-14.3	-14.3	-18.4
LCS-5A	11/2/2016 10:43	55.3	38.8	0.0	5.9	94.4		NFD		-11.4	-11.2	-11.3
LCS-5A	11/7/2016 14:59	57.1	38.4	0.0	4.5	92.9		NFD		-11.7	-11.9	-11.9
LCS-5A	11/15/2016 11:26	55.5	39.1	0.0	5.4	93.6		NFD		-11.4	-11.5	-11.4
LCS-5A	11/21/2016 9:31	56.9	39.8	0.0	3.3	90.7		NFD		-11.8	-11.8	-11.8
LCS-5A	11/29/2016 10:10	57.5	40.4	0.0	2.1	90.3		NFD		-12.0	-11.9	-12.5
LCS-6B	11/2/2016 11:59	52.9	39.6	0.5	7.0	96.2		11	10	-1.0	-0.9	-11.8
LCS-6B	11/7/2016 10:54	53.1	36.0	0.1	10.8	80.7		9	8	-1.1	-1.1	-12.2
LCS-6B	11/15/2016 10:44	56.4	38.1	0.0	5.5	72.4		4	4	0.8	0.8	-12.2
LCS-6B	11/15/2016 10:47	53.1	41.9	0.2	4.8	79.8		0	0	-0.2	-0.2	-12.2
LCS-6B	11/21/2016 10:58	54.3	41.2	0.2	4.3	71.6		12	11	-0.3	-0.3	-12.3
LCS-6B	11/29/2016 9:26	53.7	39.5	0.6	6.2	64.2		9	8	-0.5	-0.5	-13.0
PGW-60	11/2/2016 11:36	56.4	35.7	0.8	7.1	81.9		3	12	-11.5	-11.5	-11.8

November 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	11/7/2016 9:57	56.8	36.4	1.2	5.6	69.3		15	15	-12.2	-12.2	-12.2
PGW-60	11/15/2016 10:03	60.6	36.3	0.1	3.0	65.1		0	17	-12.1	-12.3	-12.2
PGW-60	11/21/2016 10:32	62.9	33.7	0.3	3.1	54.7		17	21	-12.3	-12.3	-12.4
PGW-60	11/29/2016 9:07	60.5	36.9	0.1	2.5	51.1		21	13	-12.9	-12.8	-13.0
SEW-002	11/17/2016 10:24	1.1	53.5	2.2	43.2	79.4		9	9	4.2	4.2	6.3
SEW-002	11/17/2016 10:25	0.8	60.8	2.2	36.2	81.0		14	10	4.3	4.3	6.0
T-56	11/2/2016 12:15	33.8	32.7	0.7	32.8	71.6		20	20	-0.2	-0.1	-11.4
T-56	11/7/2016 11:51	42.0	34.4	0.4	23.2	69.6		24	19	-0.1	-0.1	-11.9
T-56	11/15/2016 11:03	38.1	32.3	1.0	28.6	64.5		23	21	-0.1	-0.1	-11.9
T-56	11/21/2016 11:16	37.8	32.5	0.9	28.8	61.4		19	23	-0.1	-0.1	-11.9
T-56	11/29/2016 9:45	37.3	33.4	0.7	28.6	58.2		19	18	-0.1	-0.1	-12.2

Notes: NFD = No flow device installed

NR = Flow information was not recorded due to data collection error

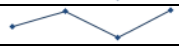
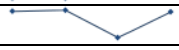
ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

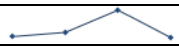
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend	Comments
	August 2016	September 2016	October 2016	November 2016	><30°F	
GEW-001	--	--	--	--		
GEW-002	124.5	123.1	123.1	121.2		
GEW-003	118.9	116.7	117.9	116.6		
GEW-004	121.3	120.5	122.3	121.5		
GEW-005	97.8	96.7	96.1	94.1		
GEW-006	92.1	93.4	90.5	89.4		
GEW-007	101.4	100.6	97.9	94.6		
GEW-008	114.8	115	114.5	114		
GEW-009	126.7	126.4	125.5	125		
GEW-010	109.9	108	88.2	100.6		
GEW-011	--	--	--	--		
GEW-013A	147	172.7	180.3	191.6		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	191.2		
GEW-018B	--	--	--	196.7		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	185.7	180.3	63	67.9		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	95.8	92.2	70.9	--		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	98.1	96.2	86.8	86.3		
GEW-039	134.7	126.9	124.6	121.6		
GEW-040	96.4	96.9	93.6	91.7		
GEW-041R	107	107.8	104.5	100.8		
GEW-042R	115.5	109.7	103.8	106.5		
GEW-043R	129.1	130	129.4	128.9		
GEW-044	93.9	93.8	92.7	84.5		

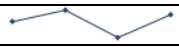
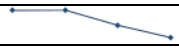
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend >< 30°F	Comments
	August 2016	September 2016	October 2016	November 2016		
GEW-045R	100.7	100.6	89.8	92.7		
GEW-046R	101.8	101.4	101.6	98.4		
GEW-047R	115.6	116.2	113.2	110.5		
GEW-048	106.5	105.7	104.7	104.3		
GEW-049	112.5	111.6	114.3	111.2		
GEW-050	109.2	108.7	108.2	108.5		
GEW-051	128.9	128.1	126.9	126.1		
GEW-052	116	114.5	113.7	113.7		
GEW-053	142.9	143.5	142.9	141.8		
GEW-054	147.3	148.4	144.9	144.9		
GEW-055	128.9	129.4	129.4	127.5		
GEW-056R	163.6	174.2	126.6	126.9		
GEW-057B	93.9	102.1	73	82.1		
GEW-057R	119	127.8	119.6	105		
GEW-058	152.9	164.9	130.2	175.9		
GEW-058A	122.4	144	107	145.6		
GEW-059R	182.1	187.4	186.4	185.7		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	--	--	--	--		
GEW-066	--	--	--	--		
GEW-067A	136.6	146.3	161.6	171.6		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	192.9	187	176.4	156.5		
GEW-078R	180.9	186.4	185.1	183.9		
GEW-080	96.2	80.8	67	--		
GEW-081	--	--	67.1	194.3		
GEW-082R	184.5	188.6	96.7	182.4		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	82.5	105.8	90.1	91.2		
GEW-087	--	--	--	196.4		
GEW-088	--	--	194.6	122.6		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	August 2016	September 2016	October 2016	November 2016		
GEW-089	85.3	93.4	59.4	--		
GEW-090	175.8	183	181.5	174.7		
GEW-091	195	197.2	--	196.4		
GEW-100	--	--	--	--		
GEW-101	--	--	93.9	93.2		
GEW-102	97.7	188.3	194.3	196.4		
GEW-103	--	--	--	--		
GEW-104	95.6	91.3	72.1	85.4		
GEW-105	--	--	180.4	197.9		
GEW-106	--	--	--	100.6		
GEW-107	--	--	--	81.7		
GEW-108	81.5	89.1	130.6	79.4		
GEW-109	137.3	134	123.7	121.8		
GEW-110	113	118.4	115.8	89.3		
GEW-112	91.5	--	--	--		
GEW-113	172.6	173.7	173.6	171		
GEW-116	--	--	--	--		
GEW-117	98.7	150.9	73.6	82.8		
GEW-118	188.3	193.1	195	193.7		
GEW-120	152.5	153.3	149.7	78.9		
GEW-121	175.7	178.6	180.4	177.2		
GEW-122	192.5	188.5	188.3	183.3		
GEW-123	186.3	102.1	150.9	176.2		
GEW-124	107.4	97.7	95	--		
GEW-125	192.6	193.6	190.8	192.3		
GEW-126	184.7	180.9	178.2	103.2		
GEW-127	188.5	189.6	188.9	187.1		
GEW-128	167.1	176.7	176.6	172.6		
GEW-129	178	180.9	180.1	174.2		
GEW-130	170.8	171.7	177.4	176.4		
GEW-131	111.6	107.6	98.5	71.6		
GEW-132	167.3	165.1	166.4	166.4		
GEW-133	99.4	103.8	93.2	72.9		
GEW-134	147.8	150.1	135.6	121.8		
GEW-135	99	191.5	173.3	161.5		
GEW-136	124.2	126.1	127.6	115.8		
GEW-137	94	86	96.6	75		
GEW-138	154.9	164.7	164.1	155.4		
GEW-139	178.3	176.2	177.5	151.3		
GEW-140	147	140	88.8	146.3		
GEW-141	185.7	187.9	189.6	155.7		
GEW-142	175.2	150.9	153.3	55.5		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	August 2016	September 2016	October 2016	November 2016		
GEW-143	103.2	101.5	80.3	65.7		
GEW-144	99.2	106.6	91.5	81.2		
GEW-145	136.8	175.7	82.8	160.2		
GEW-146	106.7	104.8	100.6	90.1		
GEW-147	186.8	186.4	185.3	189.6		
GEW-148	100.2	159.8	97.8	75.3		
GEW-149	144.7	163.4	170	165.5		
GEW-150	166.9	181.4	184.7	183.3		
GEW-151	150.6	141.5	141.2	76.2		
GEW-152	180.8	175.2	179.2	180.3		
GEW-153	147.7	144.9	142.2	137.7		
GEW-154	126	123.2	120.2	62.2		
GEW-155	130.5	139.6	140.9	126.4		
GEW-156	124.5	114.7	127.5	101		
GEW-157	182.4	183.4	120.7	70.4		
GEW-158	97.3	156.9	199.3	183.3		
GEW-159	159	131.9	81.9	62.3		
GEW-160	187.9	187.6	185.7	169		
GEW-161	192.1	105.2	110.4	63.8		
GEW-162	175.7	180.1	175.8	165		
GEW-163	174.6	156	197.4	192.9		
GEW-164	115.7	114.5	152.5	170.2		
GEW-165	192.5	193.7	194.4	195.1		
GEW-166	188.5	197.9	197.2	196.8		
GEW-167	178.2	168.5	191.9	189.6		
GEW-168	186.8	184.5	183	177.9		
GEW-169	185.7	184.5	179.8	191.6		
GEW-170	160.1	160.7	164.6	188.9		
GEW-171	189.6	192.2	193.6	142.2		
GEW-172	188.3	191.6	89.2	70.6		
GEW-173	108.6	115.5	120.7	123.4		
GEW-174	170.2	171.2	171.6	171.6		
GEW-175	150.1	145.9	142.8	138.3		
GEW-176	161.1	144	161	141.2		
GEW-177	191.9	190.9	184.5	65.8		
GEW-1A	106.3	112	94.3	86.3		
GEW-2S	109.6	99.9	94.8	90.8		
GIW-01	158.8	185.7	185.7	183.9		
GIW-02	100.6	107.2	90.6	75		
GIW-03	97.9	110.2	93.3	82.2		
GIW-04	101.9	107.5	90.5	80.3		
GIW-05	97.3	102.5	87.7	76.4		

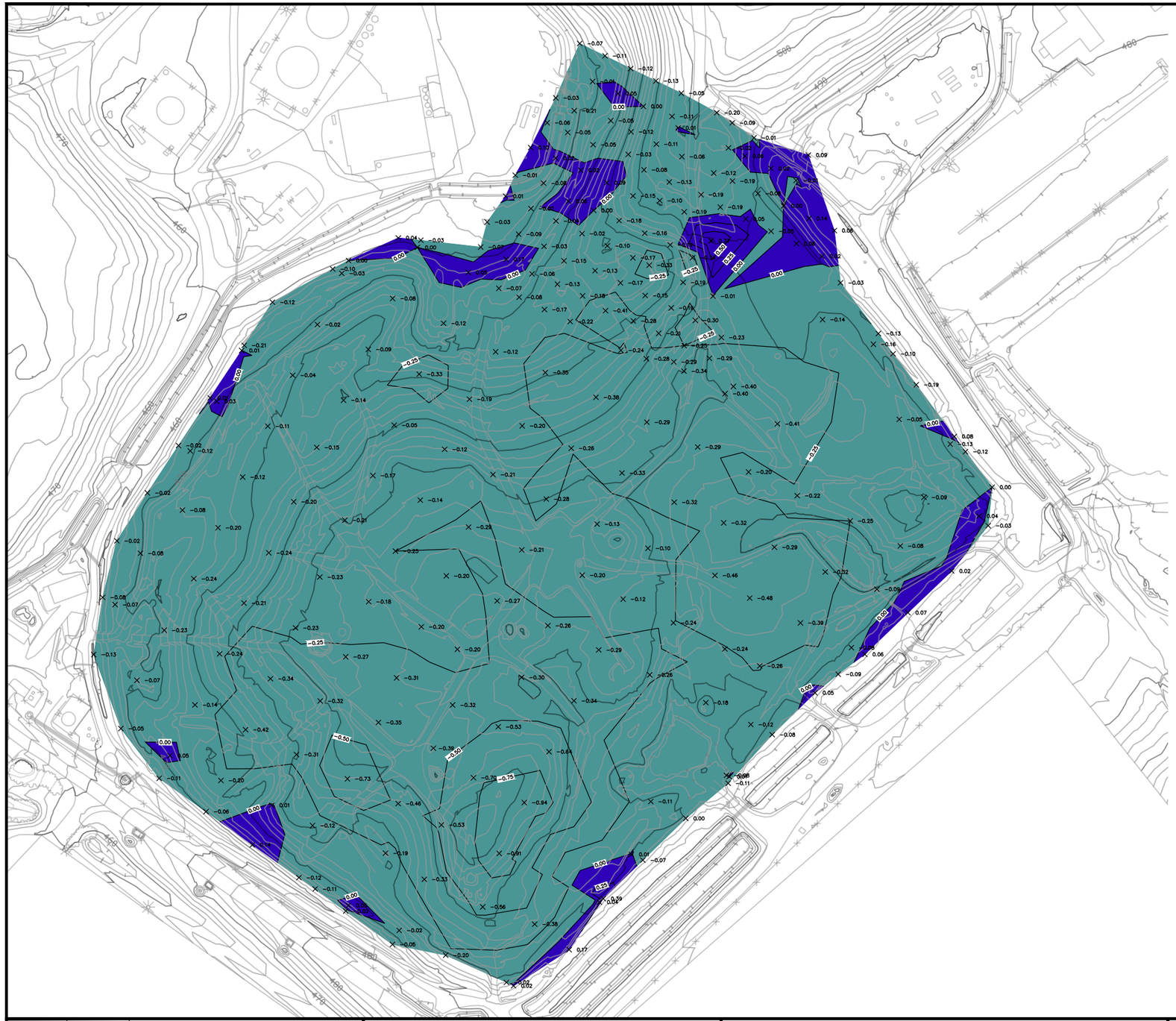
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	August 2016	September 2016	October 2016	November 2016		
GIW-06	100.7	93.2	84.4	83		
GIW-07	100.4	101.1	87.4	75		
GIW-08	99.4	99.2	88	76.8		
GIW-09	96.4	96.2	99	80.3		
GIW-10	102.8	99.4	86.8	79.8		
GIW-11	101	105.5	87.7	83.4		
GIW-12	98	98.3	87.8	84.1		
GIW-13	99.6	99.5	87.6	80		
LCS-1D	--	--	87.9	107.5		
LCS-2D	--	--	--	--		
LCS-3C	--	--	68.1	--		
LCS-4B	--	--	--	--		
LCS-5A	96.2	96.2	94.9	94.4		
LCS-6B	114.5	110	98.9	96.2		
PGW-60	96	91.9	94.1	81.9		
SEW-002	100	96.5	64	81		
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	84.9	83.8	76.4	71.6		

-- = Indicates no data available.

ATTACHMENT F

SETTLEMENT FRONT MAP



NOTES

1. EXISTING CONTOURS DEVELOPED FROM SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON FEBRUARY 27, 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 10-17-16 FROM SPOT ELEVATIONS SURVEYED ON 11-16-16.
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 (11-16-16 TO 10-17-16)
———	MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
———−0.50———	MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
———*11−16*———	SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.35' PER 30 DAYS FOR CURRENT PERIOD OF DAYS

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	0.00	
5	−1.00	0.00	1448068.01	
6	0.00	1.00	93530.13	

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
OCTOBER 17, 2016 THROUGH NOVEMBER 16, 2016

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

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

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

Name: Dawn

Message: Odor logged November 1, 2016, at 10:02 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. 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: N/A

Message: Odor logged November 2, 2016, at 7:25 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern observed odor from another known odor source with frequent off-site odor emissions at multiple observation points in the vicinity of this location. At the time of this concern winds were of a southern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Andrea Izizarry

Message: Odor logged November 1, 2016, at 10:30 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 29 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. 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: Lisa Sutkus

Message: Odor logged November 2, 2016, at 4:36 pm strength of 8

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

Name: N/A

Message: Odor logged November 3, 2016, at 6:30 am 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 Bridgeton Landfill odor. At the time of this concern winds were of a southwestern origin placing this location downwind of another known odor source with frequent off-site odor emissions. Odor from another known odor source with frequent off-site odor emissions was observed upwind of this location within an hour of the time cited in this concern. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 3, 2016, at 6:45 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. 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: N/A

Message: Odor logged November 3, 2016, at 7:49 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location 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 November 3, 2016, at 7:50 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location 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 November 3, 2016, at 7:51 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location 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 November 3, 2016, at 7:52 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location 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 November 3, 2016, at 7:52 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. This location 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 November 3, 2016, at 7:52 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. This location 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 November 3, 2016, at 7:53 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. This location 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: Samantha Compton

Message: Odor logged November 3, 2016, at 9:53 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A musty/wet leaves odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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 referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 3, 2016, at 11:37 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time of this concern

winds were of a northern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 3, 2016, at 11:37 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time of this concern winds were of a northern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Dawn Chapman

Message: Odor logged November 3, 2016, at 12:54 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time of this concern winds were of a northern origin placing this location 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 November 3, 2016, at 2:29 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 3, 2016, at 2:29 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged November 3, 2016, at 9:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 4 hours after the observation time so real time follow-up was not possible. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west northwestern origin placing this location directly downwind of the Bridgeton Landfill. Based on wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged November 3, 2016, at 9:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 4 hours after the observation time so real time follow-up was not possible. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west northwestern origin placing this location directly downwind of the Bridgeton Landfill. Based on wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged November 3, 2016, at 9:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 4 hours after the observation time so real time follow-up was not possible. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west northwestern origin placing this location directly downwind of the Bridgeton Landfill. Based on wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged November 3, 2016, at 2:15 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged November 3, 2016, at 2:15 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged November 3, 2016, at 3:54 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a southern origin placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Linda J. Eaker

Message: Odor logged November 3, 2016, at 6:07 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. This was not a Bridgeton Landfill odor.

Name: Mel Leib

Message: Odor logged November 3, 2016, at 7:27 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the

time cited in this concern winds were of a west northwestern 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: Julie Thompkins

Message: Odor logged November 3, 2016, at 7:29 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a west northwestern origin placing this location 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 November 3, 2016, at 8:12 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a west southwestern 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 November 3, 2016, at 8:21 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern lists a non-specific address. Odor patrols 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. At the time cited in this concern winds were of a north northwestern 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: Rhonda Steelman

Message: Odor logged November 3, 2016, at 8:37 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a west southwestern 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: Rhonda Steelman

Message: Odor logged November 3, 2016, at 2:39 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 6 hours after the observation time so real time follow-up was not possible. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 3, 2016, at 10:41 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 6:45 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Michelle Sawicki

Message: Odor logged November 4, 2016, at 7:46 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Gale Thackrey

Message: Odor logged November 4, 2016, at 6:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Gale Thackrey

Message: Odor logged November 4, 2016, at 8:03 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor from another known odor source with frequent off-site odor emissions was observed in close proximity to this location while following up on this odor concern. Odor patrols 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. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 4, 2016, at 8:37 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A musty odor was observed at this location within an hour of the time cited in this concern. Odor from another known odor source with frequent off-site odor emissions was observed in close proximity to this location while following up on this odor concern. Odor patrols 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. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Jill Kaucher

Message: Odor logged November 4, 2016, at 9:15 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Debi Disser

Message: Odor logged November 4, 2016, at 8:19 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after observation time. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Debi Disser

Message: Odor logged November 4, 2016, at 8:20 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Mary Jo Adams

Message: Odor logged November 4, 2016, at 12:10 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 9 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 7:40 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. 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 is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 70:41 am strength of 10

Follow-up: This concern lacks valid time data and could not be investigated.

Name: N/A

Message: Odor logged November 4, 2016, at 70:41 am strength of 10

Follow-up: This concern lacks valid time data and could not be investigated.

Name: N/A

Message: Odor logged November 4, 2016, at 7:40 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 7:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 70:40 am strength of 10

Follow-up: This concern lacks valid time data and could not be investigated.

Name: N/A

Message: Odor logged November 4, 2016, at 11:28 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of an eastern 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: N/A

Message: Odor logged November 4, 2016, at 8:56 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A strong odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of an eastern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Mark Matthiesen

Message: Odor logged November 4, 2016, at 9:51 pm strength of 8

Follow-up: The following concern lists a non-specific street address. No odor was observed at any location on the street listed in this concern within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor at multiple observation points between the street listed in this concern and the Bridgeton Landfill. At the time cited in this concern winds were of a southeastern origin placing this street upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 7:55 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 4 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of an eastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This location 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 November 3, 2016, at 10:54 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 24 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 5, 2016, at 5:51 am strength of 10

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

Name: Jan Huber

Message: Odor logged November 5, 2016, at 8:53 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jan Huber

Message: Odor logged November 5, 2016, at 8:53 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 5, 2016, at 10:32 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 5, 2016, at 12:06 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a southeastern origin placing this location upwind of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 6, 2016, at 8:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A faint smoky/burnt odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of an east southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 6, 2016, at 8:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A faint smoky/burnt odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of an east southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 6, 2016, at 8:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A faint smoky/burnt odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of an east southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 6, 2016, at 9:57 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A faint smoky/burnt odor was observed at this location within an hour of the time cited in this concern. Odor patrols 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. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 4, 2016, at 5:09 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 days after the observation time so real time follow-up was not possible. Odor patrols 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. This location 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 November 4, 2016, at 5:09 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 days after the observation time so real time follow-up was not possible. Odor patrols 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. This location 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 November 8, 2016, at 8:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 7:15 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location directly outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 8, 2016, at 7:18 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location directly outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 8, 2016, at 7:15 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location directly outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 8, 2016, at 7:18 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 7:20 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 7:20 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 7:35 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Katie Rosemann

Message: Odor logged November 8, 2016, at 10:23 am strength of 8

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

Name: N/A

Message: Odor logged November 8, 2016, at 1:45 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 1:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing location 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 November 8, 2016, at 6:00 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west northwestern origin placing location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 8, 2016, at 7:21 pm strength of 7

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

Name: N/A

Message: Odor logged November 8, 2016, at 8:32 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a west northwestern origin placing location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Renee Thompson

Message: Odor logged November 8, 2016, at 8:39 pm strength of 5

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

Name: N/A

Message: Odor logged November 9, 2016, at 6:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a north northwestern origin placing location 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 November 9, 2016, at 6:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a north northwestern origin placing location 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 November 9, 2016, at 6:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols 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. At the time cited in this concern winds were of a north northwestern origin placing location 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 November 9, 2016, at 7:31 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a northern origin placing location 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 November 9, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a northern origin placing location 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 November 9, 2016, at 7:35 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. This location 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 November 9, 2016, at 7:35 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a northern 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: N/A

Message: Odor logged November 9, 2016, at 7:32 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a northern origin placing this location 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: Lisa Sutkus

Message: Odor logged November 9, 2016, at 2:30 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a northwest origin placing this location 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 November 9, 2016, at 5:35 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 27 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a northwest 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: N/A

Message: Odor logged November 9, 2016, at 5:30 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 27 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. This location 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: Date, time, and odor strength were not provided

Follow-up: The following concern lacks a valid date, time, and odor strength and could not be investigated.

Name: Kathy Luther

Message: Odor logged November 10, 2016, at 8:20 pm strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols 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. At the time cited in this concern winds were of a southwestern 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: Kathy Luther

Message: Odor logged November 9, 2016, at 7:00 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 3 hours after the observation time so real time follow-up was not possible. Odor patrols 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Connie Nolan

Message: Odor logged November 13, 2016, at 7:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 24 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Connie Nolan

Message: Odor logged November 12, 2016, at 7:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 days after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a northeastern placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Connie Nolan

Message: Odor logged November 13, 2016, at 5:29 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 13 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Connie Nolan

Message: Odor logged November 12, 2016, at 5:31 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 days after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of an eastern 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

Message: Odor logged November 14, 2016, at 8:22 am strength of 9

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

Name: Amy Ryan

Message: Odor logged November 14, 2016, at 7:51 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 14, 2016, at 10:02 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in 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: N/A

Message: Odor logged November 15, 2016, at 5:00 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported an hour after the observation time so real time follow-up was not possible. No odor was observed at this location just over an hour after the observation time. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. 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: Jamie Crawford

Message: Odor logged November 14, 2016, at 2:45 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 29 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of 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: Kathy Luther

Message: Odor logged November 15, 2016, at 7:30 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location 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 November 15, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 3 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location directly downwind of another known odor source with frequent off-site

odor emissions. This location 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 November 15, 2016, at 7:32 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 3 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This location 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 November 15, 2016, at 7:35 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 3 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location 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 November 15, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 3 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This location 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 November 15, 2016, at 11:50 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 14, 2016, at 5:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 43 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged November 16, 2016, at 7:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This location 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 November 16, 2016, at 7:46 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location 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 November 16, 2016, at 7:50 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location 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 November 18, 2016, at 12:34 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A musty/moldy odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southwest origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 24, 2016, at 11:22 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 24, 2016, at 11:22 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged November 24, 2016, at 11:25 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jennifer Emmons

Message: Odor logged November 25, 2016, at 9:08 pm strength of 10

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

Name: Jennifer Emmons

Message: Odor logged November 25, 2016, at 9:08 pm strength of 10

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

Name: Jennifer Emmons

Message: Odor logged November 26, 2016, at 6:19 am strength of 10

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

Name: Jennifer Emmons

Message: Odor logged November 26, 2016, at 6:19 am strength of 10

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

Name: Bob Labeaume

Message: Odor logged November 29, 2016, at 9:00 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a western origin placing this location 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 November 29, 2016, at 9:03 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in 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.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

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

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
11/1/2016	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	206,012
11/2/2016			186,252
11/3/2016			213,706
11/4/2016			345,664
11/5/2016			343,186
11/6/2016			334,554
11/7/2016			223,718
11/8/2016			223,148
11/9/2016			219,740
11/10/2016			211,654
11/11/2016			208,274
11/12/2016			214,442
11/13/2016			212,270
11/14/2016			202,738
11/15/2016			203,172
11/16/2016			204,386
11/17/2016			203,606
11/18/2016			210,732
11/19/2016			286,406
11/20/2016			291,244
11/21/2016			280,842
11/22/2016			256,578
11/23/2016			216,776
11/24/2016			64,304
11/25/2016			72,516
11/26/2016			120,066
11/27/2016			193,488
11/28/2016			181,952
11/29/2016			202,974
11/30/2016			192,034
		Total =	**6,526,434**

ATTACHMENT I

LOW FILL PROJECT AREA

ATTACHMENT I-1

LOW FILL AREA BOUNDARY

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 10-17-16 THROUGH 11-16-16

BOUNDARY OF STOCKPILE AREA FOR 10-17-16 THROUGH 11-16-16

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

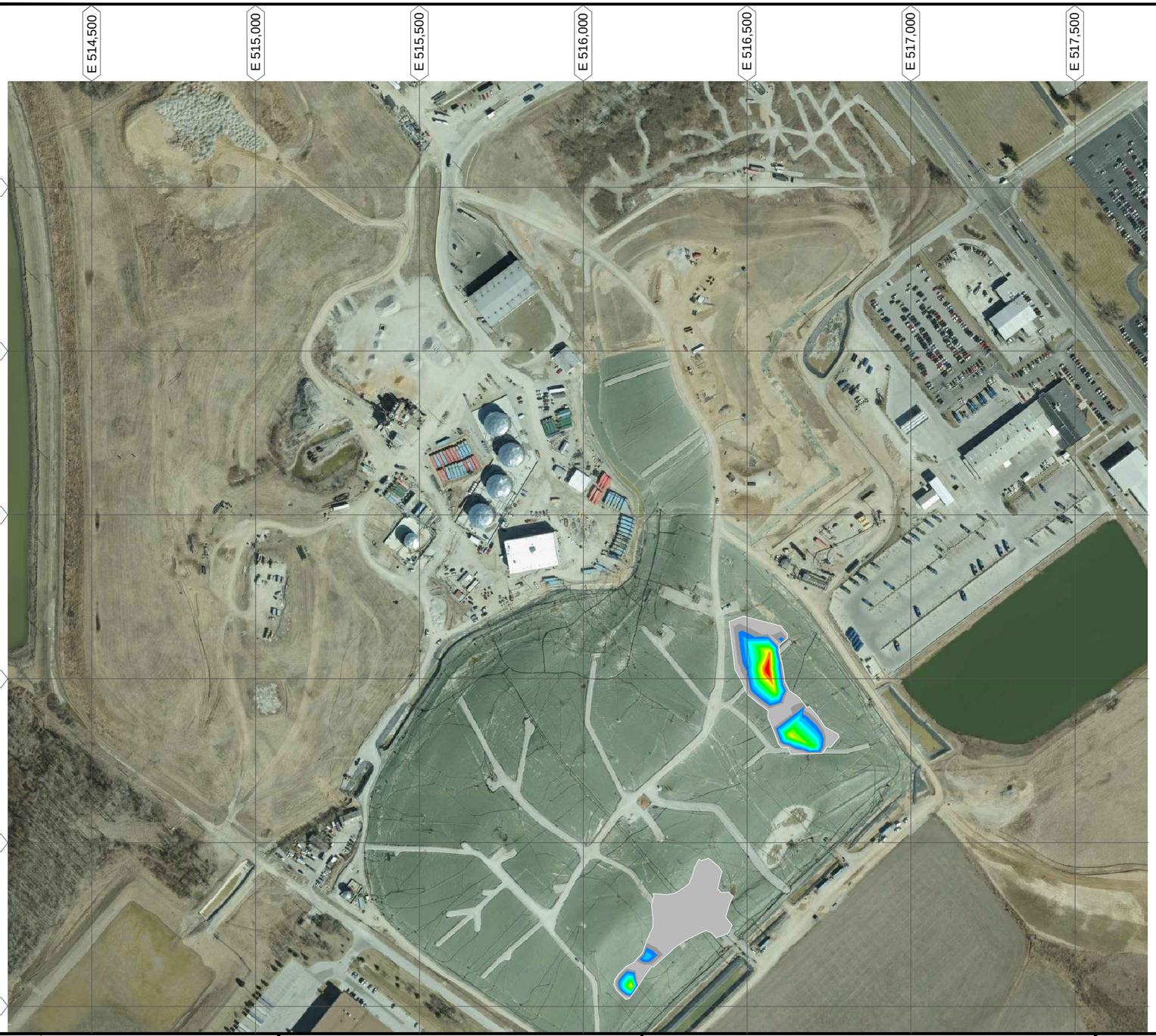
BRIDGETON LANDFILL
BRIDGETON, MO

LOW FILL AREA BOUNDARY
NOVEMBER 2016

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

ATTACHMENT I-2

FILL THICKNESS AND VOLUME



N

0 350'

GRAPHIC SCALE

THICKNESS (FT.)		
MIN.	MAX.	COLOR
0.0	0.25	
0.25	0.50	
0.50	0.75	
0.75	1.00	
1.00	1.25	
1.25	1.50	
1.50	1.75	
1.75	2.00	
2.00	2.25	
2.25	2.50	
2.50	2.75	
2.75	3.00+	

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. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 10-17-16 FROM SPOT ELEVATIONS SURVEYED ON 11-16-16, THAT WERE CORRECTED FOR ELEVATION LOSS DUE TO SETTLEMENT.
4. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
5. ANY POINTS THAT ARE NOT A GROUND-TO-GROUND COMPARISON WITH 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.
6. THE APPROXIMATE FILL VOLUME WAS 2,471 CUBIC YARDS BETWEEN OCTOBER 2016 & NOVEMBER 2016.

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

FILL THICKNESS AND VOLUME
OCTOBER 2016 - NOVEMBER 2016

DRAWN BY:	NV	APPROVED BY:	DJD	PROJ. NO.:	155162	DATE:	DEC. 2016

T:\AutoCAD\Projects\Bridgeton LF\Settlement Maps\2016\11 - November\Working\Oct - Nov Areas of Fill.dwg