Bridgeton Landfill, LLC

Monthly Data Submittals

October 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

November 18, 2016

Commentary on Data

November 18, 2016

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

Gas Volume

- As seen in Attachment B-1, the gas collection volumetric rate in for this month averaged 2,005 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. A dewatering sump has been installed adjacent to GEW-1A in hopes of lowering the liquid level in the gas well. The dewatering sump is expected to improve gas collection and reduce ambient air intrusion from the wellhead if the facility can lower the potentiometric surface in the area.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Fourteen (14) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, five (5) vertical wells (excluding GIW wells) increased by 30°F or more. All wells that exhibited changes greater than 30 degrees are all within the historical gas temperature norms for these wells or within the range of temperatures of nearby vertical wells.

- A detailed review of the gas extraction wells in the neck area was conducted. Well GEW-108 exhibited a wellhead temperature increase greater than 30°F, and wells GEW-56R and GEW-159 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 (49 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.

Settlement

- The South Quarry exhibited monthly maximum settlement up to 1.26 feet over 32 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 on October 20, 2016 and will continue into November. The total cubic yardage of fill material used will be provided in the November monthly report.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in October 2016

Gas Collection and Control System (GCCS)

- Continued operation and maintenance of GCCS system.
- Continued upgrades to GCCS system as necessary.
- Demolished enclosed flares.
- Performed flare stack maintenance on FL-100, FL-120, and FL-140.

Heat Extraction System (HES)

- Continued operation and maintenance of the pilot HES.
- Brought the Heat Extraction Barrier (HEB) system online.

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.
- Completed installation of new cationic polymer system equipment.
- Commissioned permanent soda ash system equipment.
- Continued testing of new polymer to improve flocculation.

Other Projects

- Continued acceptance of clean fill.
- Began installation of Temperature Monitoring Probes (TMPs) per ASAOC.
- Completed response to EPA comments to the 6/27/15 Ethylene Vinyl Alcohol (EVOH) Workplan submittal.
- Continued planning and design of the North Quarry EVOH capping project.
- Performed 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.

Work Planned for November 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 pilot HES.
- Continue bringing HEB system online.

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 preparation and begin construction for the North Quarry EVOH capping project.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
October 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***	
10/1/2016	1,805	0	0	300	2,105
10/2/2016	1,805	0	0	302	2,107
10/3/2016	1,833	0	0	308	2,141
10/4/2016	1,818	0	0	313	2,131
10/5/2016	1,821	0	0	323	2,144
10/6/2016	1,794	0	0	319	2,113
10/7/2016	1,766	0	0	310	2,076
10/8/2016	1,770	0	0	314	2,084
10/9/2016	1,774	0	0	316	2,089
10/10/2016	1,810	49	0	312	2,171
10/11/2016	1,860	0	0	267	2,127
10/12/2016	1,810	0	0	212	2,022
10/13/2016	1,801	0	0	209	2,010
10/14/2016	1,809	0	0	215	2,024
10/15/2016	1,815	0	0	215	2,030
10/16/2016	1,814	0	0	221	2,035
10/17/2016	1,103	673	0	207	1,983
10/18/2016	0	1,718	0	235	1,952
10/19/2016	0	1,683	0	228	1,911
10/20/2016	0	1,678	0	222	1,900
10/21/2016	625	1,053	0	230	1,908
10/22/2016	1,684	0	0	246	1,931
10/23/2016	1,707	0	0	226	1,932
10/24/2016	833	247	646	231	1,956
10/25/2016	0	0	1,712	223	1,934
10/26/2016	0	0	1,691	220	1,912
10/27/2016	0	35	1,661	220	1,917
10/28/2016	0	0	1,689	224	1,913
10/29/2016	0	0	1,641	224	1,865
10/30/2016	0	0	1,626	221	1,847
10/31/2016	0	429	1,219	227	1,875
				Average	**2,005**

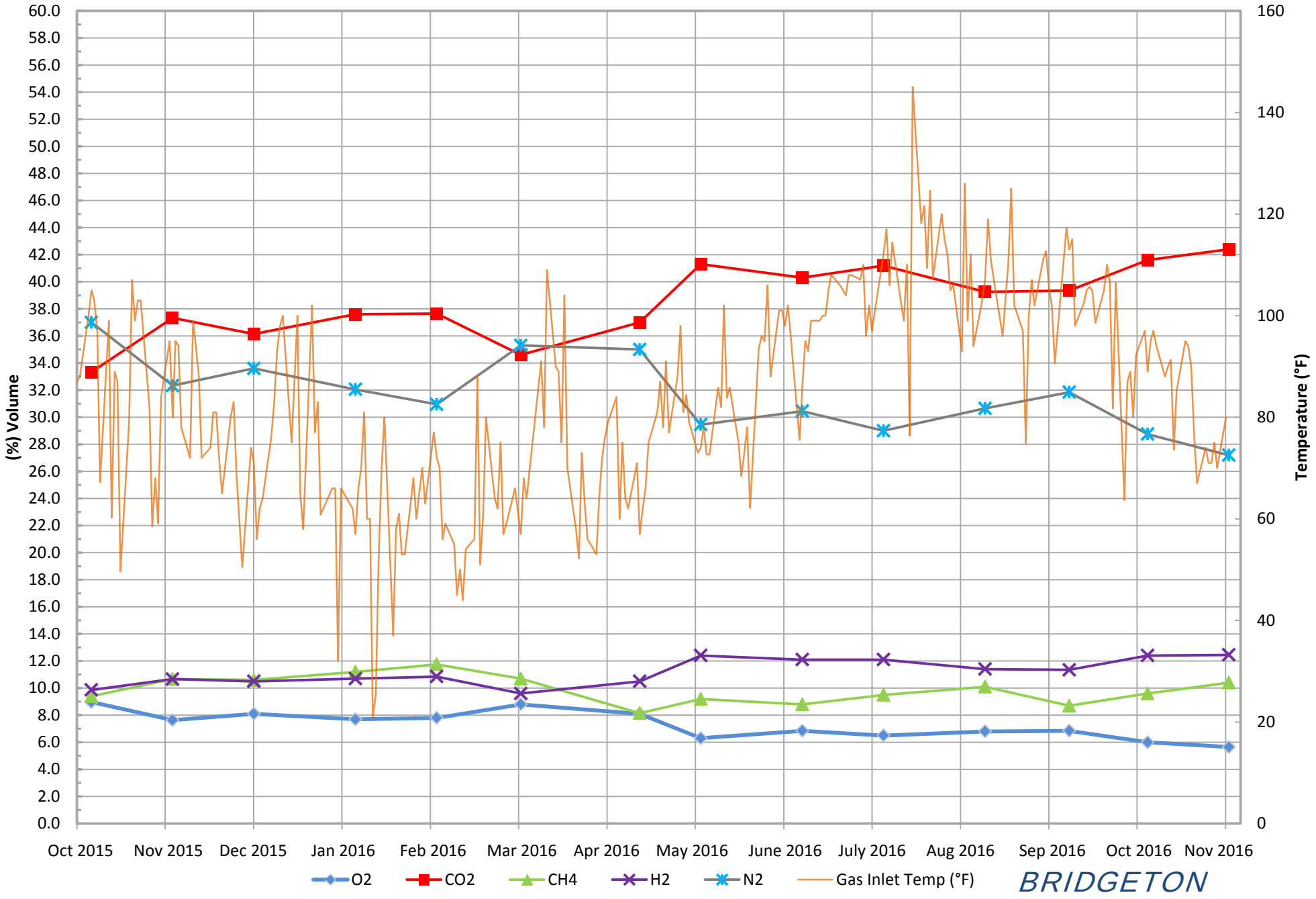
* Flows normalized to **Blower Outlet Flowmeter - EPA Method 2 measurement verified

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

ATTACHMENT B-2

FLOW DATA GRAPHS

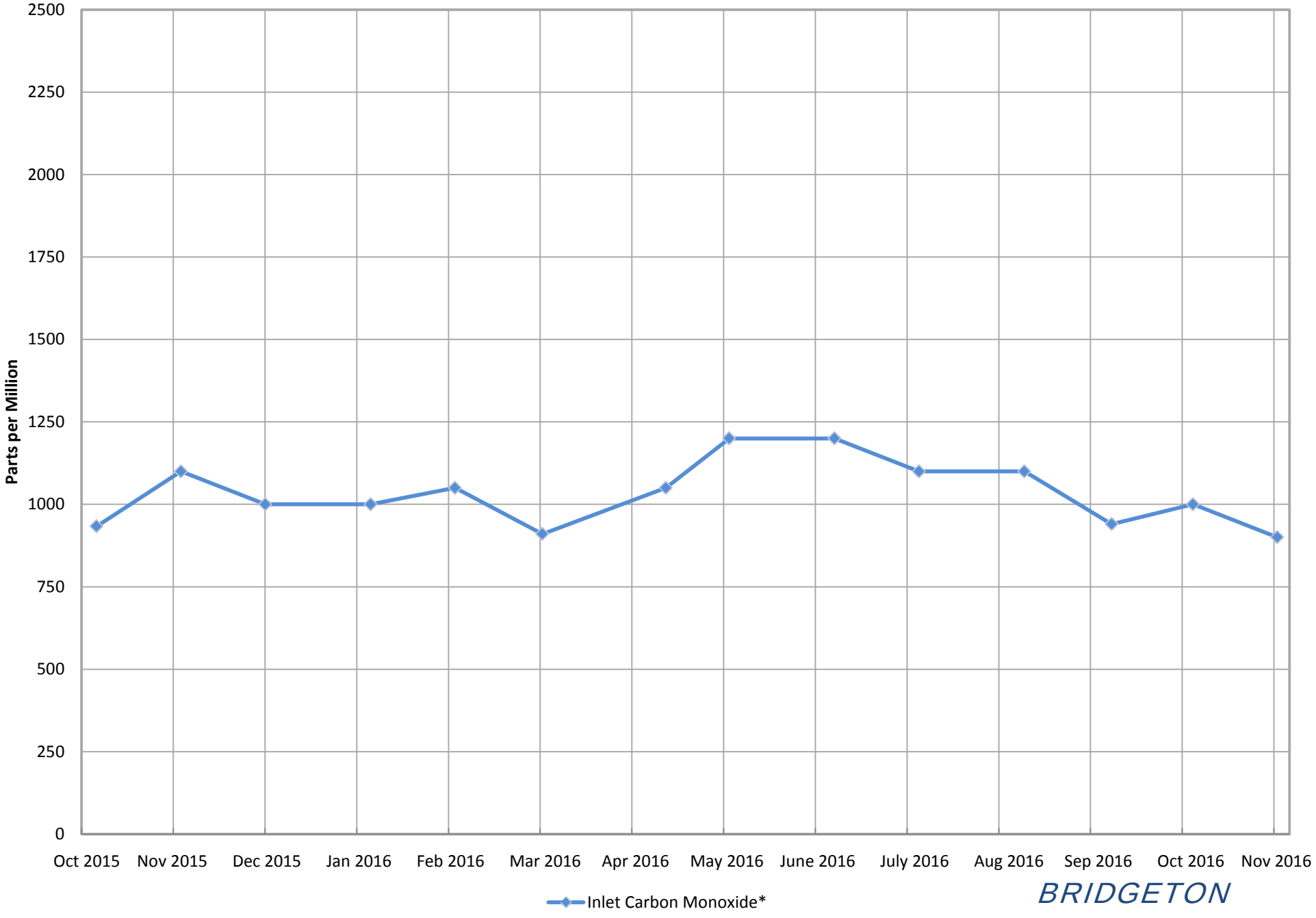
South Quarry Inlet Gas and Temperature*



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

BRIDGETON LANDFILL

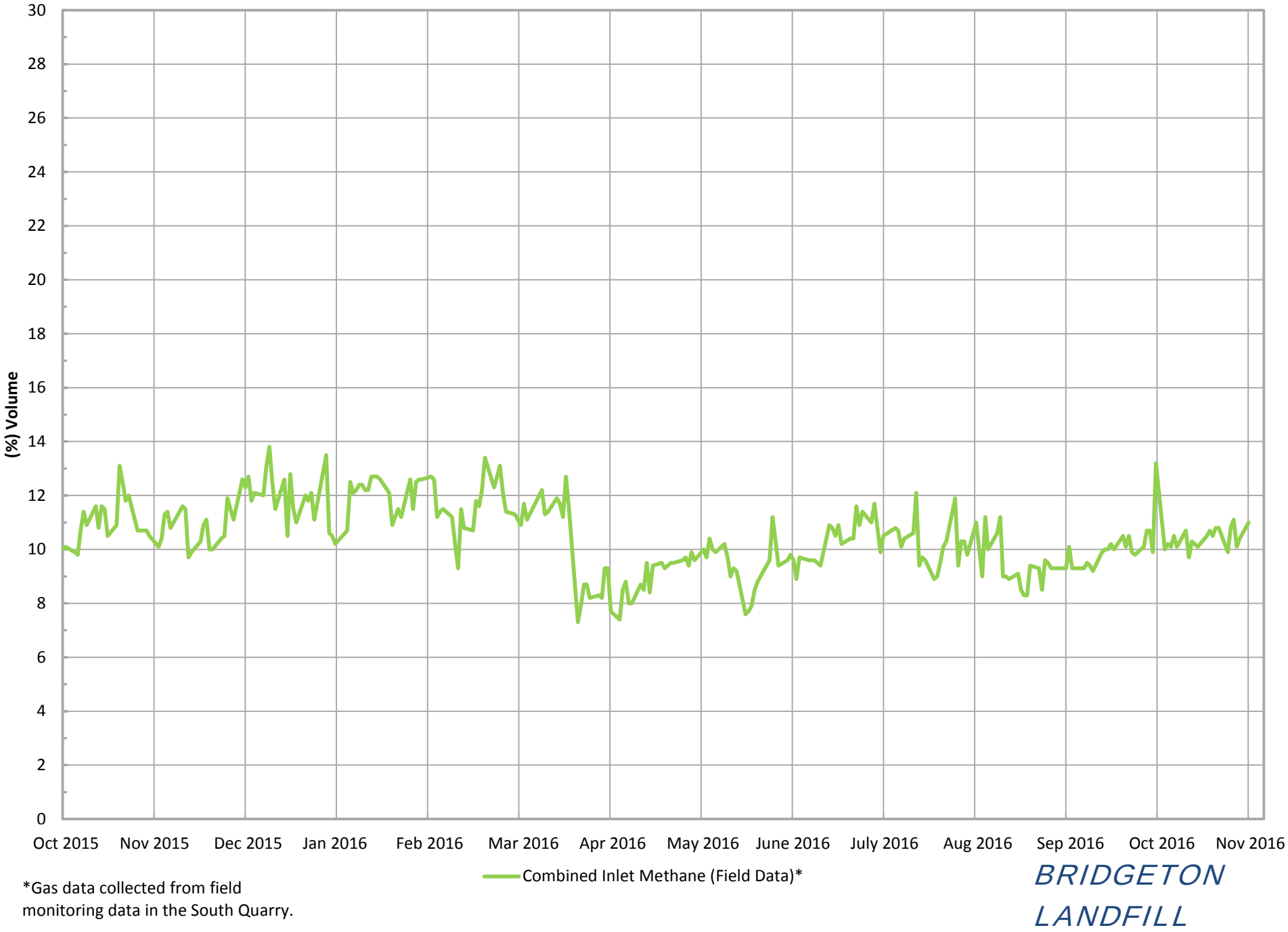
South Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the South Quarry.

BRIDGETON LANDFILL

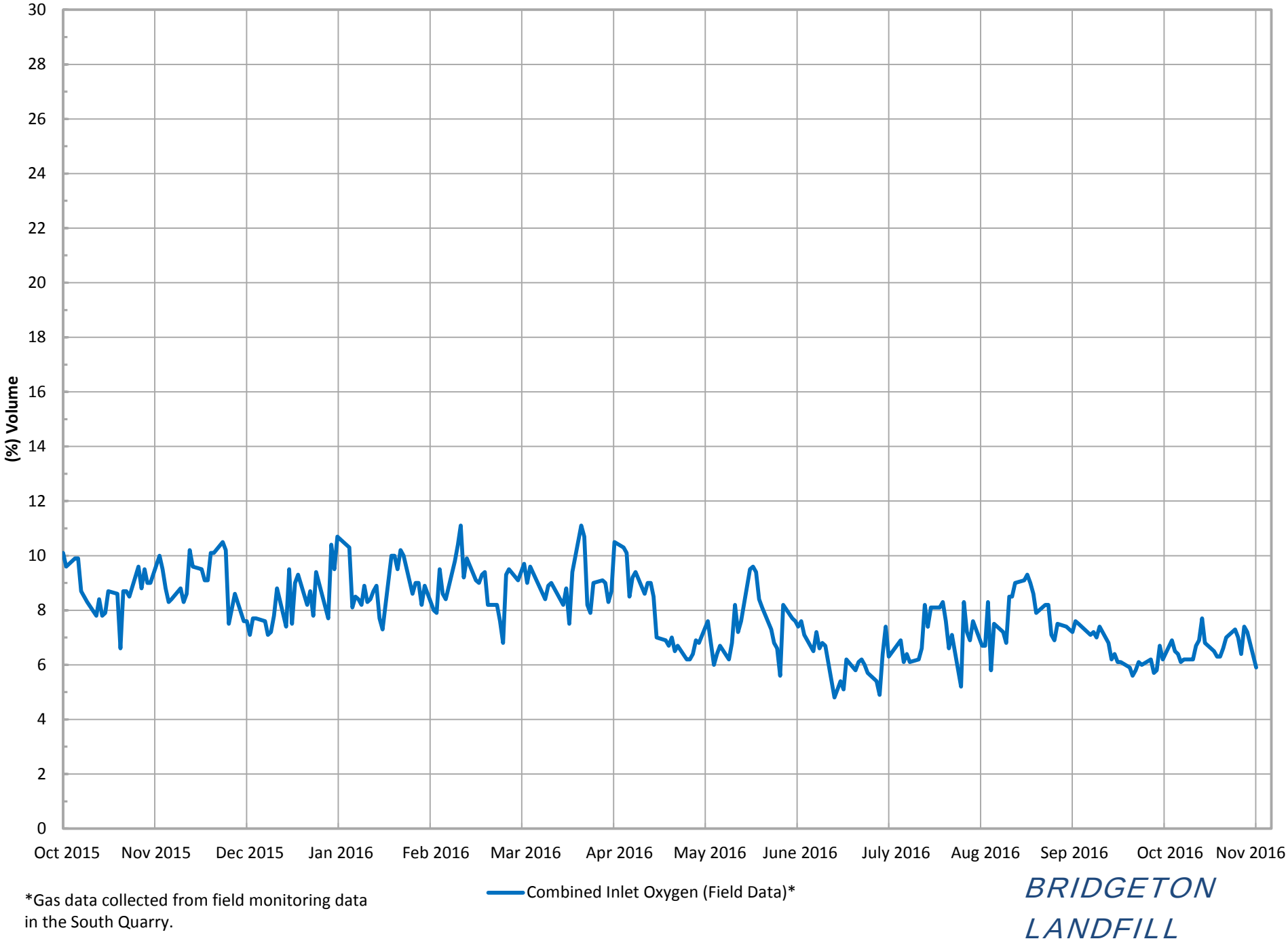
South Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

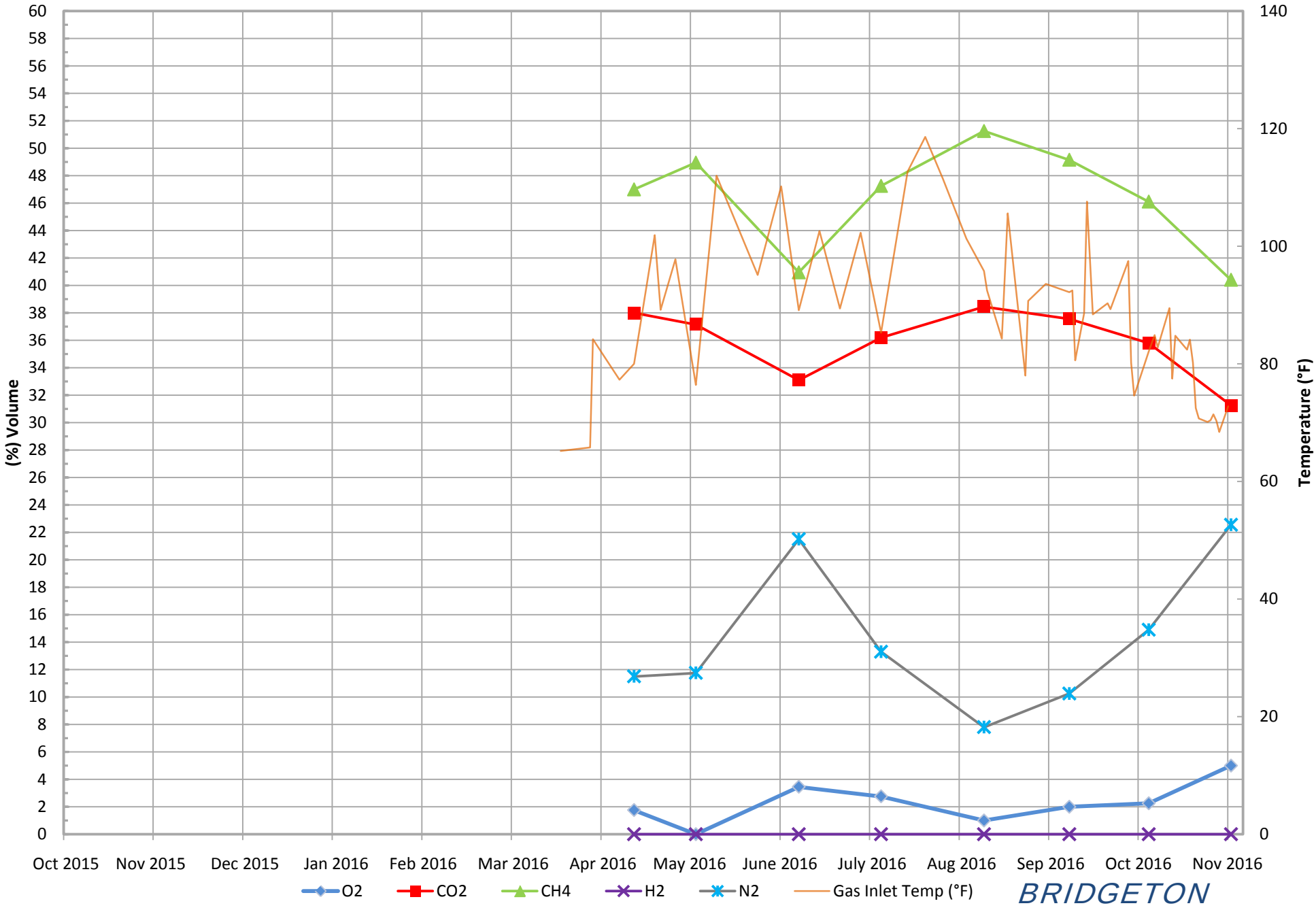
South Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

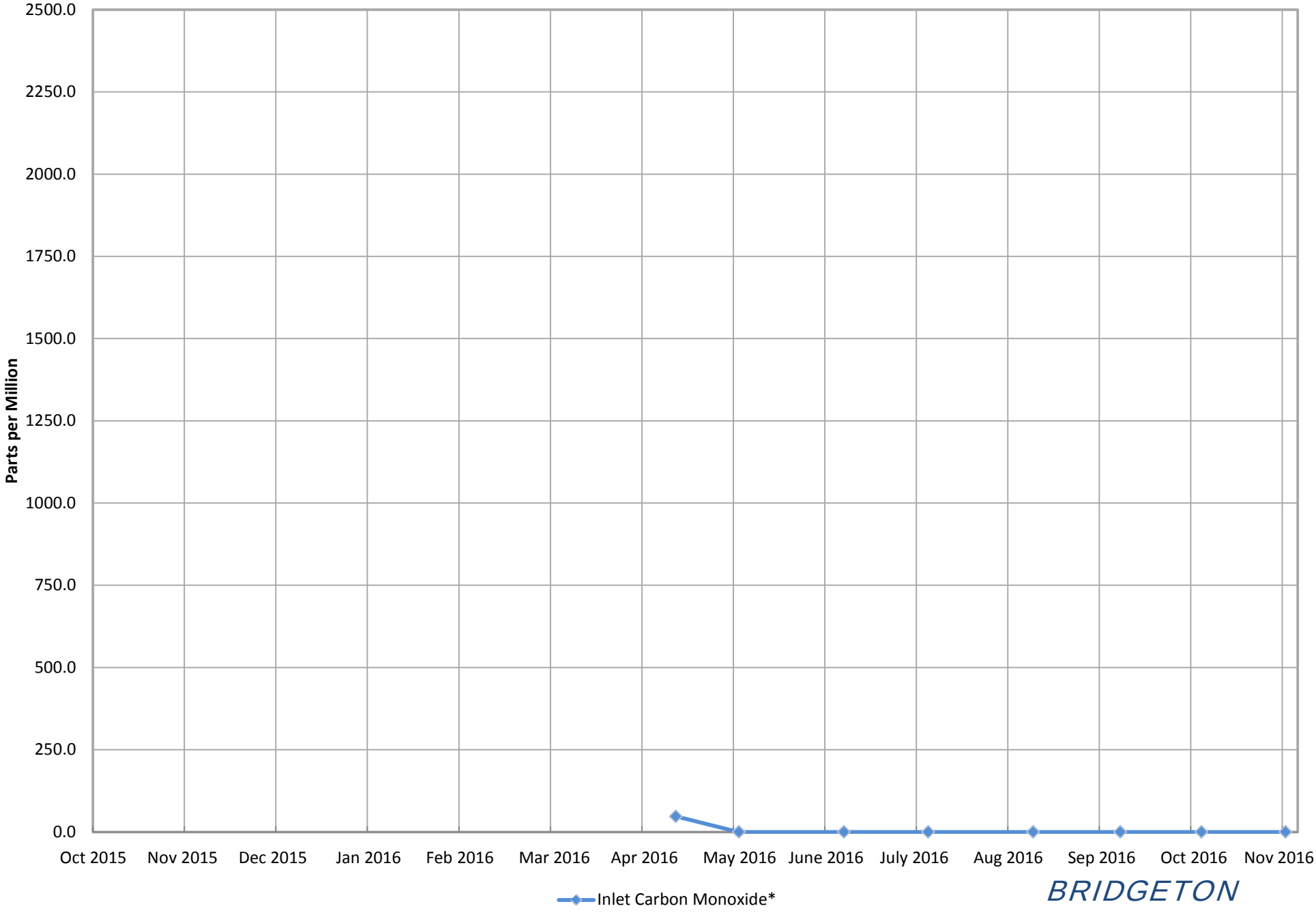
North Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

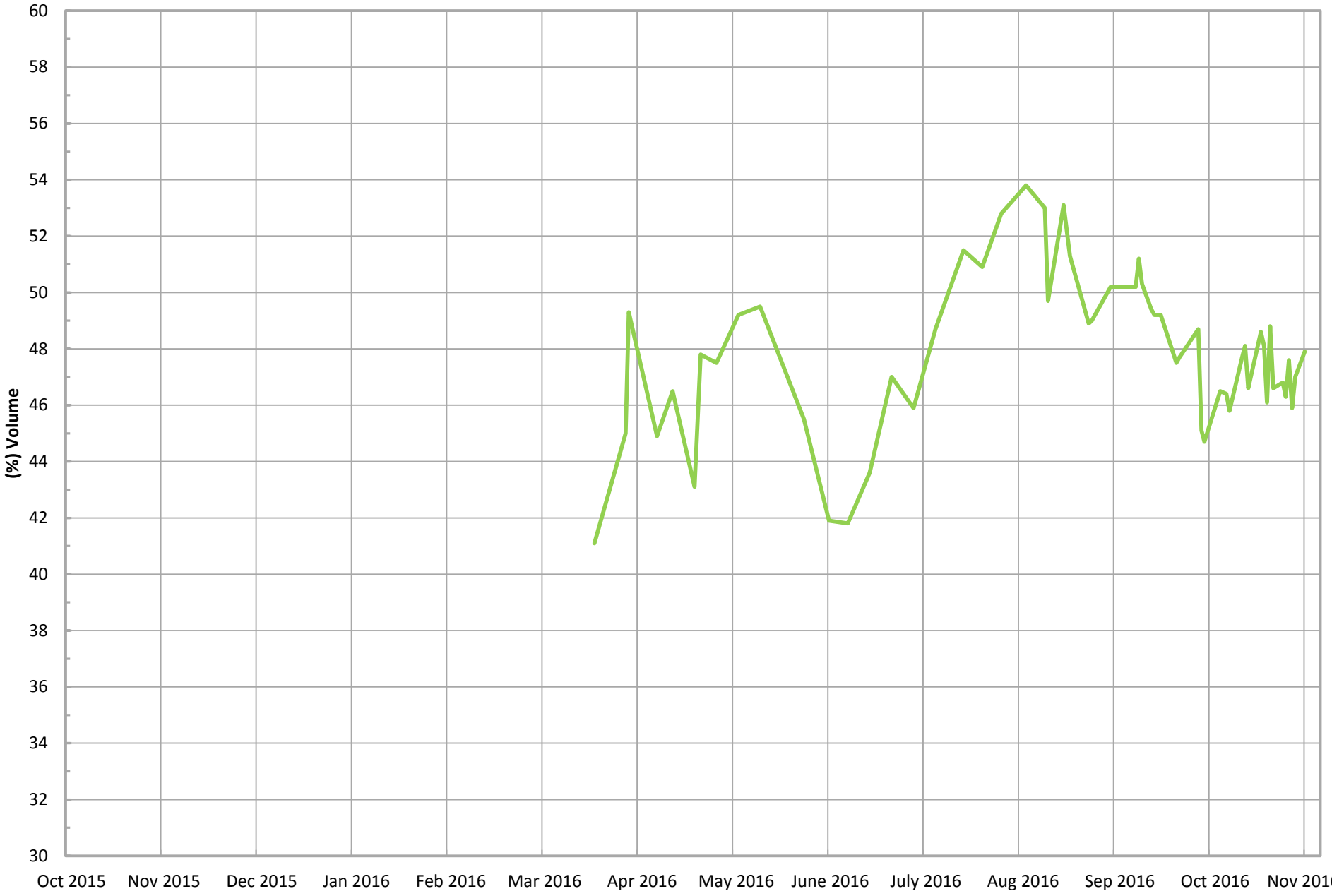
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

BRIDGETON LANDFILL

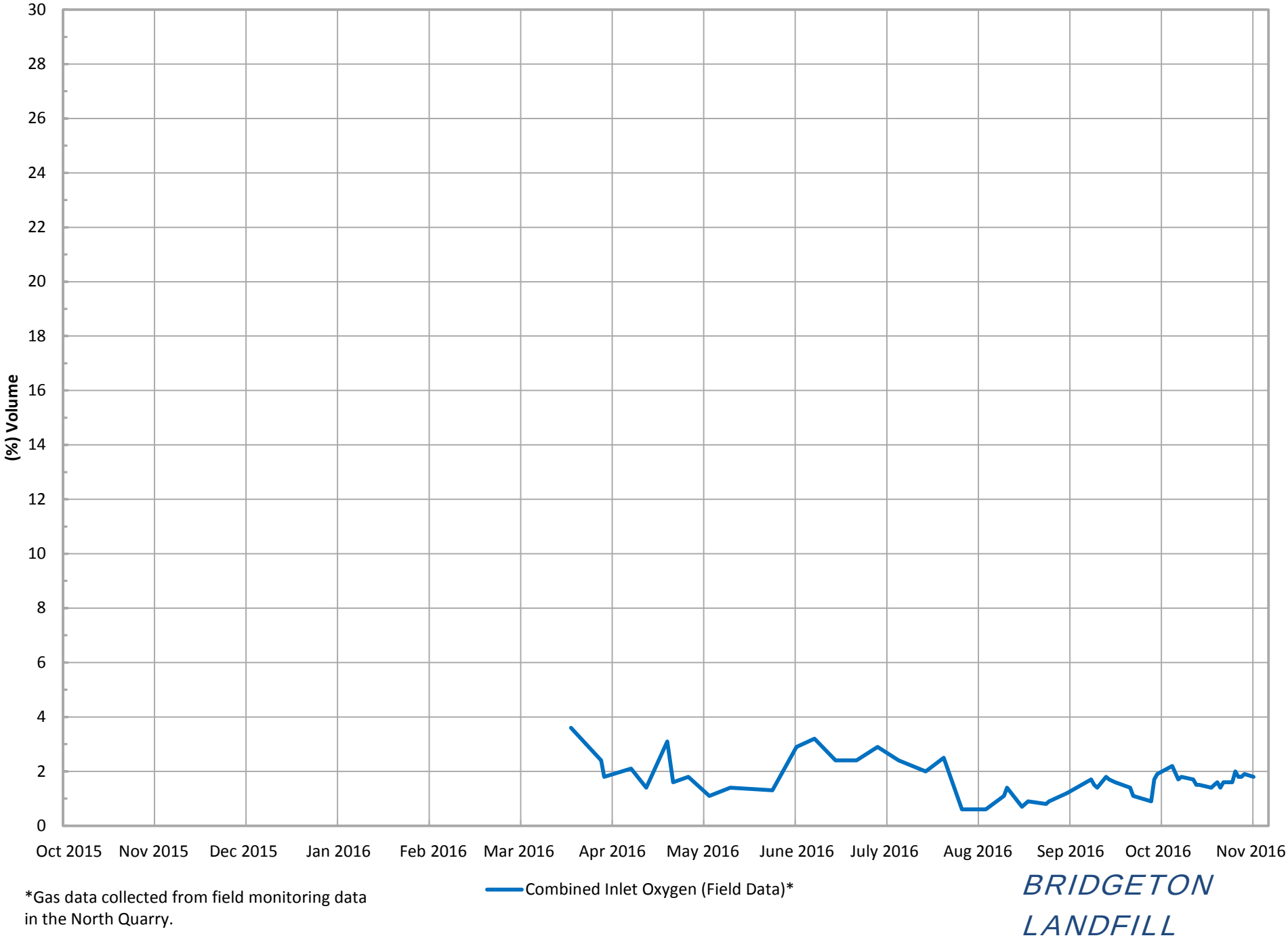
North Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

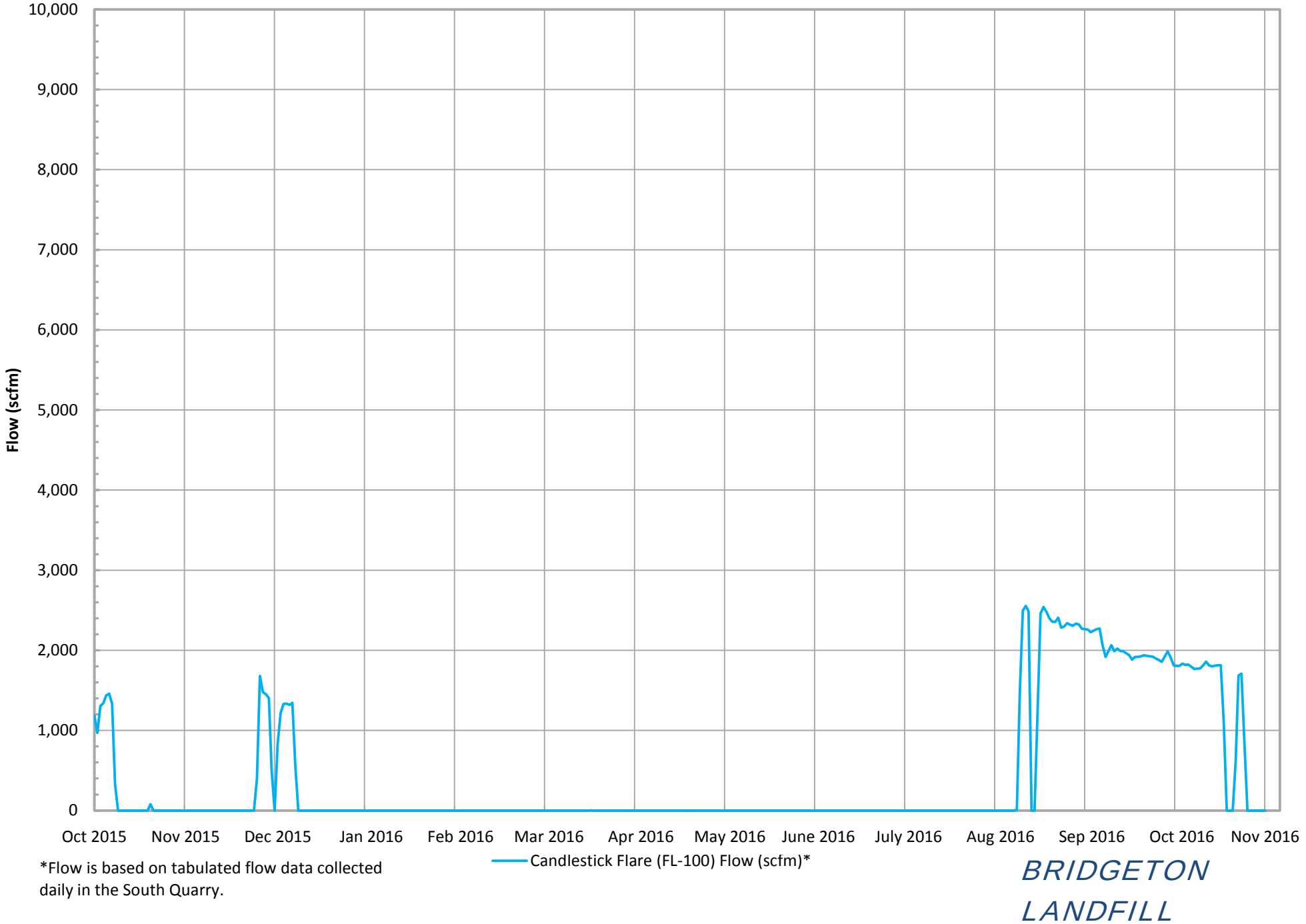
North Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

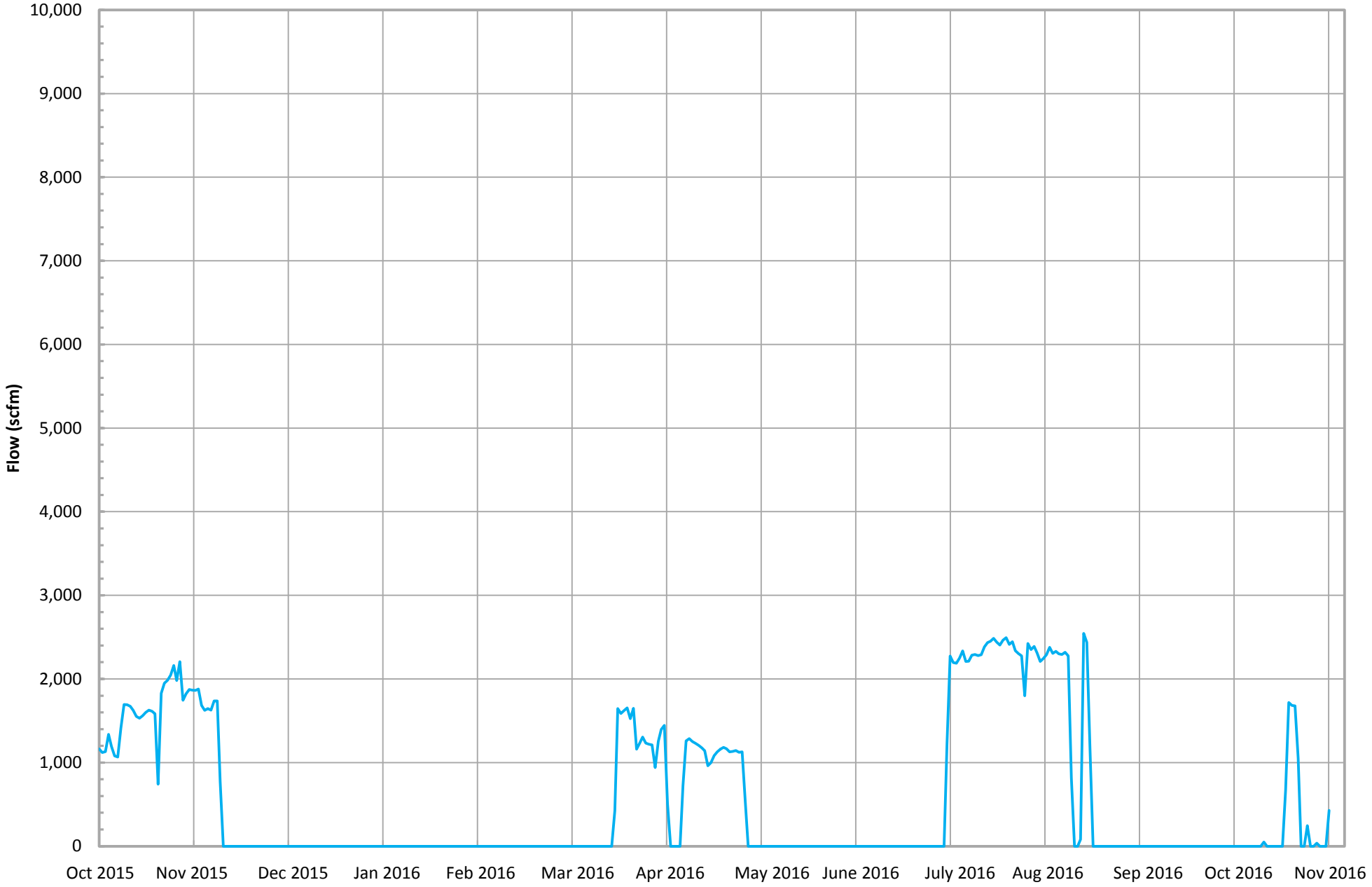
Candlestick Flare (FL-100) Flow (scfm)*



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

BRIDGETON LANDFILL

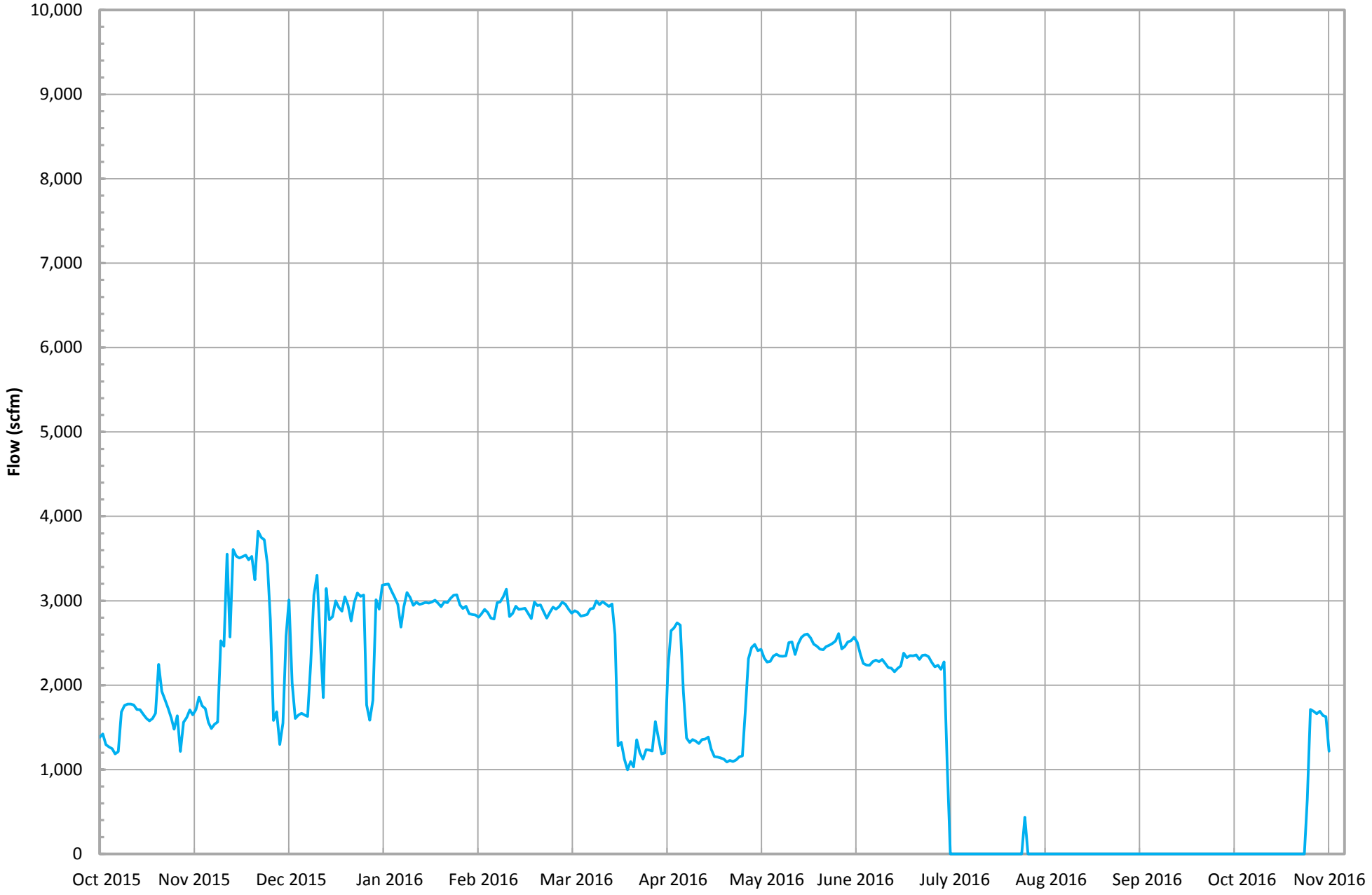
Candlestick Flare (FL-120) Flow (scfm)*



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

BRIDGETON LANDFILL

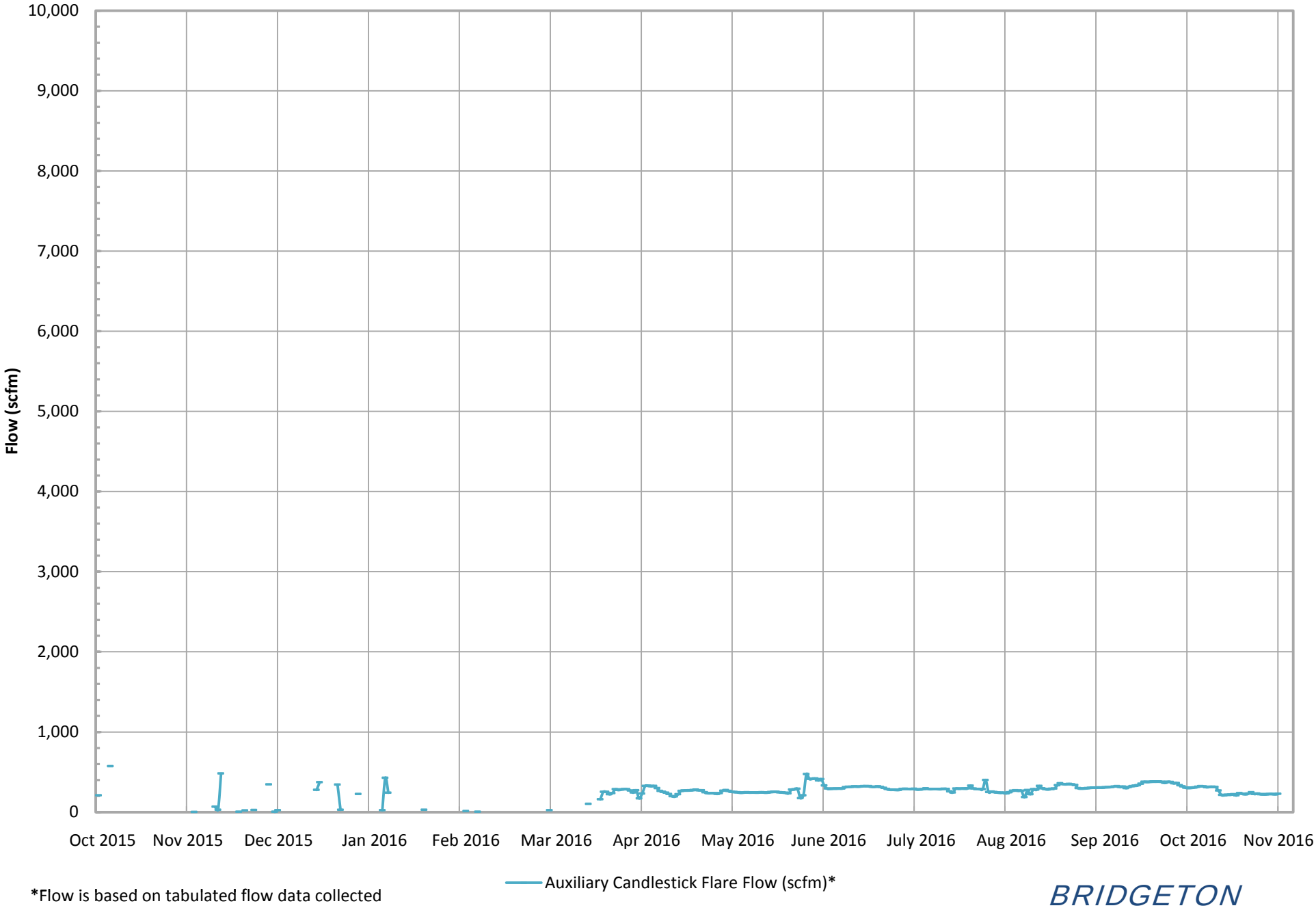
Candlestick Flare (FL-140) Flow (scfm)*



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

BRIDGETON LANDFILL

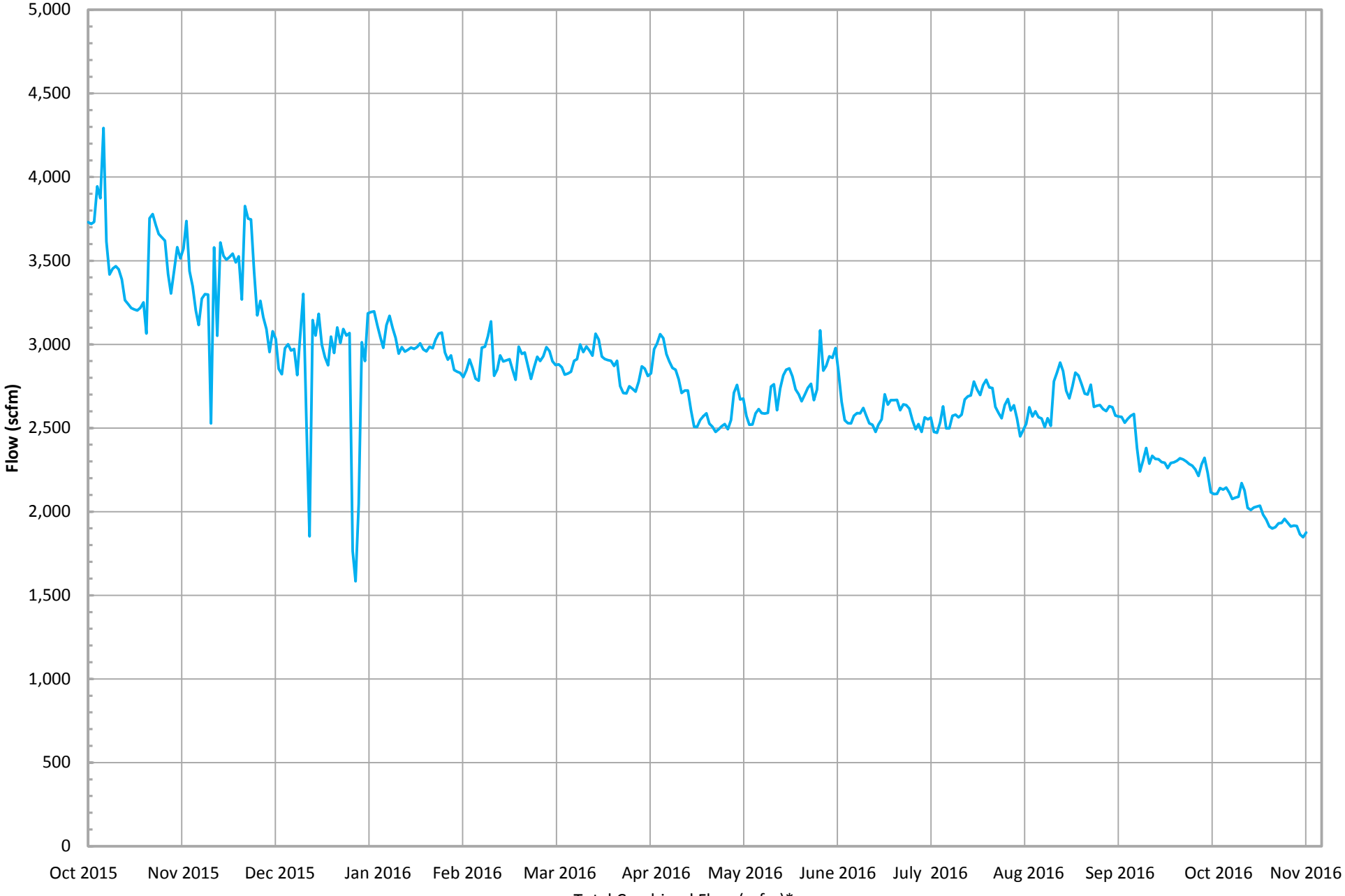
Auxiliary Candlestick Flare Flow (scfm)*



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

BRIDGETON LANDFILL

Total Combined Flow (scfm)*

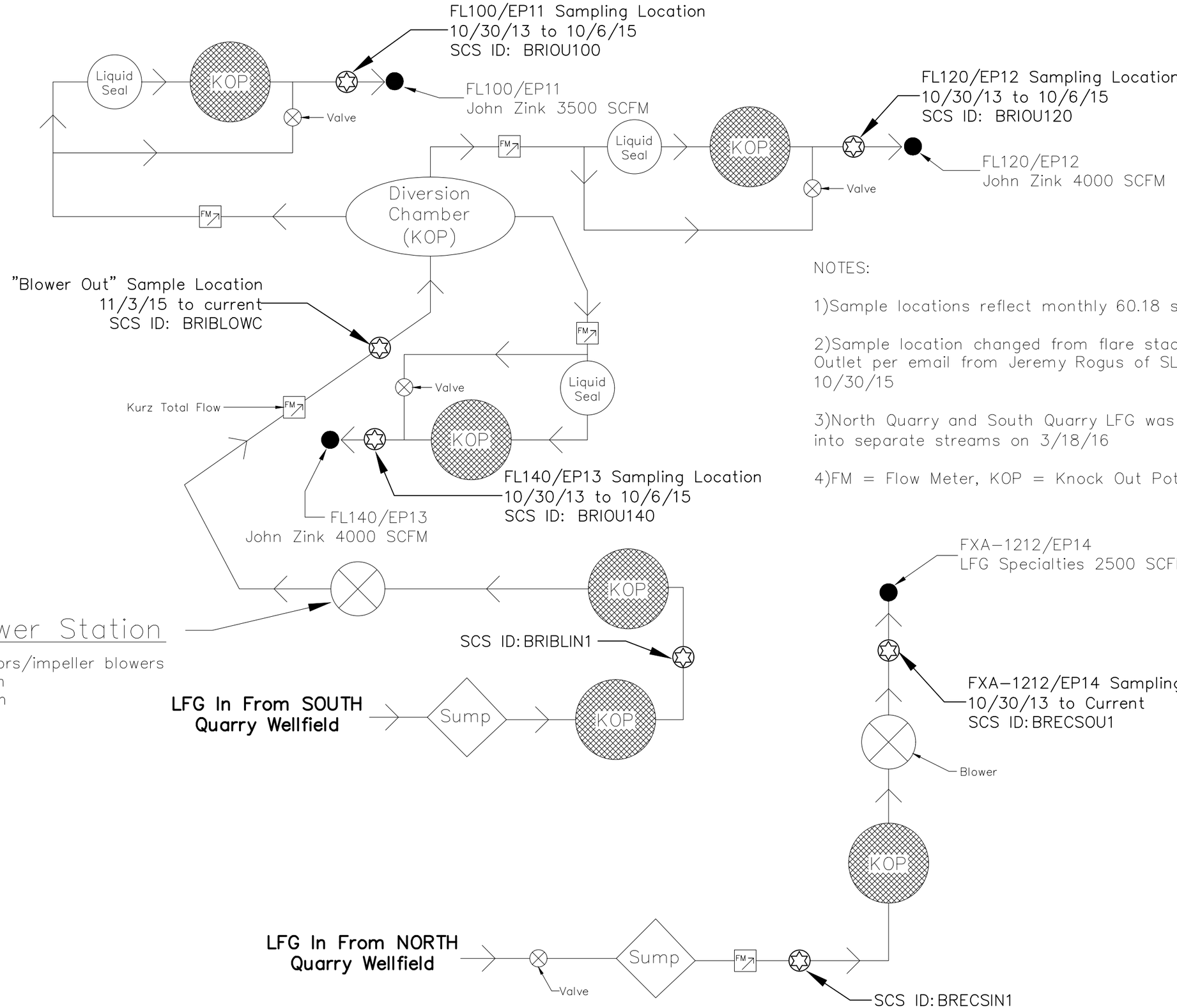


*Combined flow is based on tabulated flow data collected daily from FL-100, FL-120, FL-140, and the Auxillary Candlestick Flare.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



Motor Blower Station

4 – 125 HP motors/impeller blowers
*137 AMPS each
*3570 RPM each

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-98 Removed, shown only to represent SQ LFG flow

Weaver Consultants Group

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 **October 4, 2016 to November 1, 2016**

Flare Compound: *Blower Outlet*

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
87-44[1]	11/1/2016	20.23	1445	1700
				1600
86-43[2]	10/25/2016	20.19	1635	1700
				1700
85-42[2]	10/18/2016	20.27	1642	1700
				1800
84-41[2]	10/12/2016	21.12	1711	1700
				1600
83-40[1] [3]	10/4/2016	20.25	1580	1600
				1700

Notes:

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

[2] Indicates velocity/flow determined by KURZ

[3] Indicates that after further review of this sampling event, it was determined that the velocity/flow values should be altered from the values in the Revised September Monthly Report submitted on 10/31/16. Due to the negligible difference between the previous and current values, it was determined the Revised September Monthly Report did not need to be re-submitted.

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 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 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

Tuesday, November 01, 2016

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ LFG	**13:34**	**298**	**241**	**19.0%**

*NOTE: manufacture field calibration and check in the field, insitu 10/11/2016. Manufacture to provide logic board replacement rescale system after change out.

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) 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)		
#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: FEDEX	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

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: 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.

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 86-43
10/25/2016

Kurz FM =	**1,721**	scfm
Fleetzoom Total =	**1,456**	scfm

$\Delta =$ **-18.2%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		10/25/16
Time	Start	15:21	15:29
***%CH_4**	Methane, %	11.20	11.80
***%CO_2**	Carbon Dioxide, %	41.60	40.60
***'%O_2**	Oxygen, %	5.40	5.50
***%Balance**	Assumed as Nitrogen, %	41.80	42.10
P_g	Flue Gas Static Pressure, inches of H_2O	11.57	11.08
t_s	Blower Outlet LFG Temperature, °F	107	107
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,635	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,721	
LFG_{CH4}	Methane, lb/hr	457.6	482.1
	Methane, grains/dscf	32.65	34.40
LFG_{CO2}	Carbon Dioxide, lb/hr	4,662.8	4,550.7
	Carbon Dioxide, grains/dscf	332.72	324.72
LFG_{O2}	Oxygen, lb/hr	440.1	448.2
	Oxygen, grains/dscf	31.40	31.98
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,982.3	3,003.7
	Balance gas as Nitrogen, grains/dscf	212.80	214.33

** 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	24.00	1.40
	Hydrogen Sulfide Rate, lb/hr	0.21	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.015	0.001
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	230.00	210.00
	Methyl Mercaptan Rate, lb/hr	2.82	2.57
	Methyl Mercaptan Rate, grains/dscf	0.201	0.184
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.80	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	1,300.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	20.57	20.57
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.468
CS_2	Carbon Disulfide Concentration, ppmd	1.20	1.20
	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	87.00	94.00
	Dimethyl Disulfide Rate, lb/hr	2.09	2.26
	Dimethyl Disulfide Rate, grains/dscf	0.149	0.161
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	27.74	27.74
	TRS-->SO2 Emission Rate, grains/dscf	1.979	1.979
	TPY =	121.49	121.49

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 86-43
10/25/2016

Fleetzoom Total = 231 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		10/25/16
Time	Start	14:40	14:48
***%CH_4**	Methane, %	49.70	48.60
***%CO_2**	Carbon Dioxide, %	33.40	33.90
***'%O_2**	Oxygen, %	1.90	1.70
***%Balance**	Assumed as Nitrogen, %	15.00	15.80
P_g	Flue Gas Static Pressure, inches of H_2O	1.28	1.35
t_s	Blower Outlet LFG Temperature, °F	82.80	85.10
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	219	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	231	
LFG_{CH4}	Methane, lb/hr	272.5	266.4
	Methane, grains/dscf	144.90	141.69
LFG_{CO2}	Carbon Dioxide, lb/hr	502.3	509.8
	Carbon Dioxide, grains/dscf	267.13	271.13
LFG_{O2}	Oxygen, lb/hr	20.8	18.6
	Oxygen, grains/dscf	11.05	9.89
LFG_{N2}	Balance gas as Nitrogen, lb/hr	143.6	151.3
	Balance gas as Nitrogen, grains/dscf	76.36	80.44

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.59	0.59
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	1.50	0.59
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	10.00	10.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
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	0.73	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	14.00	12.00
	TRS-->SO2 Emission Rate, lb/hr	0.03	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.016	0.014
	TPY =	0.13	0.12

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.

November 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: H102605 -01/04

Enclosed are results for sample(s) received 10/26/16 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 11/02/16.

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				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							
H102609-01	J1720	-20.4	-3.5	-4	NQ EP14 A	10/25/2016	1440	C	LFG	NA	X
-02	1540	-20.6	-3.5	-4	NQ EP14 B	10/25/2016	1448	C	LFG	NA	X
-03	1614	-20.8	-3.5	-3	SQ Blower Outlet A	10/25/2016	1521	C	LFG	NA	X
-04	1620	-20.7	-3.5	-3	SQ Blower Outlet B	10/25/2016	1529	C	LFG	NA	X
	GD 10/27/16										

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services		DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services		DATE/TIME
RELINQUISHED BY: Ryan Ayers	10-25-16 1630	DATE/ RECEIVED BY		DATE/TIME
RELINQUISHED BY: FEDEX	10/26/16 0907	DATE/ RECEIVED BY	ATLI	DATE/TIME 10/26/16 0907
RELINQUISHED BY		DATE/ RECEIVED BY		DATE/TIME

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

COMMENTS

BLOWER A IS #1620-20.7
BLOWER B IS #1614-20.8
} per R. Ayers GD 10/27/16

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/26/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H102605-01		H102605-02		H102605-03		H102605-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	10/25/16 14:40		10/25/16 14:48		10/25/16 15:21		10/25/16 15:29	
Date/Time Analyzed:	10/27/16 10:38		10/27/16 10:50		10/27/16 11:03		10/27/16 11:15	
QC Batch No.:	161027GC3A1		161027GC3A1		161027GC3A1		161027GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		2.8		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.59	ND	0.59	24	0.56	1.4	0.56
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.56	ND	0.56
Methyl Mercaptan	1.5	0.59	ND	0.59	230 d	5.6	210 d	5.6
Ethyl Mercaptan	ND	0.59	ND	0.59	2.8	0.56	2.6	0.56
Dimethyl Sulfide	10	0.59	10	0.59	1,300 d	56	1,300 d	56
Carbon Disulfide	ND	0.59	ND	0.59	1.2	0.56	1.2	0.56
Dimethyl Disulfide	0.73	0.59	ND	0.59	87 d	5.6	94 d	5.6
Total Reduced Sulfur	14	0.59	12	0.59	1,700	0.56	1,700	0.56

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

Reviewed/Approved By: _____ Date 11/2/16
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.: 161027GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/27/16 8:45		10/27/16 8:21		10/27/16 8:33			
Analyst Initials:	AS		AS		AS			
Datafile:	27oct002		27oct		27oct001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	82	70-130%	82	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	90	70-130%	89	70-130%	0.6	<30
Methyl Mercaptan	ND	0.20	87	70-130%	86	70-130%	0.4	<30
Ethyl Mercaptan	ND	0.20	100	70-130%	99	70-130%	0.5	<30
Dimethyl Sulfide	ND	0.20	90	70-130%	89	70-130%	1.2	<30
Carbon Disulfide	ND	0.20	85	70-130%	85	70-130%	0.6	<30
Dimethyl Disulfide	ND	0.20	79	70-130%	79	70-130%	0.1	<30

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

Reviewed/Approved By: _____ Date: 11/2/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 85-42
10/18/2016

Kurz FM =	**1,728**	**scfm**	
Fleetzoom Total =	**1,412**	**scfm**	**Δ = -22.4%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		10/18/16
Time	Start	14:43	14:51
***%CH_4**	Methane, %	13.50	15.80
***%CO_2**	Carbon Dioxide, %	43.80	44.20
***'%O_2**	Oxygen, %	5.40	5.20
***%Balance**	Assumed as Nitrogen, %	37.30	34.80
P_g	Flue Gas Static Pressure, inches of H_2O	25.71	27.44
t_s	Blower Outlet LFG Temperature, °F	105	105
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,642	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,728	
LFG_{CH4}	Methane, lb/hr	554.0	648.3
	Methane, grains/dscf	39.36	46.06
LFG_{CO2}	Carbon Dioxide, lb/hr	4,930.5	4,975.5
	Carbon Dioxide, grains/dscf	350.31	353.51
LFG_{O2}	Oxygen, lb/hr	442.0	425.6
	Oxygen, grains/dscf	31.40	30.24
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,672.7	2,493.5
	Balance gas as Nitrogen, grains/dscf	189.89	177.17

** 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	35.00
	Hydrogen Sulfide Rate, lb/hr	0.24	0.31
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.022
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	230.00	240.00
	Methyl Mercaptan Rate, lb/hr	2.83	2.95
	Methyl Mercaptan Rate, grains/dscf	0.201	0.210
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.90	3.20
	Ethyl Mercaptan Rate, lb/hr	0.05	0.05
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.004
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,300.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	20.66	20.66
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.468
CS_2	Carbon Disulfide Concentration, ppmd	1.20	1.30
	Carbon Disulfide Rate, lb/hr	0.02	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	94.00	95.00
	Dimethyl Disulfide Rate, lb/hr	2.26	2.29
	Dimethyl Disulfide Rate, grains/dscf	0.161	0.163
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,800.00
	TRS-->SO2 Emission Rate, lb/hr	27.86	29.50
	TRS-->SO2 Emission Rate, grains/dscf	1.979	2.096
	TPY =	122.01	129.19

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 85-42
10/18/2016

Fleetzoom Total = **236** scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		10/18/16
Time	Start	14:00	14:09
***%CH_4**	Methane, %	48.10	52.60
***%CO_2**	Carbon Dioxide, %	34.50	36.30
***'%O_2**	Oxygen, %	1.50	1.60
***%Balance**	Assumed as Nitrogen, %	15.90	9.50
P_g	Flue Gas Static Pressure, inches of H_2O	1.31	1.29
t_s	Blower Outlet LFG Temperature, °F	84.10	96.10
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	224	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	236	
LFG_{CH4}	Methane, lb/hr	269.7	294.9
	Methane, grains/dscf	140.23	153.35
LFG_{CO2}	Carbon Dioxide, lb/hr	530.7	558.4
	Carbon Dioxide, grains/dscf	275.93	290.33
LFG_{O2}	Oxygen, lb/hr	16.8	17.9
	Oxygen, grains/dscf	8.72	9.30
LFG_{N2}	Balance gas as Nitrogen, lb/hr	155.7	93.0
	Balance gas as Nitrogen, grains/dscf	80.95	48.36

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.59	0.61
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.61
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.90	0.61
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.61
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	10.00	10.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.61
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	1.80	0.67
	Dimethyl Disulfide Rate, lb/hr	0.01	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.003	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	17.00	13.00
	TRS-->SO2 Emission Rate, lb/hr	0.04	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.020	0.015
	TPY =	0.17	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.

October 26, 2016

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

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

Republic Services
ATTN: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H101902-01/04

Enclosed are results for sample(s) received 10/19/16 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 10/26/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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

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

BILLING

P.O. No.:	PO4862452
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
#101982-01	J1723	-19.9	-3.5	-4	NQ EP14 A	10/18/2016	1400	C	LFG	NA	X
-02	~~J1717~~ 16 J1705	-20.1	-3.5	-4.5	NQ EP14 B	10/18/2016	1409	C	LFG	NA	X
-03	R1159	-19.9	-3.5	-4	SQ Blower Outlet A	10/18/2016	1443	C	LFG	NA	X
-04	R1162	-20	-3.5	-4	SQ Blower Outlet B	10/18/2016	1451	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/TIME: 10-18-16 1600	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE/TIME	RECEIVED BY: [illegible]	DATE/TIME: 10/19/16 0933
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

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

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**10/19/16**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA Methods 15/16

Lab No.:	H101902-01		H101902-02		H101902-03		H101902-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	10/18/16 14:00		10/18/16 14:09		10/18/16 14:43		10/18/16 14:51	
Date/Time Analyzed:	10/20/16 11:03		10/20/16 11:16		10/20/16 11:29		10/20/16 11:41	
QC Batch No.:	161020GC3A1		161020GC3A1		161020GC3A1		161020GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.0		3.0	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.59	ND	0.61	28	0.59	35 d	5.9
Carbonyl Sulfide	ND	0.59	ND	0.61	ND	0.59	ND	0.59
Methyl Mercaptan	2.9	0.59	ND	0.61	230 d	5.9	240 d	5.9
Ethyl Mercaptan	ND	0.59	ND	0.61	2.9	0.59	3.2	0.59
Dimethyl Sulfide	10	0.59	10	0.61	1,300 d	59	1,300 d	59
Carbon Disulfide	ND	0.59	ND	0.61	1.2	0.59	1.3	0.59
Dimethyl Disulfide	1.8	0.59	0.67	0.61	94 d	5.9	95 d	5.9
Total Reduced Sulfur	17	0.59	13	0.61	1,700	0.59	1,800	0.59

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

Reviewed/Approved By: _____ Date 10/26/16

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.: 161020GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/20/16 9:22		10/20/16 8:57		10/20/16 9:09			
Analyst Initials:	AS		AS		AS			
Datafile:	20oct003		20oct001		20oct002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	96	70-130%	95	70-130%	1.2	<30
Carbonyl Sulfide	ND	0.20	97	70-130%	96	70-130%	1.1	<30
Methyl Mercaptan	ND	0.20	96	70-130%	95	70-130%	1.4	<30
Ethyl Mercaptan	ND	0.20	102	70-130%	101	70-130%	1.5	<30
Dimethyl Sulfide	ND	0.20	96	70-130%	93	70-130%	2.6	<30
Carbon Disulfide	ND	0.20	98	70-130%	97	70-130%	1.2	<30
Dimethyl Disulfide	ND	0.20	81	70-130%	82	70-130%	0.5	<30

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

Reviewed/Approved By: _____ Date: 10/26/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 84-41
10/12/2016

Kurz FM =	**1,801**	**scfm**	
Fleetzoom Total =	**1,792**	**scfm**	$\Delta =$ **-0.5%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		10/12/16
Time	Start	10:09	10:17
***%CH_4**	Methane, %	10.50	10.20
***%CO_2**	Carbon Dioxide, %	37.50	40.30
***'%O_2**	Oxygen, %	6.80	7.00
***%Balance**	Assumed as Nitrogen, %	45.20	42.50
P_g	Flue Gas Static Pressure, inches of H_2O	30.25	28.29
t_s	Blower Outlet LFG Temperature, °F	90	90
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,711	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	1,801	
LFG_{CH4}	Methane, lb/hr	448.8	436.0
	Methane, grains/dscf	30.61	29.74
LFG_{CO2}	Carbon Dioxide, lb/hr	4,397.6	4,725.9
	Carbon Dioxide, grains/dscf	299.93	322.32
LFG_{O2}	Oxygen, lb/hr	579.8	596.9
	Oxygen, grains/dscf	39.54	40.71
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,374.0	3,172.4
	Balance gas as Nitrogen, grains/dscf	230.11	216.37

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

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	35.00	36.00
	Hydrogen Sulfide Rate, lb/hr	0.32	0.33
	Hydrogen Sulfide Rate, grains/dscf	0.022	0.022
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	240.00	230.00
	Methyl Mercaptan Rate, lb/hr	3.08	2.95
	Methyl Mercaptan Rate, grains/dscf	0.210	0.201
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.90	3.00
	Ethyl Mercaptan Rate, lb/hr	0.05	0.05
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,200.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	19.87	19.87
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.20	1.20
	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	74.00	76.00
	Dimethyl Disulfide Rate, lb/hr	1.86	1.91
	Dimethyl Disulfide Rate, grains/dscf	0.127	0.130
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,700.00	1,600.00
	TRS-->SO2 Emission Rate, lb/hr	29.02	27.31
	TRS-->SO2 Emission Rate, grains/dscf	1.979	1.863
	TPY =	127.11	119.63

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 84-41
10/12/2016

Fleetzoom Total = 215 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		10/12/16
Time	Start	9:38	9:48
***%CH_4**	Methane, %	48.10	47.90
***%CO_2**	Carbon Dioxide, %	37.40	34.70
***'%O_2**	Oxygen, %	1.50	1.40
***%Balance**	Assumed as Nitrogen, %	13.00	16.00
P_g	Flue Gas Static Pressure, inches of H_2O	1.20	1.22
t_s	Blower Outlet LFG Temperature, °F	77.50	79.30
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	205	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	215	
LFG_{CH4}	Methane, lb/hr	246.0	244.9
	Methane, grains/dscf	140.23	139.65
LFG_{CO2}	Carbon Dioxide, lb/hr	524.6	486.8
	Carbon Dioxide, grains/dscf	299.13	277.53
LFG_{O2}	Oxygen, lb/hr	15.3	14.3
	Oxygen, grains/dscf	8.72	8.14
LFG_{N2}	Balance gas as Nitrogen, lb/hr	116.1	142.9
	Balance gas as Nitrogen, grains/dscf	66.18	81.46

** 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	36.00	12.00
	Hydrogen Sulfide Rate, lb/hr	0.04	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.022	0.007
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	3.60	3.70
	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	0.56	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	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	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	52.00	28.00
	TRS-->SO2 Emission Rate, lb/hr	0.11	0.06
	TRS-->SO2 Emission Rate, grains/dscf	0.061	0.033
	TPY =	0.47	0.25

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.

October 20, 2016

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

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

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

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

Republic Services
ATTN: Nick Bauer
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H101302-01/04

Enclosed are results for sample(s) received 10/13/16 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 10/20/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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

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

BILLING

P.O. No.:	PO4862452
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												
#101302-01	J1719	-21	-3.5	-3	NQ EP14 A	10/12/2016	938	C	LFG	NA	X					
-02	J1717	-20.4	-3.5	-3	NQ EP14 B	10/12/2016	948	C	LFG	NA	X					
-03	R1160	-20.8	-3.5	-3	SQ Blower Outlet A	10/12/2016	1009	C	LFG	NA	X					
-04	R1156	-20.7	-3.5	-3	SQ Blower Outlet B	10/12/2016	1017	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	10-12-16 1100	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	10/13/16 0940 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*

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/13/16
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	H101302-01		H101302-02		H101302-03		H101302-04	
Client Sample I.D.:	NQ EP14 A		NQ EP14 B		SQ Blower Outlet A		SQ Blower Outlet B	
Date/Time Sampled:	10/12/16 9:38		10/12/16 9:48		10/12/16 10:09		10/12/16 10:17	
Date/Time Analyzed:	10/13/16 12:06		10/13/16 12:19		10/13/16 12:31		10/13/16 12:44	
QC Batch No.:	161013GC3A1		161013GC3A1		161013GC3A1		161013GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.8		2.8		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	36 d	5.6	12	0.56	35 d	5.6	36 d	5.6
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.56	ND	0.56
Methyl Mercaptan	3.6	0.56	3.7	0.56	240 d	5.6	230 d	5.6
Ethyl Mercaptan	ND	0.56	ND	0.56	2.9	0.56	3.0	0.56
Dimethyl Sulfide	12	0.56	12	0.56	1,200 d	56	1,200 d	56
Carbon Disulfide	ND	0.56	ND	0.56	1.2	0.56	1.2	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56	74 d	5.6	76 d	5.6
Total Reduced Sulfur	52	0.56	28	0.56	1,700	0.56	1,600	0.56

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

Reviewed/Approved By: _____ Date 10-26-16

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 for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/13/16 10:52		10/13/16 10:27		10/13/16 10:40			
Analyst Initials:	AS		AS		AS			
Datafile:	13oct003		13oct001		13oct002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	88	70-130%	87	70-130%	1.1	<30
Carbonyl Sulfide	ND	0.20	90	70-130%	90	70-130%	0.6	<30
Methyl Mercaptan	ND	0.20	91	70-130%	90	70-130%	1.6	<30
Ethyl Mercaptan	ND	0.20	103	70-130%	102	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	91	70-130%	90	70-130%	1.4	<30
Carbon Disulfide	ND	0.20	92	70-130%	91	70-130%	2.0	<30
Dimethyl Disulfide	ND	0.20	78	70-130%	78	70-130%	0.7	<30

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

Reviewed/Approved By: _____ Date: 10-20-16
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 83-40
10/04/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)		
Date	Test Date	10/4/16
Start	Run Start Time	10:11
	Run Finish Time	11:23
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:12:33
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.55
% H_2O	Moisture Content of LFG, %	3.65
% RH	Relative Humidity, %	63.90
M_{fd}	Dry Mole Fraction	0.964
%CH_4	Methane, %	9.60
%CO_2	Carbon Dioxide, %	41.60
%O_2	Oxygen, %	6.00
%Balance	Assumed as Nitrogen, %	28.75
%H_2	Hydrogen, %	12.40
%CO	Carbon Monoxide, %	0.10
M_d	Dry Molecular Weight, lb/lb-Mole	30.10
M_s	Wet Molecular weight, lb/lb-Mole	29.66
P_g	Flue Gas Static Pressure, inches of H_2O	27.06
P_s	Absolute Flue Gas Pressure, inches of Mercury	31.54
t_s	Average Stack Gas Temperature, °F	98
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.096
v_s	Average LFG Velocity, feet/second	20.25
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,580
Q_s	Standard Volumetric Flow Rate, scfm	1,638
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,644
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	7,408
NHV	Net Heating Value, Btu/scf	157
LFG_{CH4}	Methane, lb/hr	379.1
	Methane, grains/dscf	27.99
LFG_{CO2}	Carbon Dioxide, lb/hr	4,507.2
	Carbon Dioxide, grains/dscf	332.72
LFG_{O2}	Oxygen, lb/hr	472.7
	Oxygen, grains/dscf	34.89
LFG_{N2}	Balance gas as Nitrogen, lb/hr	1,982.8
	Balance gas as Nitrogen, grains/dscf	146.37
LFG_{H4}	Hydrogen, lb/hr	61.5
	Hydrogen, grains/dscf	4.54
LFG_{CO}	Carbon Monoxide, lb/hr	6.9
	Carbon Monoxide, grains/dscf	0.51

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	25.00	17.00
	Hydrogen Sulfide Rate, lb/hr	0.21	0.14
	Hydrogen Sulfide Rate, grains/dscf	0.015	0.011
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	240.00	220.00
	Methyl Mercaptan Rate, lb/hr	2.84	2.61
	Methyl Mercaptan Rate, grains/dscf	0.210	0.192
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.80	2.70
	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	18.36	18.36
	Dimethyl Sulfide Rate, grains/dscf	1.355	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.30	1.40
	Carbon Disulfide Rate, lb/hr	0.02	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	93.00	85.00
	Dimethyl Disulfide Rate, lb/hr	2.16	1.59
	Dimethyl Disulfide Rate, grains/dscf	0.159	0.118

❶ **$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	1,600.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	25.23	26.81
	TRS-->SO2 Emission Rate, grains/dscf	1.863	1.979

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

Tuesday, October 04, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**10:11**	**1,638**	**1,714**	**1,796**	**-4.7%**	**-9.6%**	**4.6%**

**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.*

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 83-40
10/04/2016

Fleetzoom Total = 317 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Flow from Fleetzoom was used to calculate TRS emission for this monthly sampling event due to moisture issue effecting the Method 2 Flow calculation.			
Date	Test Date		10/4/16
Time	Start	8:40	9:03
***%CH_4**	Methane, %	46.00	46.20
***%CO_2**	Carbon Dioxide, %	35.70	35.90
***'%O_2**	Oxygen, %	2.30	2.20
***%Balance**	Assumed as Nitrogen, %	15.00	14.80
P_g	Flue Gas Static Pressure, inches of H_2O	0.82	0.82
t_s	Blower Outlet LFG Temperature, °F	86.00	86.00
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	301	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	317	
LFG_{CH4}	Methane, lb/hr	346.0	347.5
	Methane, grains/dscf	134.11	134.69
LFG_{CO2}	Carbon Dioxide, lb/hr	736.6	740.7
	Carbon Dioxide, grains/dscf	285.53	287.13
LFG_{O2}	Oxygen, lb/hr	34.5	33.0
	Oxygen, grains/dscf	13.38	12.79
LFG_{N2}	Balance gas as Nitrogen, lb/hr	197.0	194.4
	Balance gas as Nitrogen, grains/dscf	76.36	75.35

** 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	57.00	0.56
	Hydrogen Sulfide Rate, lb/hr	0.09	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.035	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	3.60	2.20
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.002
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	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	12.00	12.00
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.014	0.014
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	74.00	15.00
	TRS-->SO2 Emission Rate, lb/hr	0.22	0.05
	TRS-->SO2 Emission Rate, grains/dscf	0.086	0.017
	TPY =	0.97	0.20

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.

October 10, 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: H100502-01/04

Enclosed are results for sample(s) received 10/05/16 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 10/10/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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

Project No.:	
Project Name:	Bridgeton 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

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: 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												
H100502-01	7126	-20.8	-2.7	-3	SQ 001 ~~Blower Outlet A~~ 10/5/16	10/4/2016	1018	C -6L	LFG	He	X	X				
-02	5950	-20.6	-2.6	-3	SQ 002 ~~Blower Outlet B~~	10/4/2016	1040	C -6L	LFG	He	X	X				
-03	6062	-20.9	-3.1	-3	NQ EP14 A	10/4/2016	840	C -6L	LFG	He	X			X		
-04	5196	-21	-3	-3	NQ EP14 B	10/4/2016	903	C -6L	LFG	He	X			X		

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services	DATE/TIME
RELINQUISHED BY: Ryan Ayers	DATE: 10-4-16 1130	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY: [illegible]	DATE/TIME: 10/5/16 0857
RELINQUISHED BY	DATE:	RECEIVED BY	DATE/TIME

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

COMMENTS:
ID correction per RA 10/5/16 DD

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:	**10/05/16**
Matrix:	**Air**
Reporting Units:	**ppmv**

EPA Methods 15/16

Lab No.:	H100502-01		H100502-02		H100502-03		H100502-04	
Client Sample I.D.:	SQ OU 1		SQ OU 2		NQ EP14 A		NQ EP14 B	
Date/Time Sampled:	10/4/16 10:18		10/4/16 10:40		10/4/16 8:40		10/4/16 9:03	
Date/Time Analyzed:	10/6/16 9:48		10/6/16 10:26		10/6/16 11:03		10/6/16 11:28	
QC Batch No.:	161006GC3A1		161006GC3A1		161006GC3A1		161006GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.8		2.8		2.8	
ANALYTE	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**	**Result ppmv**	**RL ppmv**
Hydrogen Sulfide	25	0.56	17	0.56	57 d	5.6	ND	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.56	ND	0.56
Methyl Mercaptan	240 d	5.6	220 d	5.6	3.6	0.56	2.2	0.56
Ethyl Mercaptan	2.8	0.56	2.7	0.56	ND	0.56	ND	0.56
Dimethyl Sulfide	1,200 d	56	1,200 d	56	12	0.56	12	0.56
Carbon Disulfide	1.3	0.56	1.4	0.56	ND	0.56	ND	0.56
Dimethyl Disulfide	93 d	5.6	85 d	5.6	ND	0.56	ND	0.56
Total Reduced Sulfur	1,600	0.56	1,700	0.56	74	0.56	15	0.56

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

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

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/6/16 9:20		10/6/16 8:52		10/6/16 9:04			
Analyst Initials:	AS		AS		AS			
Datafile:	06oct003		06oct001		06oct002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	121	70-130%	120	70-130%	0.8	<30
Carbonyl Sulfide	ND	0.20	108	70-130%	106	70-130%	1.8	<30
Methyl Mercaptan	ND	0.20	114	70-130%	113	70-130%	0.3	<30
Ethyl Mercaptan	ND	0.20	116	70-130%	114	70-130%	1.3	<30
Dimethyl Sulfide	ND	0.20	100	70-130%	99	70-130%	1.2	<30
Carbon Disulfide	ND	0.20	115	70-130%	114	70-130%	1.7	<30
Dimethyl Disulfide	ND	0.20	90	70-130%	87	70-130%	2.6	<30

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 10/05/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H100502-01		H100502-02					
Client Sample I.D.:	SQ OU 1		SQ OU 2					
Date/Time Sampled:	10/4/16 10:18		10/4/16 10:40					
Date/Time Analyzed:	10/5/16 13:45		10/5/16 13:59					
QC Batch No.:	161005GC8A1		161005GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	12.1	2.8	12.7	2.8				
Carbon Dioxide	41.4	0.028	41.8	0.028				
Oxygen/Argon	6.1	1.4	5.9	1.4				
Nitrogen	29.2	2.8	28.3	2.8				
Methane	9.6	0.0028	9.6	0.0028				
Carbon Monoxide	0.10	0.0028	0.10	0.0028				
Net Heating Value (BTU/ft3)	155.2	2.8	158.2	2.8				
Gross Heating Value (BTU/ft3)	176.2	2.8	179.7	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 10/10/16
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: 10/05/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H100502-03		H100502-04					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	10/4/16 8:40		10/4/16 9:03					
Date/Time Analyzed:	10/5/16 14:14		10/5/16 14:28					
QC Batch No.:	161005GC8A1		161005GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	2.8	ND	2.8				
Carbon Dioxide	35.7	0.028	35.9	0.028				
Oxygen/Argon	2.3	1.4	2.2	1.4				
Nitrogen	15.0	2.8	14.8	2.8				
Methane	46.0	0.0028	46.2	0.0028				
Carbon Monoxide	ND	0.0028	ND	0.0028				
Net Heating Value (BTU/ft3) methane only	417.9	2.8	420.0	2.8				
Gross Heating Value (BTU/ft3) methane only	464.2	2.8	466.5	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 10/10/16

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.: 161005GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/5/16 10:30		10/5/16 9:29		10/5/16 9:44			
Analyst Initials:	AS		AS		AS			
Datafile:	05oct009		05oct006		05oct007			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	91	70-130%	87	70-130%	3.9	<30
Carbon Dioxide	ND	0.010	88	70-130%	83	70-130%	4.8	<30
Oxygen/Argon	ND	0.50	101	70-130%	96	70-130%	4.5	<30
Nitrogen	ND	1.0	98	70-130%	93	70-130%	4.5	<30
Methane	ND	0.0010	110	70-130%	109	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	104	70-130%	104	70-130%	0.4	<30

ND = Not Detected (Below RL)

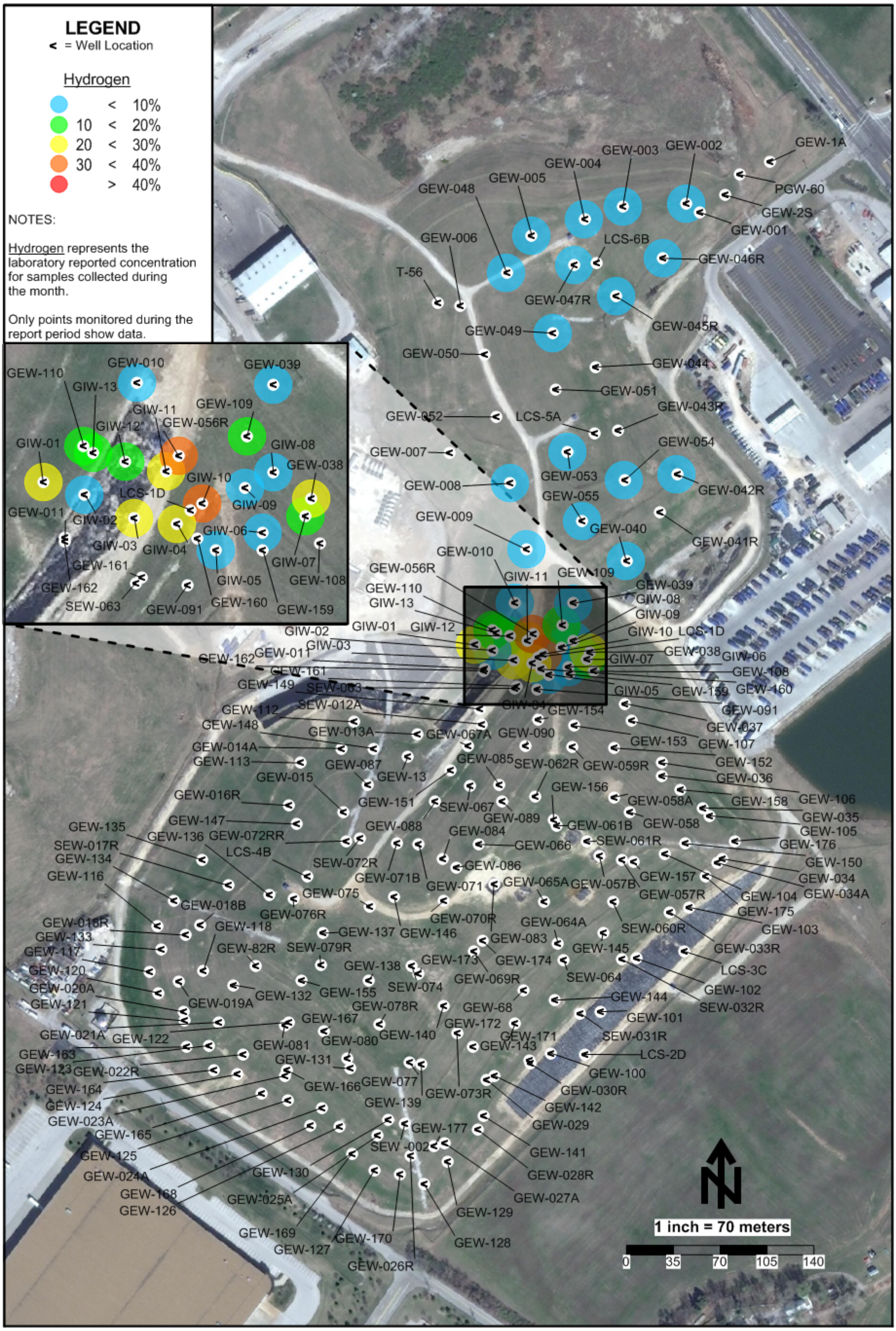
Reviewed/Approved By: _____ Date: 10/10/16

Mark J. Johnson
Operations Manager

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

ATTACHMENT C

GAS WELL ANALYSIS MAPS



Hydrogen Data Map - October 2016 - Bridgeton Landfill

LEGEND

< = Well Location

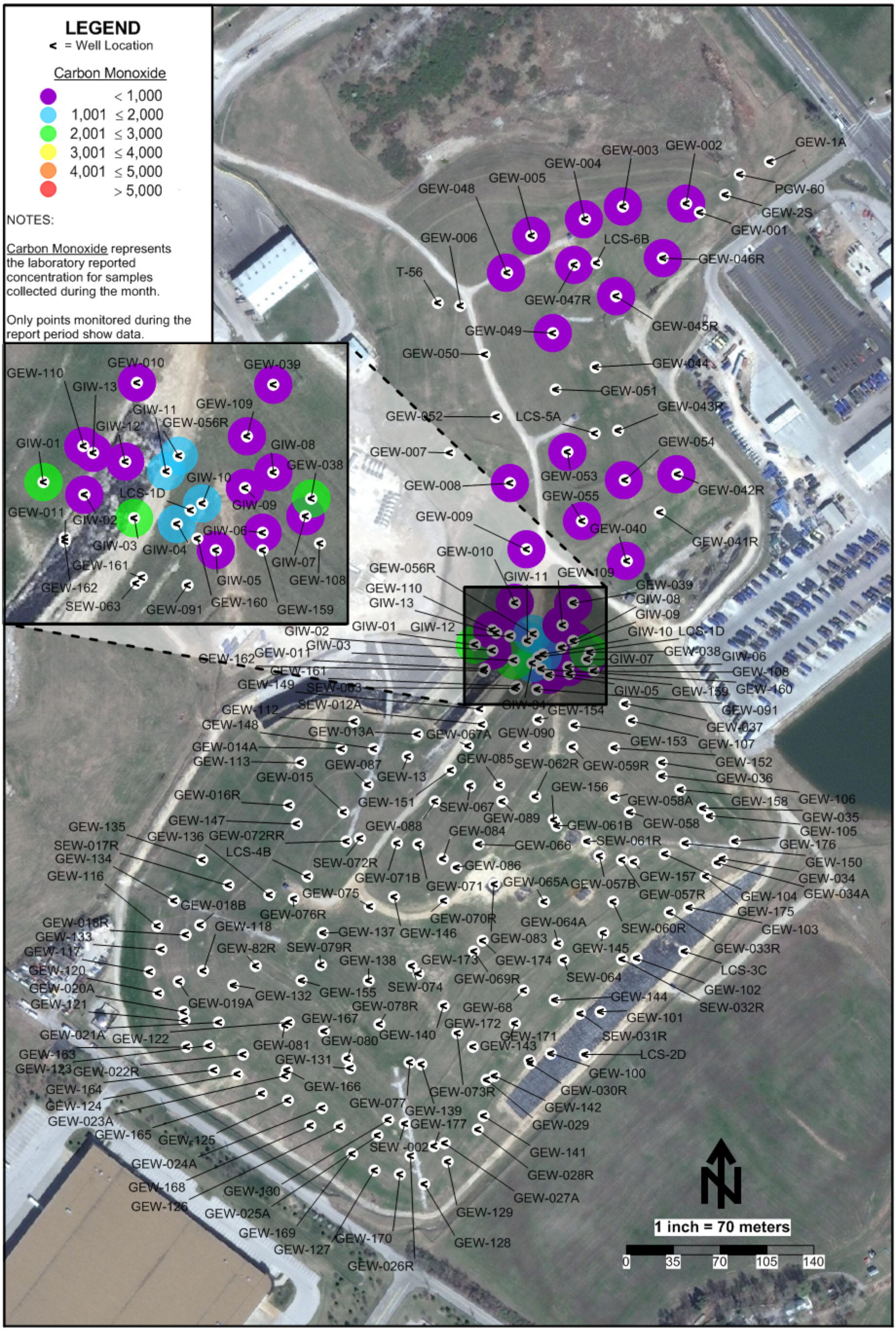
Carbon Monoxide

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

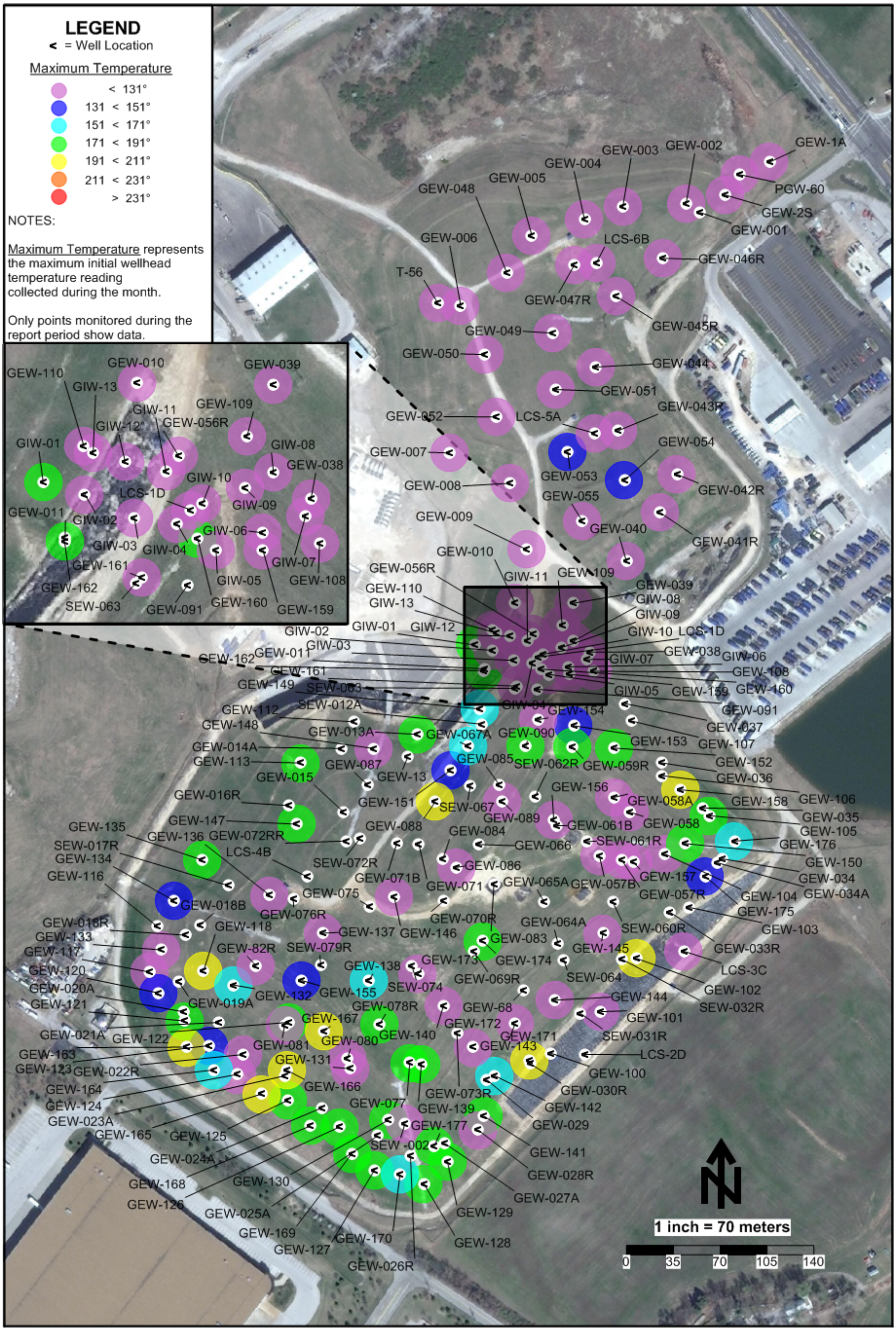
NOTES:

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

Only points monitored during the report period show data.



Carbon Monoxide Data Map - October 2016 - Bridgeton Landfill



Initial Temperature Maximums - October 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	6/8/2016	54	42	ND	ND	ND	ND	
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-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-003	6/8/2016	51	40	ND	8.8	0.1	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-004	6/8/2016	52	39	ND	7.5	0.04	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-005	6/8/2016	51	38	ND	9.7	0.05	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-006	7/12/2016	55	38	ND	6.4	ND	ND	
GEW-006	9/8/2016	56	39	ND	4.5	ND	ND	
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-008	6/9/2016	50	46	ND	ND	1	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-009	6/9/2016	52	42	ND	5.1	0.7	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-040	6/7/2016	57	40	ND	ND	ND	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-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-042R	6/7/2016	56	42	ND	ND	ND	ND	
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-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-044	7/11/2016	57	40	ND	ND	ND	ND	
GEW-044	9/7/2016	57	40	ND	ND	ND	ND	
GEW-045R	6/7/2016	54	41	ND	4.2	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	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-046R	6/7/2016	54	40	ND	4.6	0.1	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-047R	6/8/2016	51	39	ND	8	ND	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-048	6/8/2016	55	39	ND	4.9	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-049	6/8/2016	51	37	ND	11	0.1	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-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-051	7/12/2016	56	42	ND	ND	0.9	ND	
GEW-051	9/8/2016	54	41	ND	ND	1	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-053	6/8/2016	50	42	ND	ND	5.6	68	
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-054	6/8/2016	51	42	ND	ND	4.9	42	
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-055	6/8/2016	53	42	ND	ND	1.4	ND	
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	
Flare Station²	6/7/2016	41.0	33.1	3.5	21.5	ND	ND	See Note 5
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

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	6/6/2016	53	43	ND	ND	0.2	ND	
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-022R	9/14/2016	0.02	0.1	22	78	ND	ND	See Note 3
GEW-028R	7/14/2016	0.2	50	2.5	9.2	33	3,800	See Note 4
GEW-038	6/6/2016	0.5	57	3.7	13	24	3,300	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-039	6/6/2016	42	54	ND	ND	1.1	91	
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-056R	6/6/2016	16	49	ND	24	9	680	
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-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-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-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-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-086	7/14/2016	8.2	49	ND	ND	38	1,300	
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-102	9/13/2016	5	59	ND	ND	30	980	
GEW-109	6/6/2016	11	63	ND	3.3	20	1,600	
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-110	6/6/2016	15	36	3.2	42	2.9	300	See Note 4
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-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-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-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-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-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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-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-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-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-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-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-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-132	7/12/2016	10	46	3.3	24	15	890	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-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-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-138	7/12/2016	3.1	26	5.9	57	6.9	520	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-140	9/13/2016	0.3	56	ND	3.9	36	3,200	
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-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-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-150	7/12/2016	12	46	5.4	23	12	920	See Note 4
GEW-151	7/6/2016	11	36	5.5	39	8.5	550	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-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-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-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-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-163	7/12/2016	7.7	48	5.7	26	12	1,000	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	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-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-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-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-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-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-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-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-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-177	9/13/2016	1.2	63	ND	ND	31	3,900	
GIW-01	6/6/2016	1.7	60	2.7	9.4	25	2,900	See Note 4
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-02	6/6/2016	7.7	53	3.2	17	19	1,300	See Note 4
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-03	6/6/2016	0.5	66	ND	ND	31	4,000	
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-04	6/6/2016	0.4	35	7.7	28	28	2,100	See Note 4
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-05	6/6/2016	1.6	59	ND	ND	35	1,800	
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-06	6/6/2016	1.2	56	ND	5.8	34	1,500	
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-07	6/6/2016	9.6	60	2.8	10	17	1,800	See Note 4
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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-08	6/6/2016	2.5	51	8.5	31	8.8	1,400	See Note 3
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-09	6/6/2016	2	20	14	56	7.5	570	See Note 4
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-10	6/6/2016	0.5	52	ND	ND	44	2,700	
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-11	6/6/2016	2.8	64	ND	ND	30	3,100	
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-12	6/6/2016	1.3	56	2.8	13	26	2,500	See Note 4
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-13	6/6/2016	5.7	66	ND	ND	26	2,000	
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
Flare Station[2]	6/7/2016	8.8	40.3	6.9	30.5	12.1	1,200	See Note 6
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	6.0	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

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

AirTECHNOLOGY
Laboratories, Inc.

October 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: H101003-01/35

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

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	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												
H161003-01	A7781	-20.5	-5	-5	GEW-39	10/4/2016	802	C	LFG	NA	X					
-02	5304	-20.3	-5	-5	GEW-109	10/4/2016	815	C	LFG	NA	X					
-03	5828	-20.5	-5	-5	GEW-38	10/4/2016	835	C	LFG	NA	X					
-04	A7814	-20.7	-5	-5	GIW-8	10/4/2016	848	C	LFG	NA	X					
-05	A7771	-20.5	-5	-5	GIW-7	10/4/2016	903	C	LFG	NA	X					
-06	5910	-20.7	-5	-5	GIW-6	10/4/2016	945	C	LFG	NA	X					
-07	A7666	-20.7	-5	-5	GEW-10	10/4/2016	1010	C	LFG	NA	X					
-08	A7766	-20.5	-5	-4	GIW-13	10/4/2016	1030	C	LFG	NA	X					
-09	5907	-20.7	-5	-5	GEW-56R	10/4/2016	1102	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	10-7-16 0900	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY: [illegible]	10/10/16 1208
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

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					
H10903-10	A7643	-20.2	-5	-5	GIW-11	10/4/2016	1116	C	LFG	NA	X					
-11	5927	-20.4	-5	-5	GIW-10	10/4/2016	1130	C	LFG	NA	X					
-12	A7760	-20.8	-5	-1	GIW-4	10/4/2016	1143	C	LFG	NA	X					
-13	5836	-20.3	-5	-6	GIW-5	10/4/2016	1325	C	LFG	NA	X					
-14	A7779	-20.7	-5	-5	GIW-9	10/4/2016	1338	C	LFG	NA	X					
-15	A8067	-20.5	-5	-5.5	GIW-12	10/4/2016	1350	C	LFG	NA	X					
-16	5922	-20.5	-5	-5	GEW-110	10/4/2016	1404	C	LFG	NA	X					
-17	A8083	-20.7	-5	-6	GIW-1	10/4/2016	1419	C	LFG	NA	X					
-18	6130	-20.5	-5	-6	GIW-2	10/4/2016	1432	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	10-7-16 0900	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	10/11/16 1208 DATE/TIME	
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME	

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

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					
H101003-19	A7795	-20.4	-5	-6	GIW-3	10/4/2016	1446	C	LFG	NA	X					
-20	5916	-20.6	-5	-5	GEW-40	10/6/2016	827	C	LFG	NA	X					
-21	3126	-20.6	-5	-5	GEW-42	10/6/2016	851	C	LFG	NA	X					
-22	4644	-20.6	-5	-5	GEW-45	10/6/2016	918	C	LFG	NA	X					
-23	A7798	-20.3	-5	-5.9	GEW-46	10/6/2016	933	C	LFG	NA	X					
-24	A8064	-20.5	-5	-6	GEW-2	10/6/2016	946	C	LFG	NA	X					
-25	4656	-20.7	-5	-6	GEW-3	10/6/2016	1003	C	LFG	NA	X					
-26	A7803	-20.6	-5	-6	GEW-4	10/6/2016	1021	C	LFG	NA	X					
-27	3162	-20.5	-5	-5	GEW-47	10/6/2016	1041	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	10-7-16 0900	DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx		DATE/ RECEIVED BY	DATE/TIME
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 4 **OF** 4

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

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	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					
H101003-28	6144	-20.7	-5	-5	GEW-5	10/6/2016	1055	C	LFG	NA	X					
-29	3128	-20.6	-5	-5	GEW-48	10/6/2016	1108	C	LFG	NA	X					
-30	5813	-19.6	-5	-5.5	GEW-49	10/6/2016	1139	C	LFG	NA	X					
-31	4658	-20.7	-5	-6	GEW-53	10/6/2016	1316	C	LFG	NA	X					
-32	5306	-20.2	-5	-6	GEW-54	10/6/2016	1332	C	LFG	NA	X					
-33	A7773	-20.2	-5	-5	GEW-55	10/6/2016	1346	C	LFG	NA	X					
-34	A8072	-20.6	-5	-5.5	GEW-8	10/6/2016	1418	C	LFG	NA	X					
-35	A8086	-20.7	-5	-5	GEW-9	10/6/2016	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/TIME	RECEIVED BY	DATE/TIME
Ryan Ayers	10-7-16 0900		
Fed Ex		[illegible]	10/10/16 1208

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: 10/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H101003-01		H101003-02		H101003-03		H101003-04	
Client Sample I.D.:	GEW-39		GEW-109		GEW-38		GIW-8	
Date/Time Sampled:	10/4/16 8:02		10/4/16 8:15		10/4/16 8:35		10/4/16 8:48	
Date/Time Analyzed:	10/11/16 15:48		10/11/16 16:02		10/11/16 16:17		10/11/16 16:31	
QC Batch No.:	161011GC8A1		161011GC8A1		161011GC8A1		161011GC8A1	
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	0.22 d	0.032	16	3.2	25	3.2	1.2 d	0.032
Carbon Dioxide	54	0.032	52	0.032	58	0.032	64	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Nitrogen	ND	3.2	9.7	3.2	5.3	3.2	11	3.2
Methane	44	0.0032	21	0.0032	8.9	0.0032	22	0.0032
Carbon Monoxide	ND	0.0032	0.064	0.0032	0.21	0.0032	0.016	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A2

Reviewed/Approved By: _____ Date 10-17-16

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

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

ASTM D1946

Lab No.:	H101003-05		H101003-06		H101003-07		H101003-08	
Client Sample I.D.:	GIW-7		GIW-6		GEW-10		GIW-13	
Date/Time Sampled:	10/4/16 9:03		10/4/16 9:45		10/4/16 10:10		10/4/16 10:30	
Date/Time Analyzed:	10/11/16 16:46		10/11/16 17:01		10/11/16 17:15		10/11/16 17:30	
QC Batch No.:	161011GC8A1		161011GC8A1		161011GC8A1		161011GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	10	3.2	0.25 d	0.032	ND d	0.032	16	3.0
Carbon Dioxide	65	0.032	0.90	0.032	10	0.032	59	0.030
Oxygen/Argon	2.8	1.6	22	1.6	17	1.6	2.7	1.5
Nitrogen	10	3.2	77	3.2	60	3.2	9.8	3.0
Methane	11	0.0032	0.094	0.0032	14	0.0032	12	0.0030
Carbon Monoxide	0.064	0.0032	ND	0.0032	ND	0.0032	0.097	0.0030

Results normalized including non-methane hydrocarbons
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H101003-09		H101003-10		H101003-11		H101003-12	
Client Sample I.D.:	GEW-56R		GIW-11		GIW-10		GIW-4	
Date/Time Sampled:	10/4/16 11:02		10/4/16 11:16		10/4/16 11:30		10/4/16 11:43	
Date/Time Analyzed:	10/11/16 17:45		10/11/16 17:59		10/11/16 18:14		10/11/16 18:28	
QC Batch No.:	161011GC8A1		161011GC8A1		161011GC8A1		161011GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		2.5	
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	3.2	20	3.2	33	3.2	28	2.5
Carbon Dioxide	54	0.032	62	0.032	52	0.032	43	0.025
Oxygen/Argon	ND	1.6	1.6	1.6	ND	1.6	5.8	1.3
Nitrogen	ND	3.2	9.9	3.2	9.6	3.2	21	2.5
Methane	13	0.0032	6.2	0.0032	3.7	0.0032	0.86	0.0025
Carbon Monoxide	0.12	0.0032	0.19	0.0032	0.16	0.0032	0.19	0.0025

Results normalized including non-methane hydrocarbons
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H101003-13		H101003-14		H101003-15		H101003-16	
Client Sample I.D.:	GIW-5		GIW-9		GIW-12		GEW-110	
Date/Time Sampled:	10/4/16 13:25		10/4/16 13:38		10/4/16 13:50		10/4/16 14:04	
Date/Time Analyzed:	10/11/16 18:43		10/11/16 18:58		10/11/16 19:12		10/11/16 19:27	
QC Batch No.:	161011GC8A1		161011GC8A1		161011GC8A1		161011GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.2		3.3		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.003	2.5 d	0.032	10	3.3	11	3.2
Carbon Dioxide	0.12	0.034	22	0.032	41	0.033	28	0.032
Oxygen/Argon	22	1.7	9.0	1.6	5.3	1.6	9.0	1.6
Nitrogen	78	3.4	61	3.2	29	3.3	46	3.2
Methane	ND	0.0034	5.3	0.0032	13	0.0033	6.0	0.0032
Carbon Monoxide	ND	0.0034	0.014	0.0032	0.061	0.0033	0.060	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A2

Reviewed/Approved By: _____ Date 10-17-16

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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: 10/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H101003-17		H101003-18		H101003-19		H101003-20	
Client Sample I.D.:	GIW-1		GIW-2		GIW-3		GEW-40	
Date/Time Sampled:	10/4/16 14:19		10/4/16 14:32		10/4/16 14:46		10/6/16 8:27	
Date/Time Analyzed:	10/12/16 8:59		10/12/16 9:14		10/12/16 9:28		10/12/16 9:43	
QC Batch No.:	161012GC8A1		161012GC8A1		161012GC8A1		161012GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	24	3.4	9.4	3.4	26	3.4	ND d	0.0
Carbon Dioxide	70	0.034	34	0.034	62	0.034	40	0.032
Oxygen/Argon	ND	1.7	11	1.7	2.0	1.7	ND	1.6
Nitrogen	ND	3.4	41	3.4	7.0	3.4	ND	3.2
Methane	2.4	0.0034	4.2	0.0034	0.67	0.0034	57	0.0032
Carbon Monoxide	0.23	0.0034	0.055	0.0034	0.22	0.0034	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A2

Reviewed/Approved By: _____ Date 10-17-16

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

ASTM D1946

Lab No.:	H101003-21		H101003-22		H101003-23		H101003-24	
Client Sample I.D.:	GEW-42		GEW-45		GEW-46		GEW-2	
Date/Time Sampled:	10/6/16 8:51		10/6/16 9:18		10/6/16 9:33		10/6/16 9:46	
Date/Time Analyzed:	10/12/16 9:58		10/12/16 10:12		10/12/16 10:27		10/12/16 10:41	
QC Batch No.:	161012GC8A1		161012GC8A1		161012GC8A1		161012GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.3		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.032	ND d	0.032	0.071 d	0.033	ND d	0.034
Carbon Dioxide	42	0.032	37	0.032	39	0.033	41	0.034
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	ND	1.7
Nitrogen	3.3	3.2	5.1	3.2	6.2	3.3	3.9	3.4
Methane	54	0.0032	56	0.0032	53	0.0033	54	0.0034
Carbon Monoxide	ND	0.0032	ND	0.0032	ND	0.0033	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A2

Reviewed/Approved By: _____ Date 10-17-16

Mark Johnson
Operations Manager

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

ASTM D1946

Lab No.:	H101003-25		H101003-26		H101003-27		H101003-28	
Client Sample I.D.:	GEW-3		GEW-4		GEW-47		GEW-5	
Date/Time Sampled:	10/6/16 10:03		10/6/16 10:21		10/6/16 10:41		10/6/16 10:55	
Date/Time Analyzed:	10/12/16 10:56		10/12/16 11:11		10/12/16 11:25		10/12/16 11:40	
QC Batch No.:	161012GC8A1		161012GC8A1		161012GC8A1		161012GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.095 d	0.034	0.075 d	0.034	ND d	0.032	ND d	0.032
Carbon Dioxide	40	0.034	41	0.034	38	0.032	37	0.032
Oxygen/Argon	ND	1.7	ND	1.7	ND	1.6	ND	1.6
Nitrogen	4.4	3.4	ND	3.4	15	3.2	11	3.2
Methane	54	0.0034	55	0.0034	46	0.0032	51	0.0032
Carbon Monoxide	ND	0.0034	ND	0.0034	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A2, 161013GC8A1

Reviewed/Approved By: _____ Date 10-17-16
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: 10/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H101003-29		H101003-30		H101003-31		H101003-32	
Client Sample I.D.:	GEW-48		GEW-49		GEW-53		GEW-54	
Date/Time Sampled:	10/6/16 11:08		10/6/16 11:39		10/6/16 13:16		10/6/16 13:32	
Date/Time Analyzed:	10/12/16 12:45		10/12/16 12:59		10/12/16 13:14		10/12/16 13:28	
QC Batch No.:	161012GC8A1		161012GC8A1		161012GC8A1		161012GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.3		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.032	ND d	0.033	3.0 d	0.034	2.2 d	0.034
Carbon Dioxide	38	0.032	32	0.033	42	0.034	41	0.034
Oxygen/Argon	ND	1.6	2.2	1.6	ND	1.7	ND	1.7
Nitrogen	7.7	3.2	29	3.3	3.9	3.4	5.2	3.4
Methane	53	0.0032	36	0.0033	50	0.0034	51	0.0034
Carbon Monoxide	ND	0.0032	ND	0.0033	0.0049	0.0034	ND	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A1

Reviewed/Approved By: _____ Date 10-17-16

Mark Johnson
Operations Manager

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

ASTM D1946

Lab No.:	H101003-33		H101003-34		H101003-35			
Client Sample I.D.:	GEW-55		GEW-8		GEW-9			
Date/Time Sampled:	10/6/16 13:46		10/6/16 14:18		10/6/16 14:31			
Date/Time Analyzed:	10/12/16 13:43		10/12/16 13:58		10/12/16 14:12			
QC Batch No.:	161012GC8A1		161012GC8A1		161012GC8A1			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	3.2		3.3		3.2			
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v		
Hydrogen	1.6 d	0.032	0.94 d	0.033	0.54 d	0.032		
Carbon Dioxide	41	0.032	44	0.033	42	0.032		
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6		
Nitrogen	4.1	3.2	ND	3.3	7.1	3.2		
Methane	52	0.0032	53	0.0033	50	0.0032		
Carbon Monoxide	ND	0.0032	ND	0.0033	ND	0.0032		

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 161013GC8A1

Reviewed/Approved By: _____ Date 10-17-16

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Operations Manager

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

QC Batch No.: 161011GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/11/16 10:55		10/11/16 10:11		10/11/16 10:26			
Analyst Initials:	AS		AS		AS			
Datafile:	11oct012		11oct009		11oct010			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	**Results**	**RL**	**% Rec.**	**Criteria**	**% Rec.**	**Criteria**	**%RPD**	**Criteria**
Hydrogen	ND	1.0	112	70-130%	112	70-130%	0.2	<30
Carbon Dioxide	ND	0.010	99	70-130%	98	70-130%	0.8	<30
Oxygen/Argon	ND	0.50	102	70-130%	101	70-130%	0.8	<30
Nitrogen	ND	1.0	100	70-130%	99	70-130%	0.7	<30
Methane	ND	0.0010	106	70-130%	105	70-130%	0.3	<30
Carbon Monoxide	ND	0.0010	103	70-130%	103	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 10-17-16

Mark J. Johnson
Operations Manager

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QC Batch No.: 161012GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/12/16 8:43		10/12/16 7:59		10/12/16 8:14			
Analyst Initials:	AS		AS		AS			
Datafile:	12oct003		12oct.ru		12oct001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	106	70-130%	107	70-130%	1.0	<30
Carbon Dioxide	ND	0.010	97	70-130%	97	70-130%	0.1	<30
Oxygen/Argon	ND	0.50	103	70-130%	103	70-130%	0.3	<30
Nitrogen	ND	1.0	100	70-130%	100	70-130%	0.2	<30
Methane	ND	0.0010	111	70-130%	108	70-130%	2.9	<30
Carbon Monoxide	ND	0.0010	107	70-130%	105	70-130%	1.9	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 10-17-16

Mark J. Johnson
Operations Manager

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

QC Batch # 161013GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	10/13/2016 8:19		10/13/2016 8:10		10/13/2016 8:14			
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	91	70-130	86	70-130	5.4	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 10-17-16

Mark Johnson
Operations Manager

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

QC Batch # 161013GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	10/13/2016 9:30		10/13/2016 9:21		10/13/2016 9:26			
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	91	70-130	91	70-130	0.5	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 10-17-16

Mark Johnson
Operations Manager

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

ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

WELLFIELD DATA TABLE

October 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	10/6/2016 9:42	54.0	40.1	0.3	5.6	122.3		48	50	-0.9	-0.9	-12.1
GEW-002	10/6/2016 9:51	54.5	40.7	0.3	4.5	122.3		25	27	-0.7	-0.6	-12.2
GEW-002	10/13/2016 10:30	55.7	39.7	0.0	4.6	119.9		13	6	-0.6	-0.5	-12.7
GEW-002	10/17/2016 13:40	54.9	38.8	0.0	6.3	123.1		28	20	-1.1	-1.0	-11.9
GEW-002	10/17/2016 13:43	53.2	41.0	0.0	5.8	122.3		41	40	-0.5	-0.4	-11.4
GEW-002	10/24/2016 15:36	56.3	38.7	0.0	5.0	119.7		0	5	-0.6	-0.6	-12.6
GEW-003	10/6/2016 9:57	53.6	40.5	0.0	5.9	115.0		10	10	0.0	0.0	-11.8
GEW-003	10/6/2016 9:59	53.7	40.0	0.0	6.3	116.6		16	11	0.0	-0.1	-11.9
GEW-003	10/6/2016 10:11	54.4	40.0	0.0	5.6	117.9		42	41	-0.2	-0.2	-11.7
GEW-003	10/13/2016 10:33	54.7	40.1	0.0	5.2	115.5		0	11	-0.4	-0.4	-12.6
GEW-003	10/17/2016 13:46	54.5	40.1	0.0	5.4	115.9		14	14	0.2	0.2	-10.6
GEW-003	10/17/2016 13:54	52.5	40.0	0.0	7.5	107.0		0	0	0.7	0.7	1.0
GEW-003	10/17/2016 14:42	55.2	37.8	0.0	7.0	117.3		21	21	0.2	0.2	-10.7
GEW-003	10/18/2016 7:56	53.1	41.3	0.0	5.6	117.6		22	18	-1.6	-1.6	-11.3
GEW-003	10/18/2016 7:57	53.9	40.4	0.0	5.7	117.6		20	21	-1.4	-1.4	-11.7
GEW-003	10/24/2016 15:40	52.4	37.7	0.0	9.9	117.6		24	23	-0.9	-0.9	-11.7
GEW-004	10/6/2016 10:17	54.2	40.3	0.0	5.5	118.4		9	12	-0.2	-0.2	-11.7
GEW-004	10/6/2016 10:25	55.1	40.5	0.1	4.3	118.4		9	6	-0.2	-0.2	-11.8
GEW-004	10/13/2016 10:35	55.5	40.5	0.0	4.0	115.3		10	8	-0.2	-0.2	-12.6
GEW-004	10/17/2016 14:45	56.1	38.6	0.0	5.3	117.9		0	0	0.7	0.6	-11.3
GEW-004	10/17/2016 14:47	55.1	40.6	0.0	4.3	121.8		0	0	0.3	0.3	-10.3
GEW-004	10/18/2016 8:01	54.8	39.6	0.0	5.6	122.3		18	18	-1.3	-1.3	-11.4
GEW-004	10/18/2016 8:03	54.4	40.5	0.0	5.1	121.5		20	17	-1.1	-1.2	-12.3
GEW-004	10/24/2016 15:43	53.6	37.5	0.0	8.9	121.5		17	7	-0.7	-0.6	-11.8
GEW-005	10/6/2016 10:51	50.3	37.2	0.0	12.5	96.1		17	20	-0.2	-0.2	-11.3
GEW-005	10/6/2016 10:58	50.7	37.0	0.0	12.3	96.1		0	0	-0.2	-0.2	-11.6
GEW-005	10/13/2016 10:44	51.4	39.1	0.0	9.5	94.8		23	23	-0.1	-0.1	-12.5
GEW-005	10/18/2016 8:13	51.8	37.4	0.0	10.8	92.9		22	22	-0.5	-0.5	-11.9
GEW-005	10/24/2016 15:54	50.5	36.7	0.0	12.8	93.6		13	14	-0.2	-0.2	-12.1
GEW-006	10/6/2016 11:17	48.9	36.9	0.0	14.2	88.9		13	15	-0.5	-0.5	-11.7
GEW-006	10/13/2016 10:51	51.9	38.2	0.0	9.9	90.3		9	14	-0.5	-0.4	-11.9
GEW-006	10/13/2016 10:51	51.6	38.9	0.0	9.5	90.5		22	22	-0.5	-0.5	-12.0
GEW-006	10/18/2016 8:22	51.6	37.7	0.0	10.7	90.3		19	26	-0.7	-0.7	-11.8
GEW-006	10/24/2016 16:01	51.1	37.1	0.0	11.8	90.5		21	22	-0.4	-0.4	-11.5
GEW-007	10/6/2016 14:04	56.9	39.8	0.0	3.3	97.9		12	11	-0.5	-0.5	-12.1
GEW-007	10/13/2016 11:09	51.6	39.8	0.0	8.6	94.0		7	9	-0.9	-0.9	-12.3
GEW-007	10/18/2016 9:16	56.0	39.4	0.1	4.5	94.1		8	5	-1.0	-1.0	-11.8
GEW-007	10/18/2016 9:18	56.2	39.2	0.1	4.5	94.1		50	50	-0.8	-0.8	-11.4
GEW-007	10/24/2016 16:47	56.7	40.8	0.0	2.5	94.6		35	35	-0.1	-0.1	-12.1
GEW-008	10/6/2016 14:14	52.6	43.0	0.0	4.4	112.2		14	14	-0.1	-0.1	-11.6
GEW-008	10/6/2016 14:22	53.6	42.7	0.1	3.6	114.5		16	16	-0.3	-0.3	-12.0
GEW-008	10/13/2016 11:11	54.7	40.8	0.0	4.5	111.8		12	14	-0.6	-0.6	-12.0
GEW-008	10/13/2016 11:12	53.0	42.8	0.0	4.2	112.3		16	16	-0.8	-0.8	-12.3

October 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	10/18/2016 9:08	52.1	41.1	0.0	6.8	114.0		47	58	-1.5	-1.7	-11.7
GEW-008	10/18/2016 9:10	51.8	42.1	0.0	6.1	113.5		61	65	-1.5	-1.5	-11.8
GEW-008	10/24/2016 16:43	53.0	40.1	0.0	6.9	113.6		11	14	-0.3	-0.4	-12.4
GEW-009	10/6/2016 14:27	49.8	41.1	0.0	9.1	125.5		30	29	-0.2	-0.2	-18.1
GEW-009	10/6/2016 14:36	50.2	41.6	0.1	8.1	125.5		0	0	-0.2	-0.2	-18.3
GEW-009	10/13/2016 11:15	49.9	42.4	0.0	7.7	122.6		29	29	-0.3	-0.3	-18.0
GEW-009	10/18/2016 9:04	49.6	39.7	0.0	10.7	123.8		14	14	-0.4	-0.4	-18.5
GEW-009	10/24/2016 16:40	50.3	39.6	0.0	10.1	125.5		19	20	-0.3	-0.3	-19.3
GEW-010	10/4/2016 10:07	55.6	40.7	0.1	3.6	81.3		5	5	-1.8	-1.8	-18.1
GEW-010	10/4/2016 10:14	56.1	40.2	0.1	3.6	80.5		4	4	-1.8	-1.8	-17.6
GEW-010	10/13/2016 9:56	42.9	45.4	1.5	10.2	57.2		2	2	-1.4	-1.4	-19.2
GEW-010	10/17/2016 10:34	39.5	36.1	0.3	24.1	88.2		3	3	-1.2	-1.2	-18.1
GEW-010	10/25/2016 10:40	52.9	42.9	0.3	3.9	66.1		4	4	-1.2	-1.2	-19.5
GEW-013A	10/20/2016 10:55	10.6	49.1	2.9	37.4	180.3		NFD		-0.1	-0.1	-17.4
GEW-013A	10/20/2016 10:57	9.8	54.5	2.4	33.3	180.0		NFD		-0.3	0.0	-18.3
GEW-022R	10/21/2016 11:18	0.0	11.8	21.2	67.0	60.9		17	17	-0.1	-0.1	-16.3
GEW-022R	10/21/2016 11:20	0.0	2.3	22.5	75.2	63.0		18	18	-0.1	-0.1	-16.5
GEW-028R	10/26/2016 13:50	0.5	8.3	19.0	72.2	70.6		4	5	-7.1	-7.2	-7.3
GEW-028R	10/26/2016 13:53	0.0	0.5	20.2	79.3	70.9		0	0	-6.6	-6.6	-7.3
GEW-038	10/4/2016 8:31	9.5	51.8	1.1	37.6	73.0		4	4	-3.6	-3.6	-12.3
GEW-038	10/4/2016 8:39	8.5	53.3	1.0	37.2	74.5		2	4	-3.3	-3.3	-12.3
GEW-038	10/13/2016 10:28	4.1	39.5	8.2	48.2	60.1		2	2	-1.4	-1.4	-10.9
GEW-038	10/13/2016 10:29	4.6	42.8	7.1	45.5	60.4		1	2	-1.5	-1.5	-10.8
GEW-038	10/17/2016 10:06	3.3	47.7	5.5	43.5	86.4		1	2	-1.1	-1.1	-8.7
GEW-038	10/17/2016 10:07	3.1	49.3	5.8	41.8	86.8		3	2	-1.0	-1.0	-9.2
GEW-038	10/25/2016 9:55	4.4	45.5	6.0	44.1	64.2		3	3	-1.7	-1.7	-11.5
GEW-038	10/25/2016 9:58	5.0	53.1	3.5	38.4	64.7		2	1	-8.4	-8.4	-11.1
GEW-039	10/4/2016 7:59	44.4	51.4	0.0	4.2	121.1		14	17	-0.3	-0.3	-18.4
GEW-039	10/4/2016 8:07	44.0	51.2	0.0	4.8	121.8		12	5	-0.3	-0.3	-18.5
GEW-039	10/13/2016 9:41	39.8	48.9	0.0	11.3	118.7		19	17	-1.0	-1.1	-17.1
GEW-039	10/13/2016 9:42	44.1	50.6	0.0	5.3	124.6		13	26	-1.1	-1.2	-18.7
GEW-039	10/13/2016 9:53	43.6	43.4	0.0	13.0	117.3		7	13	-0.1	-0.1	-19.5
GEW-039	10/17/2016 10:14	39.2	49.9	0.0	10.9	115.5		5	10	-0.1	-0.1	-17.7
GEW-039	10/17/2016 10:15	43.4	49.4	0.0	7.2	117.6		10	12	-0.2	-0.2	-17.9
GEW-039	10/25/2016 10:13	44.4	50.1	0.0	5.5	115.5		4	11	-0.2	-0.2	-18.8
GEW-040	10/6/2016 8:22	57.4	40.8	0.0	1.8	91.4		31	30	-0.4	-0.4	-12.4
GEW-040	10/6/2016 8:31	57.3	41.3	0.1	1.3	91.5		11	11	-0.4	-0.4	-12.1
GEW-040	10/13/2016 9:45	59.4	37.9	0.0	2.7	90.1		5	7	-0.4	-0.4	-12.6
GEW-040	10/17/2016 11:33	58.0	38.6	0.0	3.4	93.6		12	10	-0.1	-0.1	-11.7
GEW-040	10/24/2016 14:48	58.9	38.2	0.1	2.8	92.7		32	31	-0.2	-0.2	-12.2
GEW-041R	10/6/2016 8:39	51.2	36.3	0.5	12.0	104.5		24	24	-0.8	-0.8	-9.4
GEW-041R	10/6/2016 8:40	50.8	36.9	0.4	11.9	104.5		23	23	-0.8	-0.8	-10.3
GEW-041R	10/13/2016 9:52	49.4	36.7	0.1	13.8	103.5		0	0	-0.5	-0.5	-11.0

October 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-041R	10/17/2016 11:36	52.7	37.5	0.2	9.6	102.7		8	11	-0.2	-0.2	-9.2
GEW-041R	10/24/2016 14:52	53.9	36.3	0.2	9.6	103.5		9	11	-0.3	-0.2	-8.4
GEW-042R	10/6/2016 8:47	53.9	41.7	0.4	4.0	100.8		0	0	-0.5	-0.5	-9.6
GEW-042R	10/6/2016 8:55	54.0	41.6	0.3	4.1	100.1		43	43	-0.5	-0.5	-11.0
GEW-042R	10/13/2016 9:56	55.6	40.1	0.0	4.3	94.1		28	29	-0.4	-0.4	-10.2
GEW-042R	10/17/2016 11:40	54.5	41.8	0.0	3.7	102.0		5	NR	0.2	NR	-10.7
GEW-042R	10/17/2016 11:42	53.9	42.3	0.0	3.8	103.8		4	4	-0.2	-0.2	-10.5
GEW-042R	10/24/2016 14:56	54.4	40.3	0.2	5.1	103.6		0	0	-0.4	-0.4	-10.5
GEW-043R	10/6/2016 9:01	51.9	40.2	0.2	7.7	129.2		30	33	-2.6	-2.6	-12.0
GEW-043R	10/6/2016 9:03	51.4	40.3	0.2	8.1	128.0		11	12	-2.0	-2.0	-12.2
GEW-043R	10/13/2016 10:00	53.0	39.2	0.0	7.8	127.8		9	12	-1.6	-1.6	-12.1
GEW-043R	10/17/2016 11:47	51.9	40.8	0.0	7.3	129.3		27	26	-0.8	-0.9	-11.9
GEW-043R	10/17/2016 11:48	51.8	41.5	0.0	6.7	129.4		23	26	-0.7	-0.7	-11.8
GEW-043R	10/24/2016 15:01	53.1	40.0	0.0	6.9	128.6		19	18	-0.7	-0.7	-11.9
GEW-044	10/6/2016 9:08	51.3	37.4	0.0	11.3	77.1		7	6	-0.6	-0.6	-2.1
GEW-044	10/13/2016 10:04	51.8	37.9	0.0	10.3	62.4		27	27	-0.4	-0.4	-1.6
GEW-044	10/17/2016 13:05	55.1	38.3	0.0	6.6	92.7		11	11	0.5	0.5	0.0
GEW-044	10/17/2016 13:08	55.1	38.1	0.0	6.8	88.4		8	7	0.0	0.0	-0.1
GEW-044	10/17/2016 13:13	55.0	36.8	0.0	8.2	90.8		8	8	0.4	0.4	-0.5
GEW-044	10/24/2016 15:05	55.0	40.1	0.0	4.9	75.6		0	0	0.3	0.3	-0.7
GEW-044	10/24/2016 15:09	55.8	38.6	0.0	5.6	79.8		3	3	0.2	0.2	-0.8
GEW-044	10/27/2016 13:51	52.9	36.7	0.8	9.6	67.1		9	7	-0.2	-0.2	-12.4
GEW-045R	10/6/2016 9:14	56.5	38.3	0.4	4.8	79.2		5	4	-1.5	-1.5	-12.0
GEW-045R	10/6/2016 9:22	56.7	38.2	0.5	4.6	79.8		6	6	-0.9	-0.9	-11.9
GEW-045R	10/13/2016 10:08	56.2	38.3	0.0	5.5	68.5		7	8	-0.8	-0.8	-12.6
GEW-045R	10/17/2016 13:17	57.4	37.5	0.2	4.9	89.8		8	10	-0.2	-0.3	-11.3
GEW-045R	10/24/2016 15:12	56.7	39.1	0.0	4.2	83.5		9	9	1.5	1.5	-11.6
GEW-045R	10/24/2016 15:15	55.4	40.5	0.0	4.1	84.4		8	8	0.8	0.8	-12.1
GEW-046R	10/6/2016 9:29	56.0	40.6	0.0	3.4	99.9		10	17	-0.2	-0.2	-12.4
GEW-046R	10/6/2016 9:36	55.5	40.5	0.0	4.0	99.9		15	14	-0.2	-0.2	-11.9
GEW-046R	10/13/2016 10:11	57.1	38.7	0.0	4.2	98.5		0	0	-0.3	-0.3	-12.9
GEW-046R	10/17/2016 13:21	56.8	38.4	0.0	4.8	101.6		10	10	0.1	0.1	-11.5
GEW-046R	10/17/2016 13:23	55.1	40.9	0.0	4.0	101.6		15	15	0.0	0.0	-11.5
GEW-046R	10/24/2016 15:18	55.3	40.2	0.0	4.5	98.7		30	28	-0.2	-0.2	-11.8
GEW-047R	10/6/2016 10:36	45.0	38.0	0.0	17.0	113.0		11	9	-0.2	-0.2	-11.3
GEW-047R	10/6/2016 10:44	45.2	36.9	0.1	17.8	113.2		40	40	-0.1	-0.1	-11.9
GEW-047R	10/13/2016 10:41	47.6	40.0	0.0	12.4	109.0		8	10	-0.1	-0.1	-12.5
GEW-047R	10/18/2016 8:10	48.3	38.6	0.0	13.1	111.5		0	0	-0.4	-0.4	-11.9
GEW-047R	10/24/2016 15:50	52.1	40.0	0.0	7.9	109.7		8	8	-0.1	-0.1	-11.8
GEW-048	10/6/2016 11:05	53.1	38.6	0.0	8.3	104.5		13	13	-0.3	-0.3	-7.6
GEW-048	10/6/2016 11:13	53.9	39.4	0.0	6.7	104.7		20	21	-0.3	-0.3	-7.5
GEW-048	10/13/2016 10:47	54.0	39.7	0.0	6.3	102.7		0	0	-0.3	-0.3	-7.3
GEW-048	10/13/2016 10:48	54.2	39.7	0.0	6.1	103.2		15	17	-0.4	-0.4	-7.9

October 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-048	10/18/2016 8:17	53.6	37.8	0.0	8.6	104.0		16	15	-0.7	-0.7	-6.1
GEW-048	10/18/2016 8:18	53.1	39.0	0.0	7.9	104.3		10	12	-0.7	-0.7	-7.8
GEW-048	10/24/2016 15:57	54.7	36.9	0.0	8.4	103.6		0	0	-0.3	-0.3	-6.4
GEW-049	10/6/2016 11:28	39.0	34.7	0.0	26.3	111.0		8	8	-0.3	-0.3	-1.3
GEW-049	10/6/2016 11:43	38.1	34.5	0.0	27.4	109.0		0	0	-0.2	-0.2	-1.7
GEW-049	10/13/2016 11:30	43.8	39.2	0.0	17.0	99.2		0	0	0.0	0.0	-1.5
GEW-049	10/18/2016 8:37	49.6	38.0	0.0	12.4	91.0		5	5	-0.2	-0.2	-0.6
GEW-049	10/24/2016 16:15	53.7	37.7	0.0	8.6	91.9		34	34	0.1	0.1	-0.9
GEW-049	10/24/2016 16:17	53.8	38.4	0.0	7.8	91.9		31	32	0.1	0.1	-1.3
GEW-049	10/26/2016 17:01	52.5	37.3	0.2	10.0	114.3		17	14	-0.3	-0.3	-12.6
GEW-050	10/6/2016 13:55	53.6	39.3	0.0	7.1	108.2		17	17	-0.2	-0.2	-5.1
GEW-050	10/13/2016 10:55	54.0	39.2	0.0	6.8	105.8		17	17	-0.4	-0.4	-8.6
GEW-050	10/13/2016 10:56	54.5	39.8	0.0	5.7	106.4		0	0	-0.5	-0.5	-6.8
GEW-050	10/18/2016 8:30	53.6	36.3	0.0	10.1	107.7		22	20	-0.8	-0.8	-7.7
GEW-050	10/24/2016 16:08	53.6	36.5	0.0	9.9	108.0		26	27	-0.5	-0.5	-9.8
GEW-051	10/6/2016 11:49	53.9	40.6	0.0	5.5	126.9		29	28	-0.9	-0.9	-11.2
GEW-051	10/13/2016 11:28	54.3	39.6	0.0	6.1	124.0		5	11	-0.7	-0.7	-11.9
GEW-051	10/18/2016 8:41	53.5	39.5	0.0	7.0	126.8		23	25	-0.9	-1.0	-11.4
GEW-051	10/18/2016 8:43	53.2	40.4	0.0	6.4	126.1		26	27	-0.9	-0.9	-11.9
GEW-051	10/24/2016 16:20	53.8	38.5	0.0	7.7	125.7		22	22	-0.3	-0.3	-11.5
GEW-052	10/6/2016 13:59	49.7	38.8	0.0	11.5	113.7		32	32	-0.3	-0.2	-12.2
GEW-052	10/13/2016 11:05	49.2	38.2	0.0	12.6	110.4		13	13	-0.4	-0.4	-12.3
GEW-052	10/13/2016 11:06	47.7	40.0	0.0	12.3	109.9		13	17	-0.3	-0.3	-12.1
GEW-052	10/18/2016 8:33	48.3	37.3	0.0	14.4	112.7		20	19	-0.4	-0.4	-11.9
GEW-052	10/24/2016 16:11	50.8	38.0	0.0	11.2	113.5		38	36	-0.1	-0.1	-12.4
GEW-053	10/6/2016 13:12	50.7	41.2	0.1	8.0	142.8		22	24	-1.3	-1.3	-11.6
GEW-053	10/6/2016 13:20	50.4	42.1	0.1	7.4	142.9		20	19	-1.2	-1.2	-12.0
GEW-053	10/13/2016 11:23	50.0	41.8	0.0	8.2	142.2		15	14	-1.3	-1.3	-12.1
GEW-053	10/13/2016 11:24	49.7	42.3	0.0	8.0	142.2		17	14	-1.3	-1.2	-12.6
GEW-053	10/18/2016 8:47	50.3	39.6	0.0	10.1	139.6		17	20	-1.6	-1.6	-12.2
GEW-053	10/18/2016 8:48	49.7	40.3	0.0	10.0	139.6		41	42	-1.6	-1.6	-11.8
GEW-053	10/24/2016 16:24	50.3	39.1	0.0	10.6	141.9		20	18	-1.0	-1.0	-12.1
GEW-053	10/24/2016 16:25	49.7	40.5	0.0	9.8	142.2		34	34	-1.0	-1.0	-12.2
GEW-054	10/6/2016 13:28	51.6	40.8	0.0	7.6	144.3		58	38	-5.6	-5.2	-7.8
GEW-054	10/6/2016 13:36	52.0	40.5	0.1	7.4	144.9		54	62	-5.9	-5.9	-8.4
GEW-054	10/13/2016 11:20	51.5	41.7	0.0	6.8	144.2		55	51	-6.9	-6.8	-9.4
GEW-054	10/13/2016 11:20	51.0	41.8	0.0	7.2	144.1		55	44	-6.6	-6.5	-9.2
GEW-054	10/18/2016 8:56	51.6	40.0	0.0	8.4	143.3		55	60	-6.7	-6.7	-9.6
GEW-054	10/18/2016 8:57	50.8	40.8	0.0	8.4	143.4		61	55	-6.7	-6.6	-9.2
GEW-054	10/24/2016 16:31	52.6	37.9	0.0	9.5	144.2		60	60	-6.8	-6.8	-9.6
GEW-054	10/24/2016 16:33	51.2	40.3	0.0	8.5	144.9		69	64	-6.6	-6.7	-9.4
GEW-055	10/6/2016 13:41	53.5	41.3	0.1	5.1	129.4		13	13	-0.5	-0.5	-8.5
GEW-055	10/6/2016 13:50	54.1	40.8	0.1	5.0	129.2		37	36	-0.5	-0.5	-8.5

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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-055	10/13/2016 11:17	51.9	41.9	0.0	6.2	126.3		7	5	-0.6	-0.6	-8.5
GEW-055	10/18/2016 9:00	51.8	39.6	0.0	8.6	128.3		34	34	-0.8	-0.8	-8.0
GEW-055	10/24/2016 16:36	52.0	37.8	0.1	10.1	128.3		0	0	-0.5	-0.5	-8.1
GEW-056R	10/4/2016 10:58	14.9	52.5	0.0	32.6	126.6		2	5	-0.2	-0.2	-18.0
GEW-056R	10/4/2016 11:06	15.6	49.9	0.0	34.5	126.1		1	4	-0.2	-0.2	-17.2
GEW-056R	10/13/2016 9:45	18.9	51.2	0.0	29.9	107.1		2	1	-0.3	-0.3	-18.7
GEW-056R	10/13/2016 9:47	18.6	52.9	0.0	28.5	106.8		3	1	-0.1	-0.1	-19.1
GEW-056R	10/17/2016 10:24	3.4	56.6	0.0	40.0	104.2		4	2	0.1	0.1	-18.3
GEW-056R	10/17/2016 10:25	2.6	55.5	0.0	41.9	104.1		2	1	0.1	-0.3	-18.4
GEW-056R	10/25/2016 10:32	18.7	53.8	0.0	27.5	115.3		2	3	-0.4	-0.4	-19.6
GEW-057B	10/26/2016 10:29	3.9	50.6	0.0	45.5	73.0		14	7	-5.4	-6.4	-5.5
GEW-057R	10/26/2016 10:32	2.4	31.2	3.4	63.0	119.6		8	3	-8.9	-8.9	-10.3
GEW-058	10/26/2016 10:19	2.7	34.8	8.8	53.7	130.2		9	7	-15.9	-15.8	-18.6
GEW-058	10/26/2016 10:23	1.1	42.7	5.0	51.2	112.0		7	4	-4.0	-4.6	-18.5
GEW-058A	10/21/2016 11:42	14.4	32.6	7.5	45.5	107.0		2	2	-7.0	-6.9	-8.3
GEW-058A	10/21/2016 11:44	14.7	34.7	7.3	43.3	106.0		2	3	-7.4	-7.4	-9.4
GEW-059R	10/26/2016 11:30	4.4	45.6	1.9	48.1	185.7		10	20	-12.4	-12.6	-13.3
GEW-059R	10/26/2016 11:31	4.9	47.8	1.7	45.6	186.4		11	7	-12.2	-12.5	-13.6
GEW-067A	10/26/2016 15:57	8.2	45.2	2.8	43.8	161.6		37	20	-11.9	-13.5	-17.8
GEW-067A	10/26/2016 15:59	7.7	50.7	2.4	39.2	160.1		24	17	-8.8	-8.6	-17.0
GEW-077	10/21/2016 10:15	0.7	57.0	0.5	41.8	176.4		NFD		-14.2	-16.4	-14.3
GEW-077	10/21/2016 10:17	0.5	57.9	1.0	40.6	176.4		NFD		-13.3	-17.4	-13.6
GEW-078R	10/21/2016 9:59	9.2	48.5	1.8	40.5	184.7		13	21	-13.8	-14.2	-17.2
GEW-078R	10/21/2016 10:02	9.5	51.4	0.0	39.1	185.1		25	27	-17.6	-17.8	-17.0
GEW-080	10/21/2016 10:22	0.2	50.6	1.2	48.0	67.0		14	14	-17.2	-17.2	-17.0
GEW-081	10/21/2016 10:27	0.5	59.0	0.0	40.5	67.1		NR	NR	27.9	27.9	28.3
GEW-081	10/21/2016 11:13	0.5	60.3	0.0	39.2	66.4		NR	NR	31.3	31.3	31.2
GEW-082R	10/19/2016 10:37	0.9	50.5	0.0	48.6	88.6		3	8	6.6	6.2	6.7
GEW-082R	10/19/2016 10:38	0.9	53.2	0.0	45.9	96.7		7	7	5.9	5.8	6.2
GEW-086	10/21/2016 9:52	12.7	38.4	3.2	45.7	90.1		27	43	-3.9	-4.2	-18.9
GEW-088	10/21/2016 9:31	5.2	48.7	0.0	46.1	194.6		6	1	-0.4	-0.3	-15.9
GEW-088	10/21/2016 9:33	13.6	51.9	0.0	34.5	179.2		18	NR	-11.8	NR	-13.3
GEW-089	10/21/2016 9:43	3.6	20.5	16.6	59.3	58.7		5	4	-4.0	-4.1	-18.2
GEW-089	10/21/2016 9:44	3.9	15.8	17.3	63.0	59.4		12	5	-4.1	-4.1	-18.3
GEW-090	10/26/2016 14:39	13.3	47.9	0.3	38.5	181.5		9	16	-17.5	-18.3	-18.0
GEW-090	10/26/2016 14:40	13.0	50.3	0.1	36.6	181.4		16	7	-17.5	-17.8	-17.0
GEW-101	10/26/2016 16:22	9.9	46.6	5.8	37.7	93.9		48	27	-4.7	-4.7	-12.7
GEW-101	10/26/2016 16:24	9.6	49.2	5.8	35.4	93.9		17	39	-2.0	-3.6	-6.0
GEW-102	10/19/2016 11:41	5.1	54.4	0.0	40.5	194.3		NFD		-13.5	-14.0	-13.3
GEW-102	10/19/2016 11:43	5.2	58.4	0.0	36.4	194.3		NFD		-12.6	-12.5	-12.4
GEW-104	10/26/2016 10:38	0.7	58.7	0.0	40.6	72.1		6	6	6.3	4.9	6.1
GEW-104	10/26/2016 10:39	0.7	59.0	0.0	40.3	72.0		7	7	4.3	4.9	4.4
GEW-105	10/26/2016 10:55	6.2	30.1	10.7	53.0	180.4		26	13	-13.1	-13.2	-7.8

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-105	10/26/2016 10:58	6.6	39.9	6.7	46.8	170.0		16	10	-0.3	-0.3	-1.8
GEW-108	10/4/2016 9:36	35.5	54.2	0.1	10.2	130.6		10	12	-15.7	-17.4	-15.7
GEW-109	10/4/2016 8:11	21.6	51.3	0.1	27.0	121.5		8	9	-18.3	-18.7	-18.2
GEW-109	10/4/2016 8:19	21.6	48.8	0.1	29.5	123.7		10	6	-19.2	-19.4	-19.5
GEW-109	10/13/2016 9:37	19.8	44.4	0.4	35.4	109.0		4	13	-18.0	-18.3	-18.2
GEW-109	10/13/2016 9:38	23.4	47.7	0.1	28.8	110.8		3	3	-18.9	-19.2	-19.2
GEW-109	10/17/2016 10:10	13.7	50.3	0.1	35.9	120.7		4	4	-19.1	-18.6	-18.5
GEW-109	10/17/2016 10:12	22.9	51.9	0.0	25.2	122.6		8	2	-18.9	-16.9	-18.8
GEW-109	10/25/2016 10:10	23.2	48.9	0.1	27.8	92.5		3	3	-16.2	-16.2	-17.7
GEW-110	10/4/2016 10:21	5.2	21.8	11.3	61.7	105.3		4	8	-0.3	-0.3	-17.7
GEW-110	10/4/2016 10:22	5.6	22.7	11.2	60.5	105.4		5	6	-0.3	-0.3	-17.5
GEW-110	10/4/2016 14:00	6.9	30.6	7.5	55.0	115.8		6	8	-0.2	-0.2	-18.0
GEW-110	10/4/2016 14:08	6.7	29.8	7.8	55.7	115.8		5	3	-0.2	-0.3	-18.3
GEW-110	10/13/2016 9:58	10.3	28.1	14.2	47.4	87.9		8	7	-0.7	-0.7	-19.2
GEW-110	10/13/2016 9:59	4.8	22.6	15.0	57.6	88.2		7	6	-0.7	-0.7	-18.9
GEW-110	10/17/2016 10:31	5.9	48.0	9.6	36.5	101.9		7	7	-0.7	-0.7	-18.1
GEW-110	10/17/2016 10:32	5.9	33.5	10.2	50.4	102.5		7	8	-0.7	-0.7	-18.0
GEW-110	10/25/2016 10:47	9.9	56.4	0.0	33.7	69.7		2	4	0.1	0.1	-19.1
GEW-110	10/25/2016 10:49	10.2	55.4	0.0	34.4	74.2		6	0	-0.1	-0.1	-19.3
GEW-110	10/27/2016 17:17	9.2	47.8	2.1	40.9	97.7		3	2	-0.1	-0.1	-18.0
GEW-113	10/19/2016 11:28	10.1	48.6	1.7	39.6	173.2		NFD		-4.8	-4.8	-17.6
GEW-113	10/19/2016 11:29	10.1	50.6	1.7	37.6	173.6		NFD		-4.8	-4.8	-16.9
GEW-117	10/19/2016 9:25	6.4	50.2	2.2	41.2	73.6		NFD		-16.4	-16.5	-16.2
GEW-118	10/19/2016 9:29	2.2	50.6	2.0	45.2	195.0		79	81	-9.1	-8.5	-16.8
GEW-118	10/21/2016 11:09	2.8	48.5	2.7	46.0	194.3		68	61	-6.9	-6.4	-11.9
GEW-120	10/5/2016 14:03	18.7	53.0	0.1	28.2	146.3		NFD		-14.5	-14.3	-7.5
GEW-120	10/5/2016 14:04	18.6	55.6	0.1	25.7	146.3		NFD		-14.2	-14.0	-7.3
GEW-120	10/17/2016 15:20	13.8	32.8	0.3	53.1	149.7		NFD		-15.2	-15.3	-15.6
GEW-120	10/17/2016 15:20	17.3	56.7	3.2	22.8	149.3		NFD		-15.6	-15.2	-15.7
GEW-121	10/5/2016 12:02	17.7	48.1	0.2	34.0	180.3		31	31	-12.5	-13.0	-13.8
GEW-121	10/5/2016 12:04	23.2	55.8	0.0	21.0	180.4		8	14	-12.0	-11.5	-13.2
GEW-121	10/17/2016 15:23	10.1	54.9	0.0	35.0	179.3		5	NR	-14.2	NR	-14.0
GEW-121	10/17/2016 15:23	9.5	57.5	0.0	33.0	179.3		21	29	-13.2	-14.2	-13.9
GEW-122	10/5/2016 11:37	31.8	52.7	0.0	15.5	188.3		25	23	-6.2	-6.2	-16.3
GEW-122	10/5/2016 11:38	31.7	51.8	0.0	16.5	188.3		19	24	-6.3	-6.2	-16.5
GEW-122	10/17/2016 15:38	21.1	51.8	0.0	27.1	184.1		19	21	-7.4	-7.4	-17.5
GEW-122	10/17/2016 15:39	22.3	52.8	0.1	24.8	184.1		17	20	-7.8	-7.8	-17.4
GEW-123	10/5/2016 11:53	17.4	55.0	1.9	25.7	93.4		5	4	-14.9	-14.6	-14.8
GEW-123	10/5/2016 11:54	17.7	52.7	1.6	28.0	95.0		3	7	-14.5	-14.8	-14.7
GEW-123	10/17/2016 15:26	9.9	60.9	0.3	28.9	147.4		11	4	-16.1	-15.6	-16.2
GEW-123	10/17/2016 15:27	10.1	61.5	0.2	28.2	150.9		16	14	-15.6	-15.7	-15.0
GEW-124	10/6/2016 16:20	1.1	41.3	7.8	49.8	91.3		2	2	-14.4	-14.4	-14.8
GEW-124	10/6/2016 16:27	0.5	25.4	12.8	61.3	91.0		2	2	-14.5	-14.7	-15.1

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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-124	10/17/2016 15:29	4.3	32.1	10.0	53.6	93.8		4	5	-15.6	-15.6	-15.8
GEW-124	10/17/2016 15:30	4.5	36.0	9.2	50.3	95.0		4	3	-15.6	-15.6	-14.8
GEW-125	10/5/2016 11:08	5.2	56.8	0.0	38.0	190.2		26	29	-12.6	-12.6	-15.1
GEW-125	10/5/2016 11:10	5.6	57.8	0.0	36.6	190.2		24	24	-13.1	-13.1	-14.8
GEW-125	10/17/2016 15:41	3.3	58.6	0.1	38.0	190.6		33	26	-11.8	-12.3	-16.3
GEW-125	10/17/2016 15:42	1.5	60.3	0.1	38.1	190.8		33	31	-11.3	-11.8	-15.6
GEW-126	10/5/2016 10:57	24.9	51.5	0.0	23.6	178.0		7	4	-12.0	-12.0	-12.2
GEW-126	10/5/2016 10:58	26.1	52.4	0.0	21.5	178.2		2	3	-12.1	-12.4	-13.2
GEW-126	10/17/2016 15:49	17.8	55.0	0.1	27.1	177.2		13	2	-12.1	-11.8	-12.2
GEW-126	10/17/2016 15:49	17.5	55.5	0.2	26.8	176.7		15	16	-12.2	-12.2	-12.4
GEW-127	10/5/2016 10:41	10.4	62.4	0.1	27.1	188.9		24	36	-11.9	-14.8	-12.3
GEW-127	10/5/2016 10:43	11.2	63.3	0.0	25.5	188.9		38	36	-14.5	-14.5	-15.3
GEW-127	10/17/2016 15:51	7.7	60.8	0.3	31.2	186.9		33	31	-14.6	-14.6	-14.7
GEW-127	10/17/2016 15:52	5.0	66.4	0.3	28.3	187.4		40	33	-14.7	-14.2	-15.5
GEW-128	10/5/2016 10:31	11.5	60.8	0.0	27.7	175.3		21	18	-5.1	-5.2	-16.0
GEW-128	10/5/2016 10:32	11.9	62.8	0.0	25.3	175.3		21	14	-5.1	-5.1	-17.4
GEW-128	10/6/2016 16:11	6.3	61.8	0.2	31.7	175.9		19	20	-5.0	-5.0	-15.1
GEW-128	10/6/2016 16:13	6.9	64.3	0.2	28.6	176.6		26	22	-8.5	-8.4	-15.9
GEW-128	10/17/2016 15:54	5.5	64.6	0.3	29.6	173.1		23	21	-10.7	-10.8	-15.8
GEW-128	10/17/2016 15:55	6.8	65.9	0.3	27.0	173.1		24	22	-10.8	-10.8	-15.0
GEW-129	10/5/2016 10:26	3.9	58.9	0.0	37.2	179.8		14	5	-12.6	-12.7	-15.5
GEW-129	10/5/2016 10:27	4.5	60.6	0.0	34.9	180.1		8	17	-12.6	-12.7	-15.7
GEW-129	10/17/2016 15:57	2.5	63.1	0.3	34.1	176.4		11	10	-14.6	-14.2	-15.0
GEW-129	10/17/2016 15:58	2.0	64.5	0.3	33.2	176.7		14	1	-14.2	-14.6	-15.2
GEW-130	10/5/2016 10:14	8.6	49.8	4.0	37.6	171.0		78	70	-4.8	-4.7	-15.8
GEW-130	10/5/2016 10:17	8.6	50.2	3.6	37.6	172.6		58	54	-3.3	-3.3	-16.5
GEW-130	10/6/2016 16:03	5.2	55.0	2.3	37.5	177.4		55	53	-2.6	-2.6	-15.9
GEW-130	10/6/2016 16:05	6.0	56.0	2.8	35.2	174.7		83	70	-5.0	-4.7	-14.8
GEW-130	10/17/2016 16:08	5.7	52.8	5.2	36.3	171.2		73	82	-5.9	-5.9	-14.9
GEW-130	10/17/2016 16:09	5.4	49.2	5.3	40.1	170.7		78	87	-5.8	-5.9	-15.5
GEW-131	10/5/2016 11:14	19.5	49.3	0.0	31.2	90.8		NFD		3.3	3.3	3.7
GEW-131	10/5/2016 11:15	20.3	48.3	0.0	31.4	94.3		NFD		3.3	3.3	3.7
GEW-131	10/17/2016 15:45	10.4	53.3	0.1	36.2	96.7		NFD		2.9	3.8	4.0
GEW-131	10/17/2016 15:46	11.2	50.8	0.1	37.9	98.5		NFD		3.6	3.6	4.1
GEW-132	10/5/2016 13:58	9.0	34.2	5.4	51.4	146.0		NFD		-3.9	-3.7	-1.8
GEW-132	10/5/2016 13:59	9.0	35.5	5.3	50.2	147.7		NFD		-3.8	-3.9	-7.2
GEW-132	10/17/2016 15:33	10.6	39.2	2.2	48.0	166.2		NFD		-4.2	-4.2	-15.2
GEW-132	10/17/2016 15:34	11.3	41.1	2.1	45.5	166.4		NFD		-4.1	-3.9	-11.5
GEW-133	10/5/2016 14:11	1.3	25.6	15.8	57.3	91.7		11	11	-15.0	-14.9	-7.8
GEW-133	10/5/2016 14:16	0.1	13.8	16.9	69.2	93.2		9	10	-14.2	-14.2	-7.4
GEW-133	10/17/2016 16:28	1.3	22.9	17.3	58.5	89.7		4	2	-15.7	-15.6	-15.6
GEW-133	10/17/2016 16:29	0.2	16.4	17.2	66.2	90.1		6	4	-15.7	-15.7	-15.7
GEW-134	10/5/2016 14:21	8.3	37.7	2.4	51.6	130.9		NFD		-12.7	-12.7	-7.8

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-134	10/5/2016 14:22	8.3	38.5	2.3	50.9	130.9		NFD		-12.7	-12.7	-7.4
GEW-134	10/17/2016 16:24	10.0	50.7	2.1	37.2	135.0		NFD		-14.2	-14.2	-16.0
GEW-134	10/17/2016 16:25	9.5	42.9	2.1	45.5	135.6		NFD		-14.2	-14.2	-15.8
GEW-135	10/5/2016 14:26	5.8	48.5	0.7	45.0	173.6		26	14	-9.3	-7.8	-6.9
GEW-135	10/5/2016 14:27	7.0	53.5	0.6	38.9	173.4		5	31	-7.7	-9.1	-2.9
GEW-135	10/17/2016 16:21	6.8	48.6	1.0	43.6	167.3		15	24	-10.8	-8.8	-15.7
GEW-135	10/17/2016 16:22	7.4	54.0	1.1	37.5	167.4		18	21	-9.3	-8.8	-10.0
GEW-136	10/6/2016 16:35	4.2	24.4	9.6	61.8	127.6		4	9	-0.9	-0.9	-10.7
GEW-136	10/6/2016 16:37	4.2	24.5	9.5	61.8	126.9		9	10	-0.8	-0.8	-12.8
GEW-136	10/17/2016 16:18	6.0	30.7	7.3	56.0	122.9		9	7	-0.9	-0.8	-14.6
GEW-136	10/17/2016 16:19	5.2	29.8	7.4	57.6	122.6		8	5	-0.8	-0.9	-13.4
GEW-137	10/5/2016 13:44	39.8	41.0	0.3	18.9	93.9		8	3	-0.6	-0.6	-14.6
GEW-137	10/5/2016 13:45	38.8	43.4	0.2	17.6	95.4		2	10	-0.6	-0.6	-12.2
GEW-137	10/6/2016 16:42	38.9	43.6	0.3	17.2	88.4		5	8	-0.6	-0.6	-13.8
GEW-137	10/6/2016 16:54	38.7	42.2	0.3	18.8	94.1		4	6	-8.3	-8.4	-9.7
GEW-137	10/17/2016 16:14	18.6	41.4	1.2	38.8	96.6		2	3	-8.8	-8.8	-13.2
GEW-138	10/5/2016 10:01	8.5	35.0	3.1	53.4	161.1		14	15	-0.6	-0.4	-9.1
GEW-138	10/5/2016 10:02	8.5	34.9	3.0	53.6	161.1		4	7	-0.4	-0.4	-11.4
GEW-138	10/17/2016 16:12	11.5	48.3	0.7	39.5	164.1		7	8	-0.3	-0.3	-7.8
GEW-138	10/17/2016 16:12	12.1	48.9	0.7	38.3	164.1		9	7	-0.3	-0.4	-9.3
GEW-139	10/5/2016 10:08	5.3	52.2	0.6	41.9	177.3		31	30	-7.9	-7.8	-16.7
GEW-139	10/5/2016 10:10	6.4	55.7	0.6	37.3	177.5		32	28	-8.1	-7.8	-17.8
GEW-139	10/17/2016 16:04	3.8	56.1	0.4	39.7	176.7		31	32	-7.8	-7.8	-16.1
GEW-139	10/17/2016 16:06	4.5	59.6	0.4	35.5	176.7		31	23	-7.8	-7.8	-17.0
GEW-140	10/5/2016 9:41	7.3	52.4	0.0	40.3	79.6		8	11	-14.9	-16.4	-14.6
GEW-140	10/17/2016 16:42	2.6	23.4	20.3	53.7	88.5		10	6	-15.6	-14.2	-15.4
GEW-140	10/17/2016 16:43	0.1	3.3	21.8	74.8	88.8		4	6	-14.2	-15.6	-13.7
GEW-141	10/5/2016 9:28	0.9	59.1	0.0	40.0	187.9		14	7	-12.4	-12.5	-12.4
GEW-141	10/6/2016 15:57	6.5	48.9	0.2	44.4	189.6		13	11	-11.3	-11.3	-11.6
GEW-141	10/18/2016 9:54	1.6	52.9	0.0	45.5	183.5		9	4	-10.4	-10.7	-10.5
GEW-141	10/18/2016 9:55	0.5	59.6	0.0	39.9	183.9		5	10	-10.2	-10.8	-10.0
GEW-142	10/5/2016 9:22	1.2	55.6	0.0	43.2	152.9		12	4	-7.1	-7.1	-7.0
GEW-142	10/5/2016 9:24	1.4	61.6	0.0	37.0	153.3		9	6	-7.0	-7.1	-7.0
GEW-142	10/18/2016 9:59	0.1	10.3	20.3	69.3	79.4		2	2	-5.0	-5.0	-5.0
GEW-142	10/18/2016 10:00	0.0	3.3	21.3	75.4	80.2		4	5	-5.8	-5.8	-5.6
GEW-143	10/5/2016 9:12	0.5	37.3	7.1	55.1	69.1		4	2	-15.9	-15.9	-16.3
GEW-143	10/5/2016 9:13	0.5	35.8	7.5	56.2	69.5		1	0	-16.4	-16.2	-16.3
GEW-143	10/18/2016 10:04	0.1	2.7	21.2	76.0	78.9		11	8	-8.0	-7.8	-14.4
GEW-143	10/18/2016 10:06	0.0	2.3	20.8	76.9	80.3		5	1	-11.6	-11.5	-15.4
GEW-144	10/5/2016 9:08	6.7	58.3	0.0	35.0	69.3		8	6	-15.9	-15.9	-15.9
GEW-144	10/18/2016 10:09	2.3	28.6	9.9	59.2	91.2		11	4	-13.8	-12.7	-13.5
GEW-144	10/18/2016 10:10	3.0	35.9	8.1	53.0	90.5		4	8	-11.2	-11.0	-11.0
GEW-145	10/5/2016 8:56	3.0	15.2	16.9	64.9	66.3		15	12	-15.4	-15.4	-15.4

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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-145	10/5/2016 9:02	2.4	15.4	17.1	65.1	66.9		9	3	-14.3	-14.2	-14.8
GEW-145	10/18/2016 10:46	1.7	18.7	16.3	63.3	82.3		5	5	-12.6	-12.6	-12.4
GEW-145	10/18/2016 10:47	1.3	12.8	18.0	67.9	82.8		7	4	-12.3	-12.3	-12.4
GEW-146	10/5/2016 13:38	2.1	9.2	13.9	74.8	100.6		5	15	-0.7	-0.7	-16.4
GEW-146	10/5/2016 13:40	2.1	8.8	13.8	75.3	100.5		21	17	-0.5	-0.6	-16.7
GEW-146	10/18/2016 10:17	2.3	11.0	15.6	71.1	96.5		18	19	-0.5	-0.5	-17.0
GEW-146	10/18/2016 10:19	2.2	7.9	15.7	74.2	96.2		12	15	-0.3	-0.3	-16.6
GEW-147	10/5/2016 14:40	12.0	50.6	0.2	37.2	184.5		NFD		-15.1	-15.1	-8.1
GEW-147	10/5/2016 14:41	13.0	53.7	0.1	33.2	185.1		NFD		-15.1	-15.1	-8.2
GEW-147	10/18/2016 10:38	13.3	50.1	0.0	36.6	185.1		NFD		-16.7	-16.8	-16.7
GEW-147	10/18/2016 10:40	13.2	53.2	0.0	33.6	185.3		NFD		-16.4	-16.4	-16.3
GEW-148	10/5/2016 14:51	0.1	5.7	18.9	75.3	96.5		3	14	-15.6	-15.3	-8.2
GEW-148	10/5/2016 14:53	0.0	3.8	19.1	77.1	97.8		7	8	-15.6	-15.2	-8.3
GEW-148	10/18/2016 10:53	0.1	4.0	21.5	74.4	82.1		2	6	-16.9	-16.9	-16.8
GEW-148	10/18/2016 10:54	0.0	0.3	22.1	77.6	83.0		7	1	-17.0	-16.8	-17.0
GEW-149	10/5/2016 15:47	11.4	41.1	3.1	44.4	170.0		30	16	-0.3	-0.5	-9.9
GEW-149	10/5/2016 15:48	11.4	43.8	2.9	41.9	170.0		7	18	-0.5	-0.2	-9.5
GEW-149	10/18/2016 16:01	11.7	42.1	2.1	44.1	165.7		22	17	-0.7	-0.8	-18.7
GEW-149	10/18/2016 16:02	12.2	45.1	1.9	40.8	165.7		23	20	-0.6	-0.7	-18.7
GEW-150	10/5/2016 8:36	2.8	49.8	3.1	44.3	184.7		2	5	-0.4	-0.4	-16.8
GEW-150	10/5/2016 8:38	2.4	54.0	3.0	40.6	184.6		6	9	-0.4	-0.4	-19.8
GEW-150	10/18/2016 11:24	3.0	64.4	0.0	32.6	180.3		3	3	-0.2	-0.2	-16.7
GEW-150	10/18/2016 11:25	3.4	63.4	0.0	33.2	179.7		7	7	-0.3	-0.3	-16.7
GEW-151	10/5/2016 15:02	12.0	42.2	4.3	41.5	140.6		22	8	-12.4	-14.3	-8.6
GEW-151	10/5/2016 15:05	12.0	42.5	4.2	41.3	141.2		12	5	-0.5	-0.5	-8.8
GEW-151	10/18/2016 11:00	12.3	39.0	5.1	43.6	97.1		21	21	-11.3	-15.2	-17.0
GEW-151	10/18/2016 11:03	12.4	41.5	4.9	41.2	92.9		6	7	-0.2	-0.2	-17.3
GEW-152	10/5/2016 8:00	19.0	50.9	0.0	30.1	179.2		14	2	-18.3	-18.3	-19.2
GEW-152	10/5/2016 8:01	18.8	51.8	0.0	29.4	179.2		12	15	-18.3	-18.2	-18.3
GEW-152	10/18/2016 15:41	23.0	46.1	0.1	30.8	175.1		11	11	-17.8	-17.8	-18.5
GEW-152	10/18/2016 15:42	20.6	50.1	0.0	29.3	175.3		7	6	-17.6	-17.6	-18.1
GEW-153	10/5/2016 7:53	28.3	47.1	0.0	24.6	135.3		12	18	-12.4	-12.5	-17.6
GEW-153	10/5/2016 7:54	29.4	43.6	0.0	27.0	135.6		18	15	-12.4	-12.4	-16.8
GEW-153	10/18/2016 15:46	29.0	44.7	0.0	26.3	141.9		13	15	-10.4	-10.7	-13.8
GEW-153	10/18/2016 15:48	30.0	44.7	0.0	25.3	142.2		22	16	-10.5	-10.9	-15.4
GEW-154	10/5/2016 15:09	2.3	9.5	16.7	71.5	120.2		9	7	-3.0	-3.0	-9.8
GEW-154	10/5/2016 15:12	2.2	5.7	17.1	75.0	118.9		11	11	-2.5	-2.4	-9.9
GEW-154	10/18/2016 15:53	9.9	30.2	14.7	45.2	110.5		4	7	-3.0	-3.1	-18.1
GEW-154	10/18/2016 15:55	1.6	6.0	17.8	74.6	108.5		3	2	-2.8	-2.8	-17.9
GEW-155	10/5/2016 13:50	6.2	22.8	13.2	57.8	137.7		17	15	-0.1	-0.2	-5.3
GEW-155	10/5/2016 13:51	1.8	12.1	14.1	72.0	138.2		9	13	0.0	-0.2	-0.8
GEW-155	10/18/2016 16:13	2.8	21.7	10.3	65.2	140.9		17	11	-0.7	-0.6	-9.2
GEW-155	10/18/2016 16:14	2.7	19.9	10.5	66.9	140.6		15	11	-0.4	-0.5	-9.2

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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-156	10/5/2016 8:48	3.0	14.4	17.5	65.1	99.7		12	13	-0.8	-0.8	-19.3
GEW-156	10/5/2016 8:51	3.5	7.7	18.4	70.4	99.4		11	12	-0.8	-0.8	-19.4
GEW-156	10/5/2016 14:34	3.7	27.0	9.3	60.0	127.2		8	8	-0.5	-0.5	-7.4
GEW-156	10/5/2016 14:35	4.0	24.9	9.3	61.8	127.5		7	6	-0.5	-0.5	-3.9
GEW-156	10/18/2016 11:09	5.0	12.1	15.2	67.7	112.7		7	15	-0.4	-0.4	-17.8
GEW-156	10/18/2016 11:10	5.1	11.0	15.3	68.6	112.7		7	10	-0.4	-0.4	-17.4
GEW-157	10/5/2016 8:42	7.5	56.2	0.0	36.3	120.7		12	7	2.3	2.1	2.3
GEW-157	10/5/2016 8:43	7.7	57.4	0.0	34.9	119.9		30	12	2.2	2.4	2.4
GEW-157	10/18/2016 11:15	0.5	55.9	0.0	43.6	85.7		11	2	4.8	4.4	4.7
GEW-157	10/18/2016 11:16	0.5	57.5	0.0	42.0	85.8		1	1	4.2	4.1	4.5
GEW-158	10/5/2016 8:07	0.8	56.7	0.0	42.5	103.3		6	6	2.2	2.2	0.5
GEW-158	10/5/2016 8:17	0.6	57.7	0.0	41.7	199.3		9	11	-0.8	-0.9	-1.2
GEW-158	10/7/2016 9:06	0.6	31.3	0.1	68.0	195.1		15	13	-3.9	-3.4	-4.3
GEW-158	10/18/2016 11:31	1.2	60.1	0.0	38.7	191.6		4	5	0.6	0.4	0.5
GEW-158	10/18/2016 11:33	4.2	60.5	0.0	35.3	194.3		17	18	0.0	-0.4	0.2
GEW-159	10/5/2016 7:47	0.4	48.5	3.4	47.7	69.1		2	2	-0.4	-0.4	-10.0
GEW-159	10/5/2016 7:48	0.3	50.0	3.0	46.7	69.1		1	0	-0.4	-0.4	-9.9
GEW-159	10/18/2016 11:47	1.0	45.4	3.0	50.6	81.9		64	64	-5.0	-5.0	-8.6
GEW-160	10/5/2016 16:03	3.5	57.7	0.1	38.7	185.7		10	20	-5.6	-5.8	1.4
GEW-160	10/5/2016 16:04	3.5	59.0	0.2	37.3	185.7		19	20	-6.1	-5.9	1.0
GEW-160	10/17/2016 17:16	3.6	56.1	0.3	40.0	184.1		12	23	-7.8	-7.4	-7.5
GEW-160	10/17/2016 17:17	4.2	59.5	0.4	35.9	184.1		14	3	-7.8	-7.7	-7.4
GEW-161	10/5/2016 15:57	0.7	54.9	0.5	43.9	95.5		11	11	-5.8	-5.9	1.4
GEW-161	10/5/2016 15:59	0.9	54.2	0.2	44.7	95.8		20	12	-5.5	-5.9	1.8
GEW-161	10/17/2016 17:14	1.0	28.4	10.7	59.9	105.6		40	26	-7.4	-7.8	-6.7
GEW-161	10/17/2016 17:15	2.3	42.2	5.8	49.7	110.4		8	35	-7.8	-7.8	-7.6
GEW-162	10/5/2016 15:51	9.0	56.1	0.3	34.6	175.4		13	13	-16.2	-16.2	-9.1
GEW-162	10/5/2016 15:53	9.2	60.6	0.3	29.9	175.8		21	13	-14.9	-15.6	-9.3
GEW-162	10/17/2016 17:11	12.8	54.8	0.5	31.9	173.1		6	40	-17.1	-17.6	-17.9
GEW-162	10/17/2016 17:11	10.2	62.4	0.5	26.9	172.2		45	57	-17.6	-17.8	-17.8
GEW-163	10/5/2016 11:57	9.5	31.4	10.5	48.6	150.2		34	25	-2.9	-2.9	-13.7
GEW-163	10/5/2016 11:59	11.6	29.5	10.4	48.5	148.6		36	18	-1.1	-1.1	-14.9
GEW-163	10/13/2016 9:27	3.9	52.1	10.6	33.4	160.8		18	22	-0.6	-0.6	-17.0
GEW-163	10/13/2016 9:27	3.1	35.3	11.8	49.8	160.7		11	13	-0.6	-0.6	-16.7
GEW-163	10/17/2016 10:58	2.3	58.9	0.0	38.8	197.4		4	14	0.3	0.3	-14.8
GEW-163	10/17/2016 11:00	0.9	65.2	0.0	33.9	197.2		26	26	0.1	-0.5	-15.2
GEW-163	10/25/2016 8:59	3.3	35.1	9.2	52.4	183.3		29	29	-0.4	-0.4	-17.8
GEW-163	10/25/2016 9:00	3.1	37.2	9.0	50.7	183.3		32	38	-0.4	-0.4	-17.9
GEW-164	10/5/2016 11:48	12.6	62.9	0.1	24.4	118.9		37	6	-14.5	-14.9	-15.2
GEW-164	10/5/2016 11:49	13.1	66.3	0.1	20.5	118.4		17	6	-14.5	-14.7	-14.4
GEW-164	10/13/2016 9:23	3.9	61.2	0.0	34.9	152.5		18	14	-16.7	-16.7	-17.1
GEW-164	10/13/2016 9:24	5.8	66.1	0.0	28.1	152.5		16	15	-16.7	-16.4	-16.7
GEW-164	10/17/2016 10:56	3.3	57.5	0.2	39.0	97.9		9	13	-15.9	-15.9	-15.8

October 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-164	10/25/2016 9:03	4.6	57.0	1.5	36.9	60.3		0	5	-17.2	-17.2	-17.2
GEW-165	10/5/2016 11:43	7.0	62.4	0.1	30.5	193.6		15	17	-13.9	-13.6	-14.5
GEW-165	10/5/2016 11:44	7.9	62.4	0.1	29.6	193.6		21	14	-13.8	-13.9	-14.2
GEW-165	10/13/2016 9:19	0.8	63.5	0.0	35.7	194.3		11	20	-16.2	-16.2	-17.0
GEW-165	10/13/2016 9:20	1.6	61.8	0.0	36.6	194.3		10	26	-15.9	-15.8	-16.5
GEW-165	10/17/2016 10:53	0.8	54.9	0.0	44.3	192.5		3	19	-15.0	-14.6	-14.7
GEW-165	10/17/2016 10:54	1.6	63.8	0.0	34.6	192.6		18	20	-15.1	-14.9	-15.1
GEW-165	10/25/2016 9:07	2.2	61.6	0.3	35.9	194.4		40	23	-16.2	-16.2	-17.3
GEW-165	10/25/2016 9:09	1.8	64.0	0.0	34.2	194.3		10	17	-16.2	-16.2	-16.9
GEW-166	10/5/2016 11:29	3.5	55.4	0.0	41.1	197.2		9	24	3.9	3.8	4.0
GEW-166	10/5/2016 11:31	4.3	57.4	0.0	38.3	197.2		48	42	3.2	3.5	3.7
GEW-166	10/13/2016 9:15	0.5	54.9	0.0	44.6	197.1		23	24	2.5	2.8	2.0
GEW-166	10/13/2016 9:16	0.3	57.8	0.0	41.9	197.2		38	21	3.2	3.4	3.2
GEW-166	10/17/2016 10:49	0.3	53.9	0.0	45.8	195.0		48	54	5.1	5.1	2.2
GEW-166	10/17/2016 10:50	0.2	58.7	0.0	41.1	195.4		40	47	5.1	5.1	1.9
GEW-166	10/25/2016 9:12	0.0	55.2	0.3	44.5	197.2		10	15	-1.1	-1.2	-5.9
GEW-166	10/25/2016 9:14	0.3	57.9	0.7	41.1	197.2		39	29	-1.6	-1.4	-5.1
GEW-167	10/5/2016 11:19	11.4	35.2	7.3	46.1	162.4		46	46	-1.2	-1.2	-16.5
GEW-167	10/5/2016 11:21	9.9	31.0	7.3	51.8	164.0		41	43	-1.0	-1.0	-16.8
GEW-167	10/13/2016 9:11	2.3	43.2	7.0	47.5	190.3		40	41	-0.5	-0.4	-18.3
GEW-167	10/13/2016 9:12	2.0	39.4	7.3	51.3	190.5		37	38	-0.4	-0.5	-17.7
GEW-167	10/17/2016 10:45	1.4	49.2	6.0	43.4	191.9		34	40	-0.3	-0.2	-15.8
GEW-167	10/17/2016 10:46	0.9	44.7	6.1	48.3	191.9		28	40	-0.4	-0.3	-15.6
GEW-167	10/25/2016 9:31	0.7	33.3	10.4	55.6	188.9		25	28	-0.4	-0.4	-16.4
GEW-167	10/25/2016 9:33	0.6	32.5	10.2	56.7	188.3		17	23	-0.4	-0.4	-16.3
GEW-168	10/5/2016 11:03	10.2	57.4	0.0	32.4	180.9		24	19	-11.5	-11.6	-12.3
GEW-168	10/5/2016 11:05	9.9	59.9	0.0	30.2	180.9		21	16	-11.5	-11.5	-12.2
GEW-168	10/13/2016 9:07	3.8	55.2	0.0	41.0	180.9		15	5	-15.2	-15.3	-15.8
GEW-168	10/13/2016 9:08	3.8	58.3	0.0	37.9	180.9		13	5	-15.2	-14.8	-15.7
GEW-168	10/17/2016 10:42	4.3	55.2	0.0	40.5	183.0		33	15	-13.9	-13.9	-14.1
GEW-168	10/17/2016 10:43	3.5	59.7	0.0	36.8	183.0		21	27	-14.3	-14.2	-14.3
GEW-168	10/25/2016 9:18	2.8	47.1	5.8	44.3	176.9		9	15	-14.2	-13.9	-15.6
GEW-168	10/25/2016 9:20	2.4	46.1	6.2	45.3	176.9		23	16	-14.2	-14.3	-15.9
GEW-169	10/5/2016 10:49	10.4	55.0	1.8	32.8	111.2		31	31	-14.2	-14.2	-15.1
GEW-169	10/5/2016 10:52	11.8	56.1	1.7	30.4	110.2		30	23	-14.3	-14.5	-15.2
GEW-169	10/13/2016 9:03	7.1	45.9	4.0	43.0	175.9		54	69	-15.7	-15.9	-16.8
GEW-169	10/13/2016 9:04	5.3	49.7	3.8	41.2	175.8		47	57	-15.7	-15.4	-16.6
GEW-169	10/17/2016 10:39	30.4	36.5	4.1	29.0	179.8		55	53	-14.6	-14.6	-15.4
GEW-169	10/17/2016 10:39	5.2	51.6	4.0	39.2	179.8		62	55	-14.8	-14.6	-15.6
GEW-169	10/25/2016 8:40	3.3	34.8	9.5	52.4	172.1		64	66	-15.7	-15.7	-17.0
GEW-169	10/25/2016 9:25	1.9	40.1	9.3	48.7	177.6		34	34	-6.1	-6.4	-17.1
GEW-170	10/5/2016 10:36	13.2	57.2	2.0	27.6	161.8		71	71	-9.5	-9.5	-16.3
GEW-170	10/5/2016 10:38	14.1	56.2	2.0	27.7	162.4		72	81	-9.1	-9.3	-15.1

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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-170	10/17/2016 16:36	5.3	54.2	5.2	35.3	164.1		72	72	-9.7	-9.7	-14.9
GEW-170	10/17/2016 16:37	6.5	50.6	5.2	37.7	164.6		75	75	-9.8	-9.8	-16.7
GEW-170	10/28/2016 9:59	4.7	34.9	9.8	50.6	158.5		79	79	-10.4	-10.4	-17.3
GEW-170	10/28/2016 10:02	4.6	35.7	10.0	49.7	161.6		44	41	-3.6	-3.6	-17.6
GEW-171	10/5/2016 9:17	7.0	57.8	0.0	35.2	193.6		17	6	-12.9	-12.9	-12.9
GEW-171	10/5/2016 9:19	7.8	60.5	0.0	31.7	193.6		17	28	-12.6	-12.6	-12.7
GEW-171	10/17/2016 16:49	4.0	37.3	0.4	58.3	189.6		6	16	-11.8	-12.2	-11.6
GEW-171	10/17/2016 16:50	8.9	60.4	0.4	30.3	189.6		4	9	-11.2	-11.2	-10.9
GEW-172	10/5/2016 9:34	2.7	28.0	11.3	58.0	77.1		5	3	-7.0	-7.1	-5.5
GEW-172	10/5/2016 9:36	4.8	46.8	2.7	45.7	78.9		9	15	-7.5	-7.5	-6.0
GEW-172	10/7/2016 9:19	1.5	30.1	13.5	54.9	68.8		11	12	-6.5	-6.5	-5.0
GEW-172	10/7/2016 9:24	3.4	54.0	1.0	41.6	70.5		7	13	-6.4	-6.2	-5.0
GEW-172	10/17/2016 16:45	1.6	10.4	14.6	73.4	88.8		17	5	-6.3	-5.9	-2.3
GEW-172	10/17/2016 16:46	3.0	21.2	14.0	61.8	89.2		13	7	-6.3	-6.3	-2.3
GEW-173	10/5/2016 9:45	14.6	43.1	6.5	35.8	118.1		44	43	-1.1	-1.1	-17.7
GEW-173	10/5/2016 9:48	16.1	40.6	6.4	36.9	120.7		12	24	-0.8	-0.8	-16.0
GEW-173	10/17/2016 16:39	17.7	56.3	0.7	25.3	116.5		17	6	-1.2	-1.2	-15.5
GEW-173	10/17/2016 16:40	19.9	60.2	0.8	19.1	118.1		26	35	-1.1	-1.1	-18.7
GEW-174	10/5/2016 9:52	8.0	32.6	6.5	52.9	170.2		56	63	-1.5	-1.5	-8.5
GEW-174	10/5/2016 9:55	8.3	32.5	6.3	52.9	171.6		48	25	-1.1	-1.1	-10.1
GEW-174	10/17/2016 16:53	8.1	39.7	5.3	46.9	158.7		52	51	-1.8	-1.7	-13.6
GEW-174	10/17/2016 16:54	7.2	34.7	5.4	52.7	158.0		36	58	-1.8	-1.8	-12.9
GEW-175	10/5/2016 8:29	16.5	46.2	3.9	33.4	141.9		199	189	-10.9	-10.5	-16.3
GEW-175	10/5/2016 8:32	16.6	46.0	4.0	33.4	141.8		187	189	-9.5	-9.6	-18.1
GEW-175	10/17/2016 16:57	17.0	47.1	3.4	32.5	142.8		188	175	-9.7	-9.7	-17.6
GEW-175	10/17/2016 16:58	18.0	48.4	3.4	30.2	142.7		191	183	-9.6	-9.7	-18.2
GEW-176	10/5/2016 8:22	11.0	50.8	4.5	33.7	141.9		24	31	-1.8	-1.8	-20.3
GEW-176	10/5/2016 8:25	12.7	47.7	4.3	35.3	135.2		17	12	-0.5	-0.5	-19.8
GEW-176	10/17/2016 17:00	15.7	50.7	1.8	31.8	159.6		34	27	-0.5	-0.5	-18.6
GEW-176	10/17/2016 17:01	15.7	54.8	1.8	27.7	161.0		42	36	-0.6	-0.7	-18.7
GEW-177	10/5/2016 10:21	1.0	58.1	0.0	40.9	184.5		12	15	-1.8	-1.8	-1.6
GEW-177	10/5/2016 10:22	1.3	60.3	0.0	38.4	184.5		4	14	-1.7	-1.7	-1.5
GEW-177	10/17/2016 16:33	0.0	34.3	0.3	65.4	180.8		11	11	-0.5	-0.5	-0.3
GEW-177	10/17/2016 16:34	0.2	62.0	0.4	37.4	180.8		19	10	-0.3	-0.3	-0.2
GEW-1A	10/6/2016 15:07	1.5	2.2	19.8	76.5	88.6		2	5	-10.3	-10.8	-11.5
GEW-1A	10/6/2016 15:08	3.5	1.5	19.4	75.6	89.4		2	7	-11.8	-11.5	-11.6
GEW-1A	10/13/2016 10:15	0.6	5.1	21.3	73.0	60.5		4	5	-9.2	-9.2	-12.8
GEW-1A	10/13/2016 10:15	0.7	4.1	21.3	73.9	60.8		5	4	-10.2	-10.2	-12.8
GEW-1A	10/17/2016 13:28	1.6	6.7	19.7	72.0	92.9		3	1	-10.0	-10.0	-11.9
GEW-1A	10/17/2016 13:29	2.9	1.7	19.9	75.5	94.3		0	3	-10.6	-10.6	-11.4
GEW-1A	10/24/2016 15:24	3.1	7.7	17.8	71.4	82.4		3	3	-1.7	-1.7	-12.1
GEW-1A	10/24/2016 15:26	2.8	5.0	18.2	74.0	86.3		3	3	-2.0	-2.0	-12.1
GEW-2S	10/6/2016 15:16	58.2	39.3	0.0	2.5	89.1		4	4	-0.2	-0.1	-11.7

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-2S	10/13/2016 10:27	57.5	40.6	0.0	1.9	69.0		7	3	-3.1	-3.2	-12.6
GEW-2S	10/17/2016 13:36	56.2	40.9	0.1	2.8	94.8		3	3	-3.8	-3.8	-11.4
GEW-2S	10/24/2016 15:33	58.0	38.4	0.0	3.6	79.2		2	1	-4.5	-4.5	-12.1
GIW-01	10/4/2016 14:14	3.4	60.9	0.1	35.6	185.7		14	17	-0.1	-0.1	-18.5
GIW-01	10/4/2016 14:23	2.4	64.5	0.1	33.0	185.7		15	16	-0.2	-0.2	-19.1
GIW-01	10/13/2016 10:05	4.4	29.9	0.7	65.0	180.9		11	14	-5.3	-5.4	-19.2
GIW-01	10/13/2016 10:07	5.5	61.9	0.0	32.6	180.9		7	11	-5.4	-1.1	-19.1
GIW-01	10/17/2016 9:33	2.2	58.9	0.0	38.9	183.7		15	6	-3.0	-2.9	-19.3
GIW-01	10/17/2016 9:33	2.6	64.3	0.0	33.1	183.6		14	12	-3.0	-2.9	-19.2
GIW-01	10/25/2016 10:53	4.8	60.7	0.0	34.5	183.9		15	15	-1.9	-1.9	-20.2
GIW-01	10/25/2016 10:55	3.5	66.6	0.0	29.9	183.6		13	14	-2.0	-1.9	-20.1
GIW-02	10/4/2016 14:28	4.6	37.1	9.7	48.6	90.6		2	2	-0.2	-0.2	-17.7
GIW-02	10/4/2016 14:35	4.9	34.3	9.9	50.9	89.6		3	2	-0.2	-0.2	-18.0
GIW-02	10/13/2016 10:09	4.2	50.9	13.2	31.7	61.3		5	5	-0.2	-0.2	-19.0
GIW-02	10/13/2016 10:10	3.0	29.4	15.6	52.0	61.8		3	4	-0.3	-0.3	-18.9
GIW-02	10/17/2016 9:35	2.8	45.4	12.2	39.6	85.9		6	7	-0.3	-0.3	-18.8
GIW-02	10/17/2016 9:36	3.7	33.4	12.8	50.1	87.0		6	8	-0.2	-0.2	-18.3
GIW-02	10/25/2016 10:59	3.0	25.9	13.9	57.2	64.9		0	0	-0.2	-0.2	-19.1
GIW-02	10/25/2016 11:01	3.0	24.9	14.0	58.1	64.8		0	1	-0.2	-0.3	-18.9
GIW-03	10/4/2016 14:40	0.9	64.3	0.1	34.7	88.9		2	2	-0.2	-0.2	-8.6
GIW-03	10/4/2016 14:49	0.7	55.4	2.2	41.7	93.3		2	2	-0.6	-0.6	-8.9
GIW-03	10/13/2016 10:13	1.2	50.3	4.9	43.6	59.7		1	2	-2.7	-2.7	-11.4
GIW-03	10/17/2016 9:38	2.2	46.3	3.8	47.7	84.0		1	5	-1.6	-1.6	-9.3
GIW-03	10/25/2016 11:04	1.0	48.6	5.3	45.1	65.5		3	4	-2.7	-2.7	-10.9
GIW-03	10/25/2016 11:06	1.1	50.0	5.2	43.7	66.3		1	3	-2.1	-2.1	-11.3
GIW-04	10/4/2016 11:39	1.5	55.1	0.2	43.2	90.5		3	3	-4.0	-4.0	-8.3
GIW-04	10/4/2016 11:50	1.5	53.8	0.2	44.5	90.3		2	3	-3.8	-3.8	-8.7
GIW-04	10/13/2016 10:15	1.7	50.2	0.1	48.0	61.4		4	4	-5.1	-5.0	-10.9
GIW-04	10/17/2016 9:40	1.0	56.0	0.1	42.9	86.1		4	5	-3.8	-3.9	-10.1
GIW-04	10/25/2016 11:10	0.7	54.1	0.3	44.9	68.4		4	2	-5.0	-5.1	-10.7
GIW-05	10/4/2016 9:55	0.1	1.4	21.0	77.5	79.6		0	0	-7.6	-7.5	-7.8
GIW-05	10/4/2016 9:57	0.1	1.0	20.8	78.1	80.5		0	0	-9.0	-9.1	-6.7
GIW-05	10/4/2016 13:21	0.0	0.0	20.8	79.2	86.8		8	9	-5.8	-5.6	-5.3
GIW-05	10/4/2016 13:29	0.0	0.0	20.8	79.2	87.7		8	10	-6.3	-6.4	-5.3
GIW-05	10/13/2016 10:19	1.3	37.1	18.1	43.5	57.8		0	0	-4.8	-4.7	-6.9
GIW-05	10/13/2016 10:21	0.0	10.2	22.3	67.5	59.0		0	0	-6.9	-6.5	-6.7
GIW-05	10/17/2016 9:43	0.2	29.1	18.1	52.6	83.8		0	0	-3.8	-3.8	-6.0
GIW-05	10/17/2016 9:44	0.0	8.4	19.6	72.0	84.7		0	3	-5.8	-5.8	-5.7
GIW-05	10/25/2016 10:19	0.3	6.8	19.9	73.0	61.8		0	0	-2.1	-2.0	-6.4
GIW-05	10/25/2016 10:21	0.1	2.2	20.9	76.8	62.3		0	3	-2.4	-2.4	-6.8
GIW-06	10/4/2016 9:39	7.9	55.5	0.3	36.3	80.3		18	12	-10.6	-10.7	-10.4
GIW-06	10/4/2016 9:49	7.9	55.7	0.3	36.1	81.0		4	4	-8.7	-8.6	-10.6
GIW-06	10/13/2016 10:23	4.5	33.2	0.9	61.4	60.8		6	4	-8.3	-8.3	-9.9

October 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-06	10/17/2016 9:46	6.7	23.6	0.6	69.1	84.4		6	6	-6.4	-6.4	-8.7
GIW-06	10/25/2016 9:47	12.3	48.5	0.4	38.8	62.1		2	4	-8.3	-8.3	-10.9
GIW-07	10/4/2016 9:00	12.0	61.3	1.7	25.0	81.5		3	3	-1.4	-1.4	-11.7
GIW-07	10/4/2016 9:11	12.0	60.4	1.8	25.8	83.0		2	2	-0.7	-0.7	-11.2
GIW-07	10/13/2016 10:25	9.8	49.9	3.3	37.0	61.5		2	2	-0.5	-0.5	-11.0
GIW-07	10/17/2016 9:51	9.0	58.6	0.3	32.1	87.4		2	3	-0.2	-0.2	-8.9
GIW-07	10/25/2016 9:50	5.8	48.7	0.1	45.4	62.8		5	5	1.1	1.1	-11.9
GIW-07	10/25/2016 9:52	4.7	48.1	0.2	47.0	63.5		4	3	-0.5	-0.5	-10.5
GIW-08	10/4/2016 8:44	23.3	59.2	0.0	17.5	75.7		3	4	-5.5	-5.5	-12.0
GIW-08	10/4/2016 8:53	23.5	58.7	0.0	17.8	77.0		2	5	-5.1	-5.1	-12.1
GIW-08	10/13/2016 10:31	23.2	52.2	0.0	24.6	64.0		1	2	-4.8	-4.8	-11.3
GIW-08	10/17/2016 9:53	21.9	60.3	0.0	17.8	88.0		6	2	-4.0	-4.0	-9.2
GIW-08	10/25/2016 10:02	25.7	57.6	0.2	16.5	63.6		3	1	-4.8	-4.9	-11.5
GIW-09	10/4/2016 8:25	5.4	20.2	10.4	64.0	90.1		NFD		-2.9	-2.8	-13.4
GIW-09	10/4/2016 8:27	5.4	19.8	10.3	64.5	89.8		NFD		-2.8	-2.8	-12.7
GIW-09	10/4/2016 13:34	5.6	21.5	7.8	65.1	99.0		NFD		-2.0	-2.0	-8.5
GIW-09	10/4/2016 13:41	5.7	22.0	7.7	64.6	98.4		NFD		-2.0	-2.0	-8.9
GIW-09	10/13/2016 10:33	4.9	30.2	12.2	52.7	66.2		NFD		-2.4	-2.4	-10.6
GIW-09	10/13/2016 10:34	4.1	21.4	12.8	61.7	66.3		NFD		-2.4	-2.5	-11.8
GIW-09	10/17/2016 10:17	15.9	37.6	8.0	38.5	88.6		NFD		-2.1	-2.1	-8.7
GIW-09	10/17/2016 10:18	7.6	28.5	8.4	55.5	88.9		NFD		-2.2	-2.2	-8.9
GIW-09	10/25/2016 10:05	5.3	23.5	11.3	59.9	66.1		NFD		-2.6	-2.5	-11.1
GIW-09	10/25/2016 10:06	5.4	20.5	11.6	62.5	66.3		NFD		-2.5	-2.6	-11.6
GIW-10	10/4/2016 11:24	4.4	54.6	0.0	41.0	85.1		3	3	-1.7	-1.7	-9.7
GIW-10	10/4/2016 11:34	4.9	51.9	0.0	43.2	86.1		3	2	-1.6	-1.6	-8.6
GIW-10	10/13/2016 10:37	4.6	51.6	0.0	43.8	63.1		2	2	-2.0	-2.0	-10.6
GIW-10	10/17/2016 10:20	6.0	34.7	0.0	59.3	86.8		2	3	-1.3	-1.3	-8.7
GIW-10	10/25/2016 11:14	4.4	54.7	0.0	40.9	68.1		2	1	-2.1	-2.1	-10.8
GIW-11	10/4/2016 11:12	8.1	59.9	0.6	31.4	81.9		NFD		-1.6	-1.6	-17.6
GIW-11	10/4/2016 11:19	7.4	56.1	0.7	35.8	83.0		NFD		-1.6	-1.6	-17.1
GIW-11	10/13/2016 10:39	7.8	56.1	0.3	35.8	63.3		NFD		-1.7	-1.8	-19.2
GIW-11	10/17/2016 10:22	5.6	57.8	0.3	36.3	87.7		NFD		-1.4	-1.4	-18.0
GIW-11	10/25/2016 10:28	10.5	52.3	0.6	36.6	64.2		NFD		-1.8	-1.8	-19.5
GIW-12	10/4/2016 10:51	13.7	39.1	6.2	41.0	80.3		NFD		-0.3	-0.3	-16.8
GIW-12	10/4/2016 10:52	14.0	38.4	6.2	41.4	80.9		NFD		-0.4	-0.4	-16.2
GIW-12	10/4/2016 13:46	14.3	40.7	4.6	40.4	86.1		NFD		-0.3	-0.3	-16.4
GIW-12	10/4/2016 13:55	14.5	40.3	4.6	40.6	87.8		NFD		-0.3	-0.3	-14.2
GIW-12	10/13/2016 10:41	13.5	48.2	6.7	31.6	62.1		NFD		-0.3	-0.4	-17.9
GIW-12	10/13/2016 10:42	14.7	40.1	7.1	38.1	62.6		NFD		-0.4	-0.4	-17.1
GIW-12	10/17/2016 10:27	10.7	47.2	4.7	37.4	87.3		NFD		-0.3	-0.3	-16.9
GIW-12	10/25/2016 10:35	14.3	41.1	6.4	38.2	64.0		NFD		-0.4	-0.4	-17.7
GIW-12	10/25/2016 10:36	14.5	38.8	6.5	40.2	63.8		NFD		-0.4	-0.4	-16.1
GIW-13	10/4/2016 10:26	13.8	59.8	0.1	26.3	77.5		NFD		-2.4	-2.4	-8.3

October 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-13	10/4/2016 10:46	13.4	56.4	0.2	30.0	79.2		NFD		-0.5	-0.5	-8.3
GIW-13	10/13/2016 10:44	10.2	47.5	0.0	42.3	61.3		NFD		-0.9	-0.9	-9.4
GIW-13	10/17/2016 10:29	10.8	58.7	0.0	30.5	87.6		NFD		-0.6	-0.5	-8.8
GIW-13	10/25/2016 10:44	9.8	59.2	0.0	31.0	64.3		NFD		-0.6	-0.6	-8.5
LCS-1D	10/25/2016 10:25	56.6	40.2	0.3	2.9	87.9		4	1	-17.6	-17.6	-19.4
LCS-3D	10/19/2016 11:46	2.3	61.9	0.0	35.8	68.1		3	6	-18.4	-18.3	-18.2
LCS-5A	10/6/2016 13:06	61.6	35.4	0.1	2.9	94.9		NFD		-11.8	-11.8	-12.2
LCS-5A	10/13/2016 11:25	53.3	42.4	0.0	4.3	94.6		NFD		-12.3	-11.9	-12.5
LCS-5A	10/18/2016 8:51	56.4	38.7	0.0	4.9	93.6		NFD		-11.2	-11.4	-11.4
LCS-5A	10/24/2016 16:28	57.1	39.5	0.0	3.4	93.9		NFD		-11.8	-11.3	-11.7
LCS-6B	10/6/2016 10:30	51.8	39.6	0.3	8.3	98.9		9	7	-0.8	-0.8	-11.8
LCS-6B	10/13/2016 10:38	54.1	40.6	0.0	5.3	90.9		7	8	-0.9	-0.9	-12.6
LCS-6B	10/18/2016 8:06	52.7	40.1	0.3	6.9	85.8		8	7	-1.5	-1.5	-12.0
LCS-6B	10/24/2016 15:46	54.4	39.1	0.2	6.3	93.6		3	0	-0.7	-0.7	-12.1
PGW-60	10/6/2016 15:12	56.5	37.6	0.7	5.2	83.3		12	13	-11.8	-11.8	-11.8
PGW-60	10/13/2016 10:18	52.4	32.1	0.0	15.5	70.4		11	0	-12.9	-12.9	-12.6
PGW-60	10/17/2016 13:33	51.0	34.7	1.6	12.7	94.1		9	9	-11.6	-11.6	-11.5
PGW-60	10/24/2016 15:29	57.9	36.9	0.5	4.7	76.4		5	7	-11.8	-12.3	-12.1
SEW-002	10/21/2016 10:08	0.4	24.1	16.9	58.6	62.1		9	6	-4.0	-4.0	-4.5
SEW-002	10/21/2016 10:09	0.2	18.5	17.3	64.0	64.0		9	11	-4.4	-4.4	-5.1
T-56	10/6/2016 11:20	35.8	31.6	1.0	31.6	76.4		18	17	-0.2	-0.1	-11.1
T-56	10/18/2016 8:25	36.3	33.0	0.7	30.0	73.6		10	20	-0.1	-0.1	-12.3
T-56	10/24/2016 16:03	33.7	31.8	0.8	33.7	72.0		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

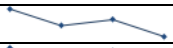
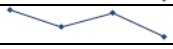
ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

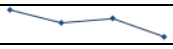
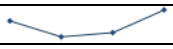
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend	Comments
	July 2016	August 2016	September 2016	October 2016	><30°F	
GEW-001	--	--	--	--		
GEW-002	123.9	124.5	123.1	123.1		
GEW-003	117.9	118.9	116.7	117.9		
GEW-004	121.8	121.3	120.5	122.3		
GEW-005	96.7	97.8	96.7	96.1		
GEW-006	91.5	92.1	93.4	90.5		
GEW-007	101.5	101.4	100.6	97.9		
GEW-008	114.8	114.8	115	114.5		
GEW-009	125.9	126.7	126.4	125.5		
GEW-010	107.9	109.9	108	88.2		
GEW-011	--	--	--	--		
GEW-013A	146.6	147	172.7	180.3		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	--		
GEW-018B	--	--	--	--		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	--	185.7	180.3	63		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	96.5	95.8	92.2	70.9		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	103.9	98.1	96.2	86.8		
GEW-039	133.1	134.7	126.9	124.6		
GEW-040	98.9	96.4	96.9	93.6		
GEW-041R	107.6	107	107.8	104.5		
GEW-042R	112.8	115.5	109.7	103.8		
GEW-043R	124.1	129.1	130	129.4		

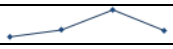
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	July 2016	August 2016	September 2016	October 2016		
GEW-044	96.5	93.9	93.8	92.7		
GEW-045R	102.9	100.7	100.6	89.8		
GEW-046R	101.1	101.8	101.4	101.6		
GEW-047R	115.9	115.6	116.2	113.2		
GEW-048	106.5	106.5	105.7	104.7		
GEW-049	111.7	112.5	111.6	114.3		
GEW-050	109.5	109.2	108.7	108.2		
GEW-051	128.4	128.9	128.1	126.9		
GEW-052	116.3	116	114.5	113.7		
GEW-053	142.2	142.9	143.5	142.9		
GEW-054	148.6	147.3	148.4	144.9		
GEW-055	129.1	128.9	129.4	129.4		
GEW-056R	164.6	163.6	174.2	126.6		
GEW-057B	130.3	93.9	102.1	73		
GEW-057R	125	119	127.8	119.6		
GEW-058	186.4	152.9	164.9	130.2		
GEW-058A	148.8	122.4	144	107		
GEW-059R	189.2	182.1	187.4	186.4		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	103.7	--	--	--		
GEW-066	--	--	--	--		
GEW-067A	157	136.6	146.3	161.6		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	198.9	192.9	187	176.4		
GEW-078R	188.5	180.9	186.4	185.1		
GEW-080	98.5	96.2	80.8	67		
GEW-081	--	--	--	67.1		
GEW-082R	192.3	184.5	188.6	96.7		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	102.5	82.5	105.8	90.1		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	July 2016	August 2016	September 2016	October 2016		
GEW-087	--	--	--	--		
GEW-088	--	--	--	194.6		
GEW-089	109.5	85.3	93.4	59.4		
GEW-090	183.3	175.8	183	181.5		
GEW-091	--	195	197.2	--		
GEW-100	--	--	--	--		
GEW-101	--	--	--	93.9		
GEW-102	125.4	97.7	188.3	194.3		
GEW-103	--	--	--	--		
GEW-104	112.5	95.6	91.3	72.1		
GEW-105	--	--	--	180.4		
GEW-106	--	--	--	--		
GEW-107	--	--	--	--		
GEW-108	110.4	81.5	89.1	130.6		
GEW-109	110.9	137.3	134	123.7		
GEW-110	113.7	113	118.4	115.8		
GEW-112	110.4	91.5	--	--		
GEW-113	173.6	172.6	173.7	173.6		
GEW-116	--	--	--	--		
GEW-117	119.7	98.7	150.9	73.6		
GEW-118	195	188.3	193.1	195		
GEW-120	152.1	152.5	153.3	149.7		
GEW-121	180.8	175.7	178.6	180.4		
GEW-122	188.8	192.5	188.5	188.3		
GEW-123	185.2	186.3	102.1	150.9		
GEW-124	92.4	107.4	97.7	95		
GEW-125	191.3	192.6	193.6	190.8		
GEW-126	154.5	184.7	180.9	178.2		
GEW-127	187.9	188.5	189.6	188.9		
GEW-128	172.2	167.1	176.7	176.6		
GEW-129	147.4	178	180.9	180.1		
GEW-130	176.2	170.8	171.7	177.4		
GEW-131	110.2	111.6	107.6	98.5		
GEW-132	166.1	167.3	165.1	166.4		
GEW-133	96.9	99.4	103.8	93.2		
GEW-134	150.5	147.8	150.1	135.6		
GEW-135	175.7	99	191.5	173.3		
GEW-136	121.3	124.2	126.1	127.6		
GEW-137	87	94	86	96.6		
GEW-138	153.8	154.9	164.7	164.1		
GEW-139	179.3	178.3	176.2	177.5		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	July 2016	August 2016	September 2016	October 2016		
GEW-140	167.6	147	140	88.8		
GEW-141	119.7	185.7	187.9	189.6		
GEW-142	95.3	175.2	150.9	153.3		
GEW-143	92.7	103.2	101.5	80.3		
GEW-144	91.7	99.2	106.6	91.5		
GEW-145	97.7	136.8	175.7	82.8		
GEW-146	100.4	106.7	104.8	100.6		
GEW-147	187.4	186.8	186.4	185.3		
GEW-148	79.5	100.2	159.8	97.8		
GEW-149	141.8	144.7	163.4	170		
GEW-150	156.9	166.9	181.4	184.7		
GEW-151	147	150.6	141.5	141.2		
GEW-152	183.9	180.8	175.2	179.2		
GEW-153	143.6	147.7	144.9	142.2		
GEW-154	79.1	126	123.2	120.2		
GEW-155	124.9	130.5	139.6	140.9		
GEW-156	115	124.5	114.7	127.5		
GEW-157	178.6	182.4	183.4	120.7		
GEW-158	96.2	97.3	156.9	199.3		
GEW-159	150.4	159	131.9	81.9		
GEW-160	139	187.9	187.6	185.7		
GEW-161	155.4	192.1	105.2	110.4		
GEW-162	79.5	175.7	180.1	175.8		
GEW-163	173.4	174.6	156	197.4		
GEW-164	100	115.7	114.5	152.5		
GEW-165	192.6	192.5	193.7	194.4		
GEW-166	175.2	188.5	197.9	197.2		
GEW-167	178.2	178.2	168.5	191.9		
GEW-168	184.1	186.8	184.5	183		
GEW-169	183.5	185.7	184.5	179.8		
GEW-170	172.1	160.1	160.7	164.6		
GEW-171	176.7	189.6	192.2	193.6		
GEW-172	185.1	188.3	191.6	89.2		
GEW-173	120.2	108.6	115.5	120.7		
GEW-174	156.9	170.2	171.2	171.6		
GEW-175	139.6	150.1	145.9	142.8		
GEW-176	169.5	161.1	144	161		
GEW-177	193.7	191.9	190.9	184.5		
GEW-1A	109.5	106.3	112	94.3		
GEW-2S	115.8	109.6	99.9	94.8		
GIW-01	168.8	158.8	185.7	185.7		

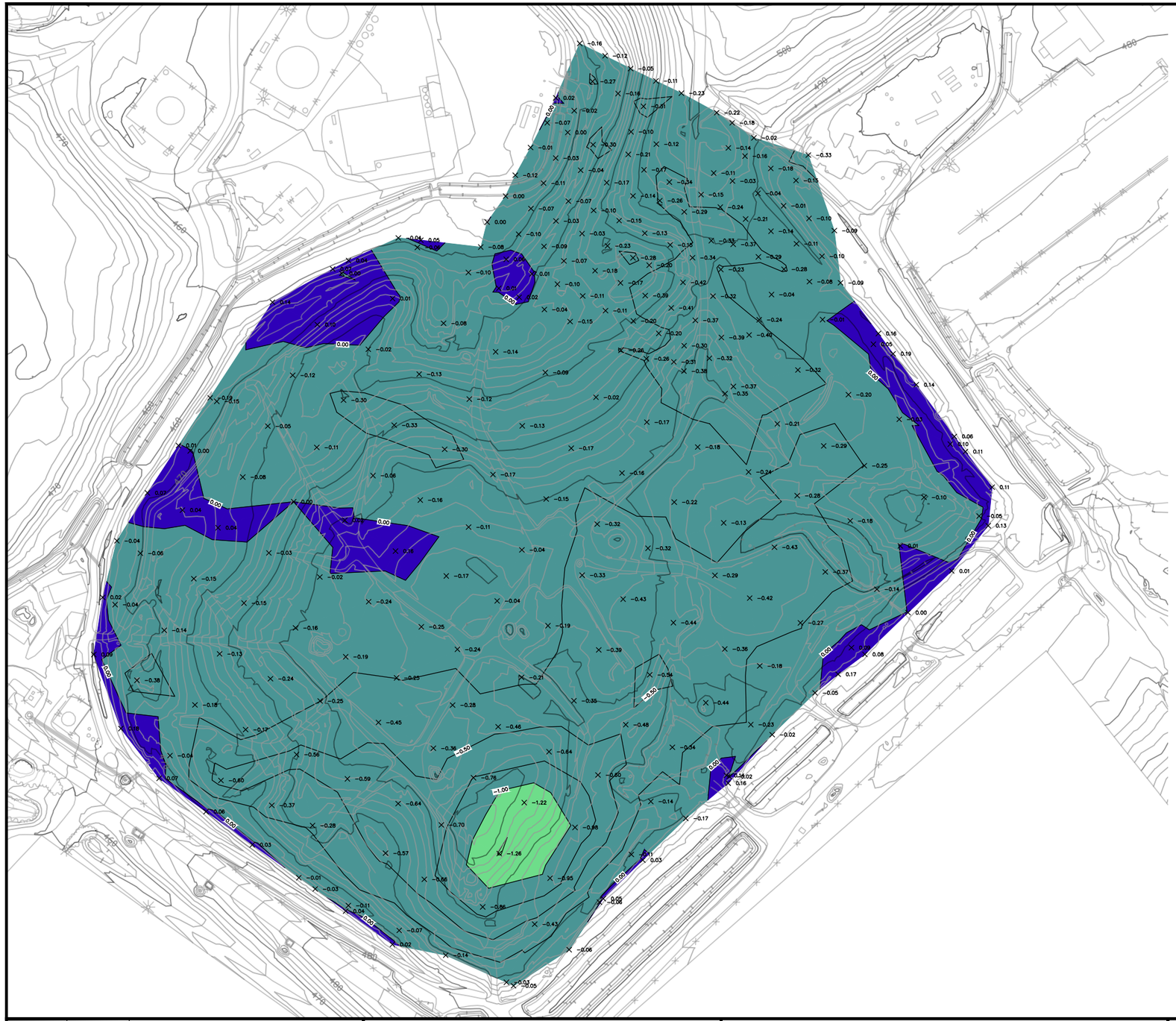
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend	Comments
	July 2016	August 2016	September 2016	October 2016	><30°F	
GIW-02	100.2	100.6	107.2	90.6		
GIW-03	96.9	97.9	110.2	93.3		
GIW-04	96.6	101.9	107.5	90.5		
GIW-05	95.8	97.3	102.5	87.7		
GIW-06	91.5	100.7	93.2	84.4		
GIW-07	98.6	100.4	101.1	87.4		
GIW-08	92.9	99.4	99.2	88		
GIW-09	91.7	96.4	96.2	99		
GIW-10	100.8	102.8	99.4	86.8		
GIW-11	98.9	101	105.5	87.7		
GIW-12	98.1	98	98.3	87.8		
GIW-13	98.1	99.6	99.5	87.6		
LCS-1D	--	--	--	87.9		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	68.1		
LCS-4B	--	--	--	--		
LCS-5A	95.5	96.2	96.2	94.9		
LCS-6B	106.7	114.5	110	98.9		
PGW-60	86.7	96	91.9	94.1		
SEW-002	97.1	100	96.5	64		
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	81.7	84.9	83.8	76.4		

-- = 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 9-15-16 FROM SPOT ELEVATIONS SURVEYED ON 10-17-16.
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 (10-17-16 TO 9-15-16)
———	MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
———−0.50———	MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
——10−15——	SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.35' PER 30 DAYS FOR CURRENT PERIOD OF DAYS (AREA REPRESENTS 1.440' OVER 32 DAYS BASED ON CONVERSION)

ELEVATION CHANGE (FEET)

Number	Minimum Elev. Change	Maximum Elev. Change	Area (sq.ft.)	Color
1	−5.00	−4.00	0.00	
2	−4.00	−3.00	0.00	
3	−3.00	−2.00	0.00	
4	−2.00	−1.00	22549.91	
5	−1.00	0.00	1398742.06	
6	0.00	1.00	120360.39	

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
SEPTEMBER 15, 2016 THROUGH OCTOBER 17, 2016

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

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

October 1, 2016 – October 31, 2016 / MDNR ODOR COMPLAINTS

Name: Becky Kincaid

Message: Odor logged October 1, 2016, at 9:39 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 of this concern winds were of a west northwestern origin placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 1, 2016, at 7:04 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 of this concern winds were of a western origin placing this 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: MB

Message: Odor logged October 1, 2016, at 7:39 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 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: Rhonda Steelman

Message: Odor logged October 1, 2016, at 9:51 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 of 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 October 1, 2016, at 10:30 pm strength of 9

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 before and 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 of this concern winds were of a west northwestern 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. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 2, 2016, at 11:33 am 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 of this concern winds were of a western origin placing this 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 October 2, 2016, at 3:15 pm strength of 5

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. Odor from another known odor source with frequent off-site odor emissions was observed at numerous odor patrol observation points on an odor patrol performed after the time cited in this concern. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Valentina

Message: Odor logged October 2, 2016, at 4:12 pm strength of 8

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 of 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: N/A

Message: Odor logged October 2, 2016, at 2:52 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 the time of this concern winds were of a west northwestern origin placing this 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 October 2, 2016, at 3:53 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. 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 west southwestern 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: Kathy Luther

Message: Odor logged October 2, 2016, at 7:56 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 of this concern winds were of a north northwestern origin placing this

location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Christie Hart

Message: Odor logged October 3, 2016, at 8:50 am strength of 9

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. 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 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: MJ Stoeker

Message: Odor logged October 2, 2016, at 11:41 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 11 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. 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: Rhonda Steelman

Message: Odor logged October 3, 2016, at 6:02 am 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. At the time of 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: BrieAnn McCormick

Message: Odor logged October 7, 2016, at 6:41 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 the time of this concern winds were of a southwest 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: Jay Black

Message: Odor logged October 7, 2016, at 7:55 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 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: Rhonda Steelman

Message: Odor logged October 5, 2016, at 11:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 45 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 south 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: Monica Cantyne

Message: Odor logged October 7, 2016, at 11:29 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 the time of this concern winds were of a 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: Monica Cantyne

Message: Odor logged October 7, 2016, at 11:29 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 the time of this concern winds were of a 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: Traci Vette

Message: Odor logged October 7, 2016, at 7:45 am strength of 7

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 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: Barb Schiferl

Message: Odor logged October 7, 2016, at 10:00 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern cites a time 9 minutes in the future from the time of submittal, therefore Bridgeton Landfill staff were unable to ascertain the observation time of this odor concern. Bridgeton Landfill staff followed up on this concern within an hour of the submittal time and did not observe any odor. An odor patrol performed concurrently with the submittal time of this concern did not observe Bridgeton Landfill odor. The location cited in this concern 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: Tia Jacobs

Message: Odor logged October 7, 2016, at 10:00 pm 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. 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: Kathy Baumann

Message: Odor logged October 7, 2016, at 8:00 pm strength of 8

Follow-up: The following concern lacks essential location data and could not be investigated.

Name: David Sontheimer

Message: Odor logged October 8, 2016, at 10:29 am strength of 5

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

Name: Audra Richardson

Message: Odor logged October 8, 2016, at 9:27 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 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 October 9, 2016, at 9:42 pm 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 calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 10, 2016, at 6:45 am 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 points between the location cited in this concern and the Bridgeton Landfill. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Neil Monson

Message: Odor logged October 10, 2016, at 7:33 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 at multiple observation points in the vicinity of this location. At the time cited in this concern winds were calm. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kevin

Message: Odor logged October 10, 2016, at 7:20 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 8 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 multiple observation points between this location and the Bridgeton Landfill. At the time cited in this concern winds were calm. 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 October 11, 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 7 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. 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 October 12, 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 an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. Bridgeton Landfill staff observed odor from another known odor source with frequent off-site odor emissions while driving by this location both before and after the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 12, 2016, at 7:33 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 cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. Bridgeton Landfill staff observed odor from another known odor source with frequent off-site odor emissions while driving by this location both before and after the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 12, 2016, at 7:33 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Odor patrols performed before and after the cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southern origin placing this location outside the downwind pathway of the Bridgeton. Bridgeton Landfill staff observed odor from another known odor source with frequent off-site odor emissions while driving by this location both before and after the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 12, 2016, at 7:35 am strength of 10

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

Name: Liz Spector

Message: Odor logged October 12, 2016, at 10:31 pm strength of 7

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. 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 north northwestern 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: Liz Spector

Message: Odor logged October 12, 2016, at 10:31 pm strength of 7

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. 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 north northwestern 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: Liz Spector

Message: Odor logged October 12, 2016, at 10:31 pm strength of 7

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. 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 north northwestern 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: Liz Spector

Message: Odor logged October 12, 2016, at 10:31 pm strength of 7

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. 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 north northwestern 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: N/A

Message: Odor logged October 12, 2016, at 5:15 pm strength of 10

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 multiple observation points between this location and the Bridgeton Landfill. At the time cited in this concern winds were of a 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: Gail Bowman

Message: Odor logged October 6, 2016, at 10:15 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 8 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. At the time cited in this concern winds were of a south southeastern origin placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Gail Bowman

Message: Odor logged October 4, 2016, at 9:15 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 10 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 east southeastern 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 Marino

Message: Odor logged September 30, 2016, at 9:40 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 16 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 northern origin placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jennifer Marino

Message: Odor logged October 6, 2016, at 7:50 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 8 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 south southeastern 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 October 18, 2016, at 7:28 am strength of 3

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 October 18, 2016, at 11:03 am 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 of 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: N/A

Message: Odor logged October 18, 2016, at 4:48 pm 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. 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 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: Barb Schiferl

Message: Odor logged October 18, 2016, at 7:50 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 of 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: Kirbi Pemberton

Message: Odor logged October 18, 2016, at 8:45 pm strength of 8

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 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: Kirbi Pemberton

Message: Odor logged October 20, 2016, at 6:42 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 of this concern winds were of a north northeastern 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 October 20, 2016, at 7:44 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. Another known odor source with frequent off-site odor emissions is located 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 October 20, 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. Another known odor source with frequent off-site odor emissions is located between this location and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Melissa Quigg

Message: Odor logged October 20, 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 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. At the time of this concern winds were of a north northeastern 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: Tina Stricklan

Message: Odor logged October 20, 2016, at 11:21 am 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 north northwestern origin placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged October 20, 2016, at 2:13 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 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. This was not a Bridgeton Landfill odor.

Name: Liz Spector

Message: Odor logged October 20, 2016, at 10:15 am 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 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 October 20, 2016, at 9:40 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 before the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a northwest origin placing this location directly outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Mary Jo Adams

Message: Odor logged October 21, 2016, at 6:40 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. 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: N/A

Message: Odor logged October 21, 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 7 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 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: N/A

Message: Odor logged October 21, 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 7 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 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 October 21, 2016, at 7:33 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 7 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 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: Debi Disser

Message: Odor logged October 21, 2016, at 5:07 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 12 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 west northwestern 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 October 21, 2016, at 6:06 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 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. 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: Katie

Message: Odor logged October 21, 2016, at 7:58 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. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 23, 2016, at 9:20 pm 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 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. 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: Kirbi Pemberton

Message: Odor logged October 24, 2016, at 7:19 am strength of 8

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 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: N/A

Message: Odor logged October 24, 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 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. 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: N/A

Message: Odor logged October 24, 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 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. 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: N/A

Message: Odor logged October 24, 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 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. 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: Melanie Shedd

Message: Odor logged October 24, 2016, at 8:58 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. 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: N/A

Message: Odor logged October 24, 2016, at 7:54 am strength of 5

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. 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: Nigel Marples

Message: Odor logged October 24, 2016, at 8:00 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported 5 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. 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 October 26, 2016, at 7:29 am strength of 10

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. 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: Kirbi Pemberton

Message: Odor logged October 27, 2016, at 9:03 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 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. Odor from another known odor source with frequent off-site odor emissions was observed between this location and the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 27, 2016, at 2:00 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 35 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: Connie Usry

Message: Odor logged October 30, 2016, at 8:00 am 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. 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 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: Connie Usry

Message: Odor logged October 30, 2016, at 8:00 am 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. 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 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: Jim Usry

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

Follow-up: This concern cites a time over 12 hours in the future from the time of submittal; therefore Bridgeton Landfill staff was unable to investigate this concern.

Name: Jim Usry

Message: Invalid date at 10:30 pm, strength of 8

Follow-up: The following concern lacks a valid date and time; therefore Bridgeton Landfill staff was unable to investigate this concern.

Name: Kirbi Pemberton

Message: Odor logged October 30, 2016, at 12:43 pm strength of 4

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. 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: Robbin Daley

Message: Odor logged October 30, 2016, at 1:06 pm 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 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: Robbin Dailey

Message: Odor logged October 30, 2016, at 3:11 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. An odor patrol performed before the time the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a north northeastern origin placing this location inside the downwind pathway of the Bridgeton Landfill. Based on the wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged October 30, 2016, at 4:12 pm 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 before the time the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of northern origin placing this location inside the downwind pathway of the Bridgeton Landfill. Based on the wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged October 30, 2016, at 5:13 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Bridgeton Landfill staff observed a weak (2 Nasal Ranger D/T value) odor potentially attributable to Bridgeton Landfill at this location shortly after the time cited in this concern. A non-routine maintenance activity with the potential for brief intermittent odors was being performed in close proximity to the time cited in this concern. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged October 30, 2016, at 5:14 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. Bridgeton Landfill staff observed a weak (2 Nasal Ranger D/T value) odor potentially attributable to Bridgeton Landfill at this location shortly 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.

Name: Robbin Dailey

Message: Odor logged October 30, 2016, at 2:09 pm 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. An odor patrol performed within an hour before 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: Michael Dailey

Message: Odor logged October 30, 2016, at 4:15 pm 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 before the time the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of northern origin placing this location inside the downwind pathway of the Bridgeton Landfill. Based on the wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged October 30, 2016, at 3:16 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. An odor patrol performed before the time the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a north northeastern origin placing this location inside the downwind pathway of the Bridgeton Landfill. Based on the wind direction there is potential for this to have been a Bridgeton Landfill odor.

Name: Michael Dailey

Message: Odor logged October 30, 2016, at 2:17 pm 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. An odor patrol performed within an hour before 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: Michael Dailey

Message: Odor logged October 30, 2016, at 1:18 pm 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 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.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

October 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
10/1/2016	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	0
10/2/2016				0
10/3/2016				0
10/4/2016				0
10/5/2016				0
10/6/2016				0
10/7/2016				0
10/8/2016				0
10/9/2016				0
10/10/2016				0
10/11/2016				0
10/12/2016				0
10/13/2016				0
10/14/2016				0
10/15/2016				0
10/16/2016				0
10/17/2016				0
10/18/2016				0
10/19/2016				0
10/20/2016				0
10/21/2016				0
10/22/2016				0
10/23/2016				0
10/24/2016				0
10/25/2016				0
10/26/2016				0
10/27/2016				0
10/28/2016				0
10/29/2016				0
10/30/2016				0
10/31/2016				0
			Total=	**0**

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
10/1/2016	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	275,412
10/2/2016			269,459
10/3/2016			209,592
10/4/2016			179,028
10/5/2016			168,791
10/6/2016			159,988
10/7/2016			176,947
10/8/2016			164,269
10/9/2016			158,370
10/10/2016			158,241
10/11/2016			201,213
10/12/2016			259,688
10/13/2016			141,342
10/14/2016			235,240
10/15/2016			264,562
10/16/2016			268,078
10/17/2016			218,092
10/18/2016			192,280
10/19/2016			195,728
10/20/2016			205,962
10/21/2016			201,444
10/22/2016			247,342
10/23/2016			312,068
10/24/2016			306,256
10/25/2016			300,710
10/26/2016			259,384
10/27/2016			192,976
10/28/2016			74,244
10/29/2016			216,798
10/30/2016			217,762
10/31/2016			214,464
		Total =	**6,645,730**

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.
4. NO FILL ADDED BETWEEN SURVEY DATES 9-27-16 AND 10-17-16.

LEGEND

BOUNDARY OF FILL AREA FOR 9-27-16 THROUGH 10-17-16

BOUNDARY OF STOCKPILE AREA FOR 9-27-16 THROUGH 10-17-16

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
OCTOBER 2016

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