

Bridgeton Landfill, LLC

Monthly Data Submittals

October 2017

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

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Provided Separately:

- Flare Raw Data Excel Spreadsheet
- Gas Wellfield Raw Data Excel Spreadsheet

November 20, 2017

Commentary on Data

November 20, 2017

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 170 SCFM from the North Quarry and 1,197 SCFM from the South Quarry, for a total site flow of 1,380 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 25 GEW wells that are experiencing low or restricted flows, and four (4) GIW wells that have low gas flow due to the cooling loops that are installed within these wells. By the end of the month, 15 of the GEW wells and 4 of the GIW wells still exhibited oxygen at the wellhead at or greater than 5%. All of these wells are low-flow/vacuum sensitive wells with valves only slightly open. On-going tuning, maintenance, and pump operation is being performed to manage the oxygen content. With the exception of GEW-1A, all of these wells are in the South Quarry area where the flexible membrane liner cap is in place to prevent atmospheric intrusion into the waste mass.
- Attachment E-2 contains gas temperatures as measured at the wellheads. One (1) vertical wells (excluding GIW wells) increased by 30°F during this reporting period. Additionally, 8 vertical wells (excluding GIW wells) decreased 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.
- 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 (58 ppm) and GEW-055 (36 ppm).

Settlement

- The South Quarry exhibited monthly maximum settlement up to 0.85 feet over 33 days for this reporting period (see Attachment F).

Bird Monitoring and Mitigation

- Bridgeton Landfill conducted bird monitoring during this reporting period in accordance with the Approved Bird Hazard Monitoring and Mitigation Plan, last updated in

December 2016. Bridgeton Landfill personnel completed required annual training by USDA APHIS Wildlife Services on August 25, 2017 for landfill personnel actively involved in managing hazardous wildlife near airports. Birds noted on-site are dispersed using pyrotechnics, a cap gun and vehicles. Logs of bird population observations are provided to the Airport and the USDA APHIS Wildlife Services on a weekly basis.

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 in Attachment I-1.
- Clean fill activities commenced on June 28th and continued into October.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in October 2017

Gas Collection and Control System (GCCS)

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

Heat Extraction System (HES)

- Continued operation and maintenance of the HES (pilot and barrier wells).
- Submitted the Year One Heat Extraction Performance Report.

Leachate Management System

- Continued routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Continued ongoing operation of facility.
- Continued to optimize operation efficiency of pre-treatment facility.
- Permeate continued to be discharged directly to St. Louis Metropolitan Sewer District (MSD) – Bissell Point Facility or other approved disposal facilities as determined by MSD.

Other Projects

- Continued the East Fill project.
- Continued accepting clean fill for East Fill maintenance and fill project.
- Infrastructure in East Fill area has been raised as necessary to perform maintenance on existing infrastructure.
- Completed non routine liner repairs in the South Quarry.

Work Planned for November 2017

Gas Collection and Control System (GCCS)

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

Heat Extraction System (HES)

- Continue operation and maintenance of the HES.
- Continue upgrades to the HES as necessary.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.

Pre-Treatment Facility

- Ongoing operation of facility.
- Continue to optimize operation efficiency of pre-treatment facility.
- Permeate will continue to be discharged directly to St. Louis Metropolitan Sewer District (MSD) – Bissell Point Facility or other approved disposal facilities as determined by MSD.

Other Projects:

- Continue the East Fill project.
- Continue acceptance of clean fill materials for East Fill maintenance and fill project.
- Infrastructure will continued to be raised as necessary in the East Fill area.
- Initiate construction of alternative first responder entrances.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1
FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
October 2017

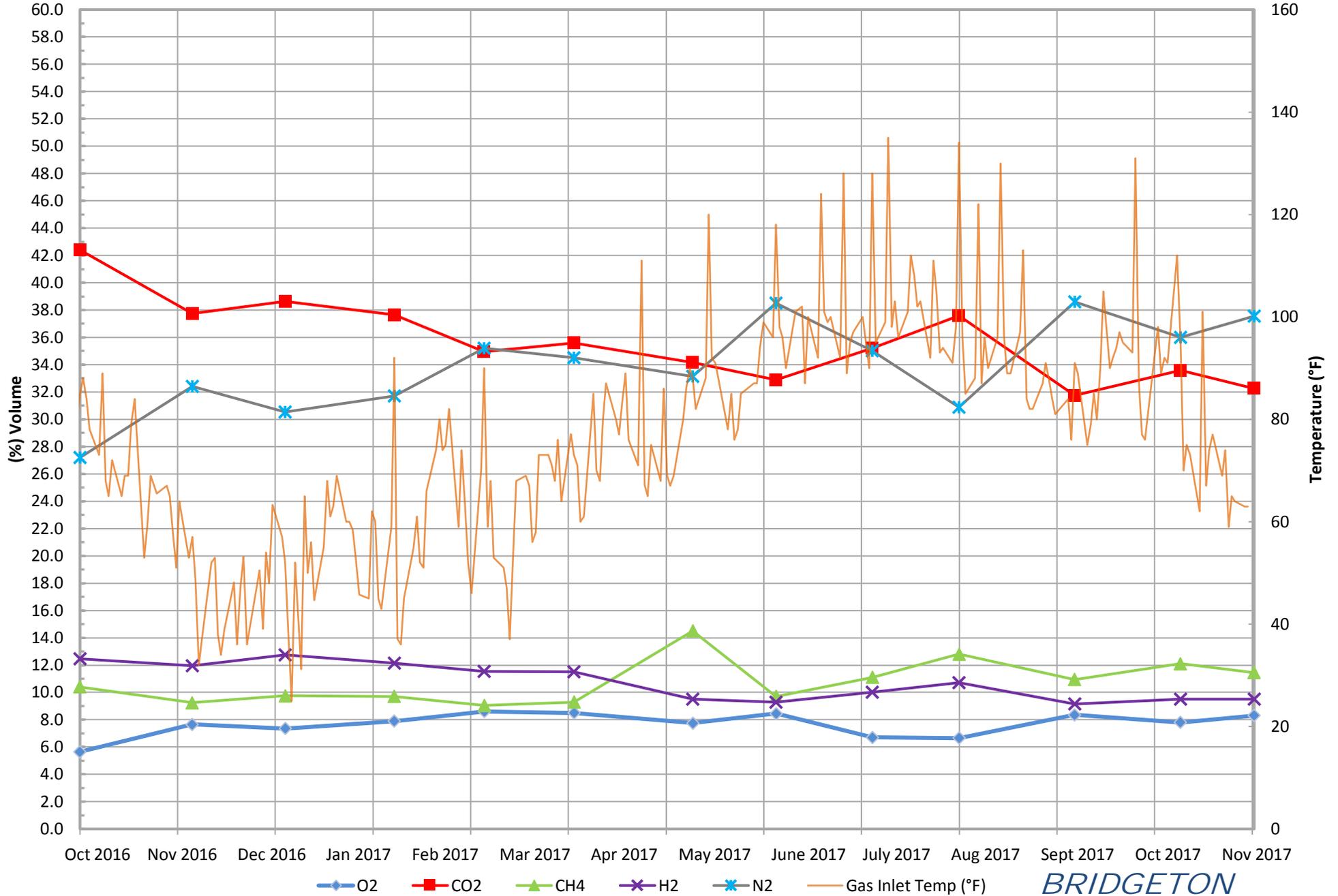
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	EP14 NQ Utility Flare***	
10/1/2017	0	0	1,361	170	1,531
10/2/2017	0	0	1,381	173	1,554
10/3/2017	0	0	1,376	172	1,548
10/4/2017	0	0	1,454	177	1,630
10/5/2017	0	0	1,355	172	1,528
10/6/2017	0	0	1,241	198	1,439
10/7/2017	0	0	1,218	189	1,407
10/8/2017	0	0	1,219	193	1,412
10/9/2017	0	0	1,221	193	1,414
10/10/2017	0	0	1,189	191	1,380
10/11/2017	0	0	1,145	187	1,332
10/12/2017	0	0	1,120	179	1,299
10/13/2017	0	0	1,173	178	1,351
10/14/2017	0	0	1,230	179	1,410
10/15/2017	0	0	1,178	171	1,349
10/16/2017	0	0	1,199	172	1,371
10/17/2017	0	0	1,207	167	1,374
10/18/2017	0	307	887	164	1,358
10/19/2017	29	0	1,188	162	1,379
10/20/2017	0	0	1,220	178	1,398
10/21/2017	0	0	1,209	177	1,385
10/22/2017	0	0	1,174	173	1,346
10/23/2017	25	54	1,086	174	1,340
10/24/2017	0	0	1,182	165	1,348
10/25/2017	0	0	1,216	168	1,383
10/26/2017	0	0	1,173	168	1,340
10/27/2017	0	0	1,144	154	1,298
10/28/2017	0	0	1,057	140	1,198
10/29/2017	0	0	959	130	1,089
10/30/2017	0	0	1,082	118	1,201
10/31/2017	0	0	1,252	140	1,391
AVERAGE	2	12	1,197	170	1,380

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

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

ATTACHMENT B-2
FLOW DATA GRAPHS

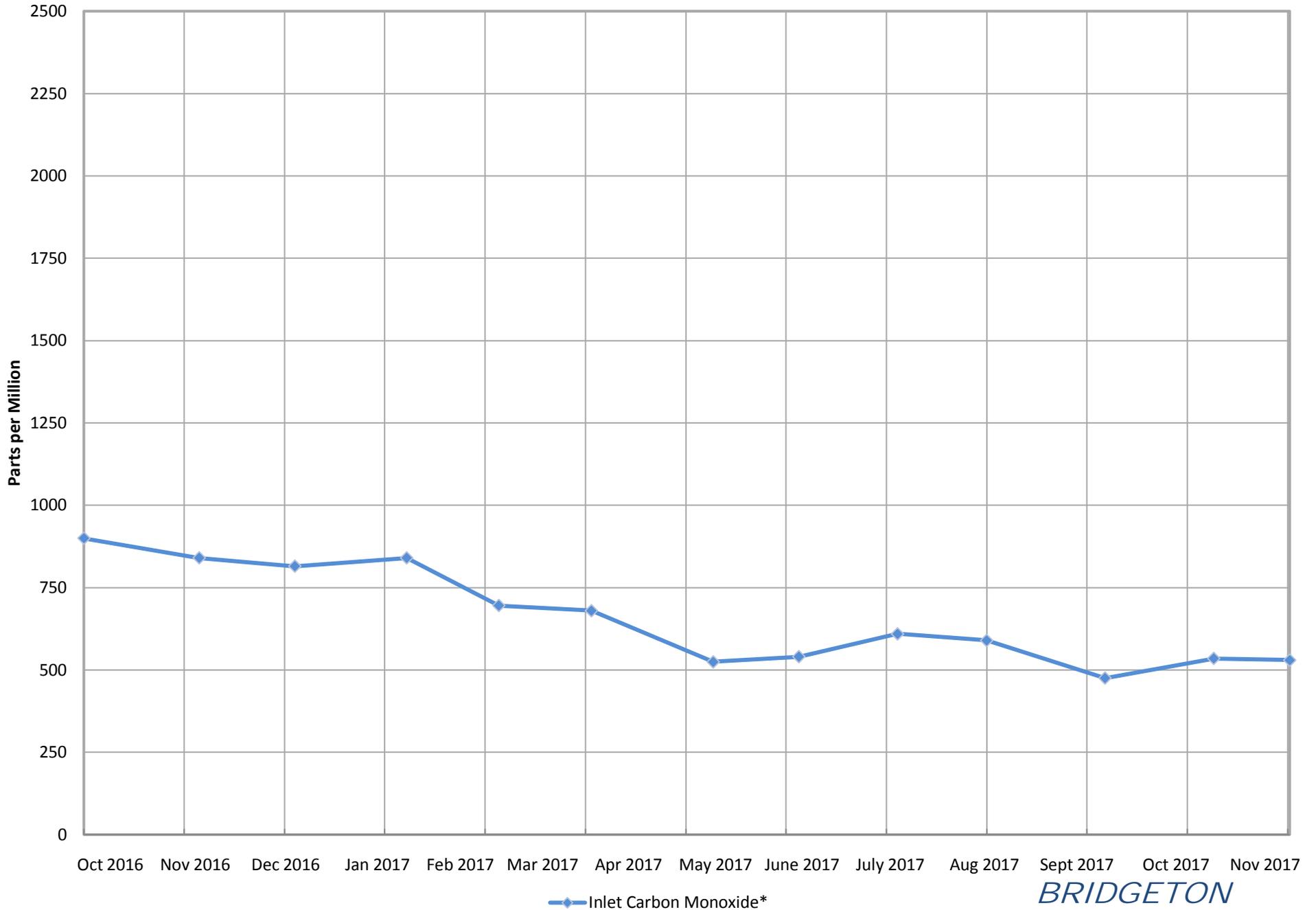
South Quarry Inlet Gas and Temperature*



*BRIDGETON
LANDFILL*

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

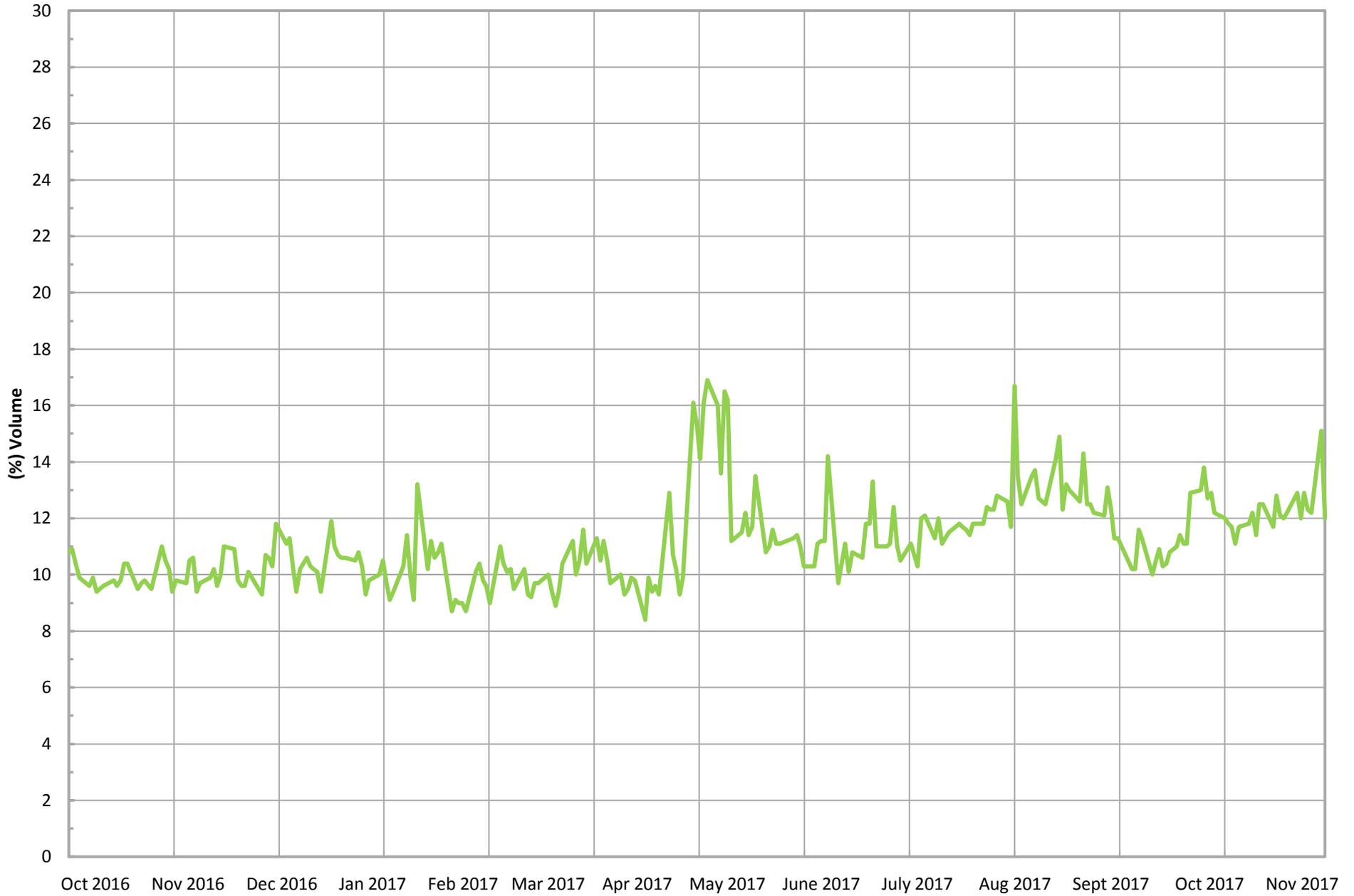
South Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the South Quarry.

*BRIDGETON
LANDFILL*

South Quarry Inlet Methane (Field Data)*

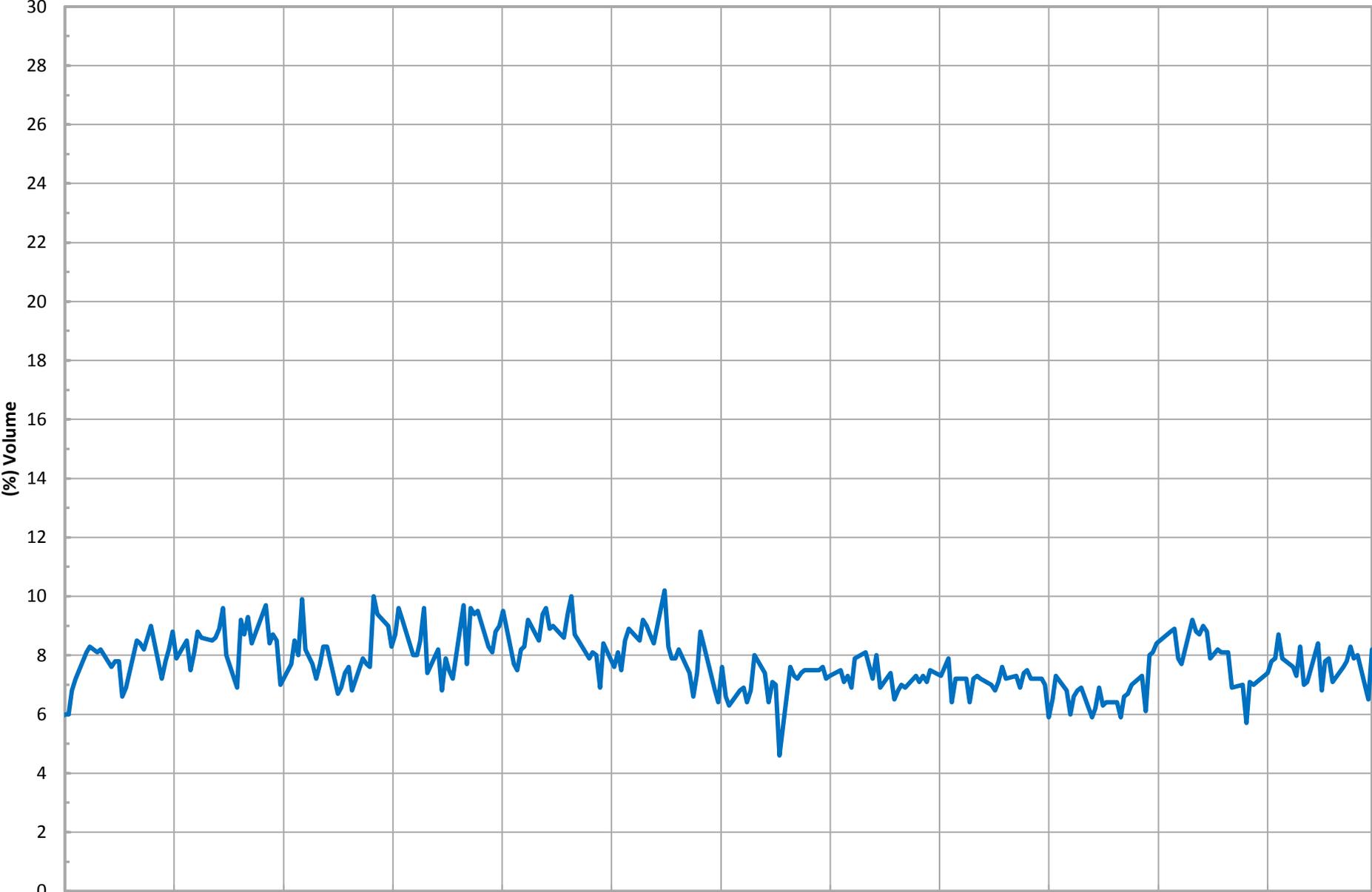


*Gas data collected from field monitoring data in the South Quarry.

— Combined Inlet Methane (Field Data)*

*BRIDGETON
LANDFILL*

South Quarry Inlet Oxygen (Field Data)*

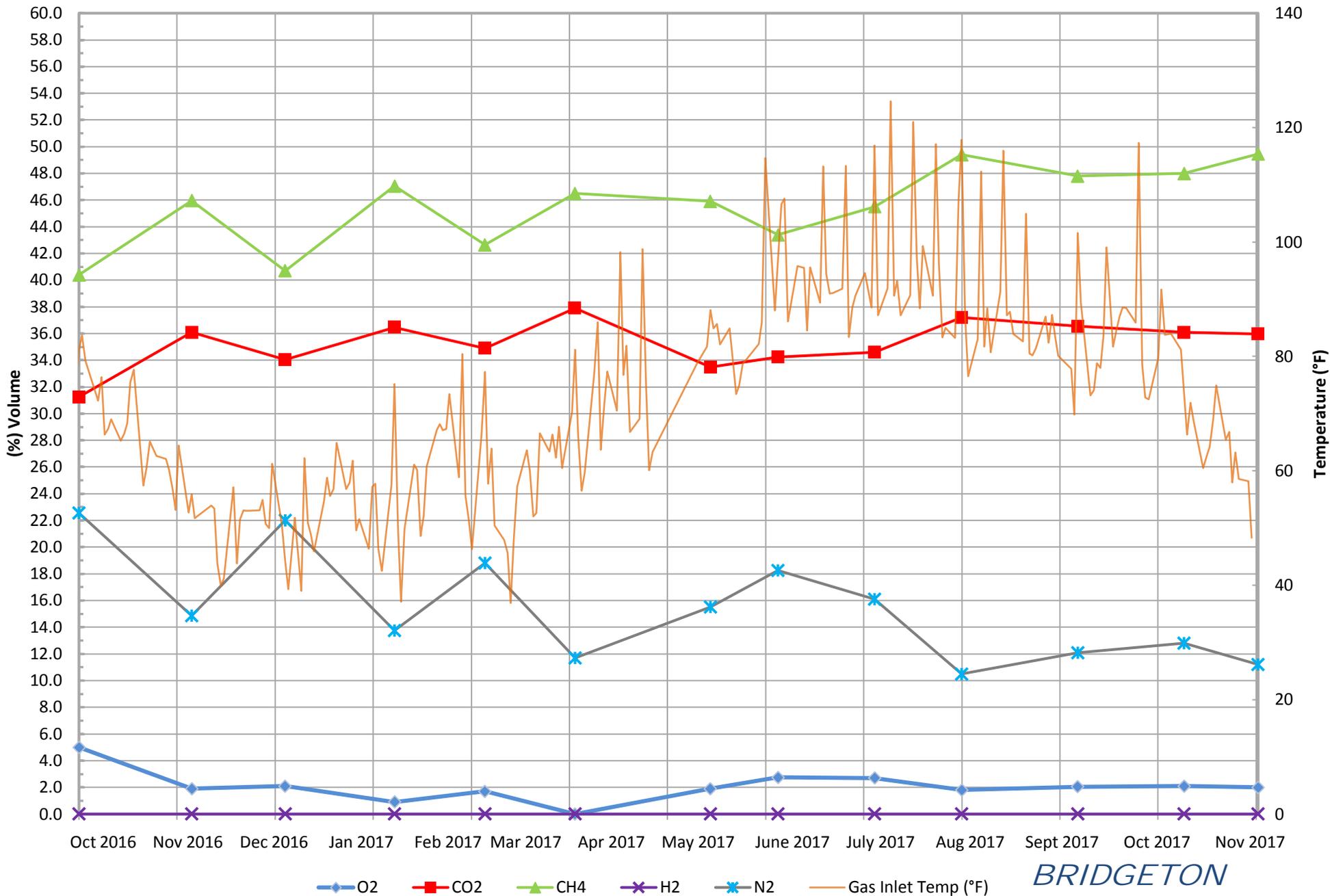


*Gas data collected from field monitoring data in the South Quarry.

— Combined Inlet Oxygen (Field Data)*

*BRIDGETON
LANDFILL*

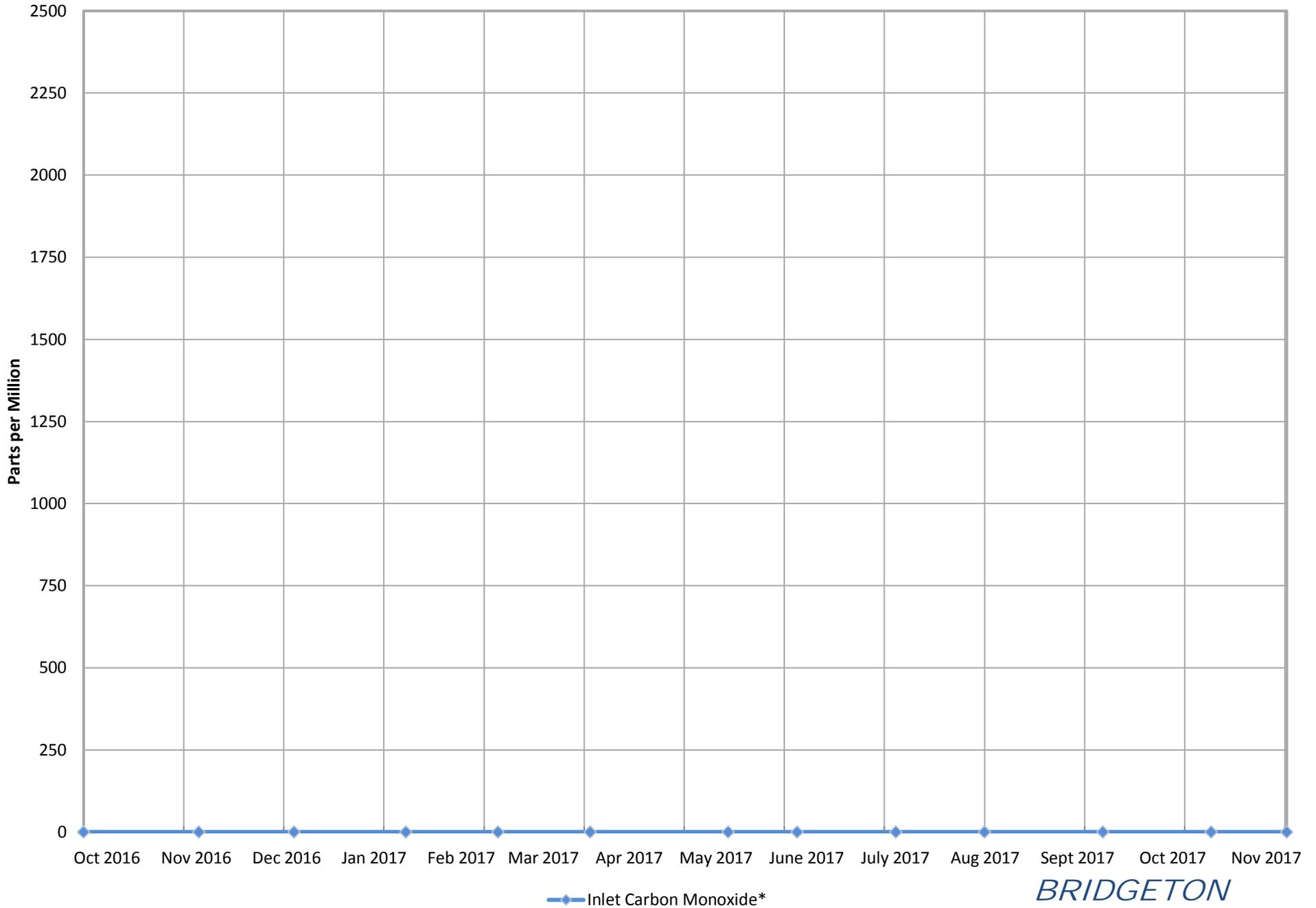
North Quarry Inlet Gas and Temperature*



*BRIDGETON
LANDFILL*

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

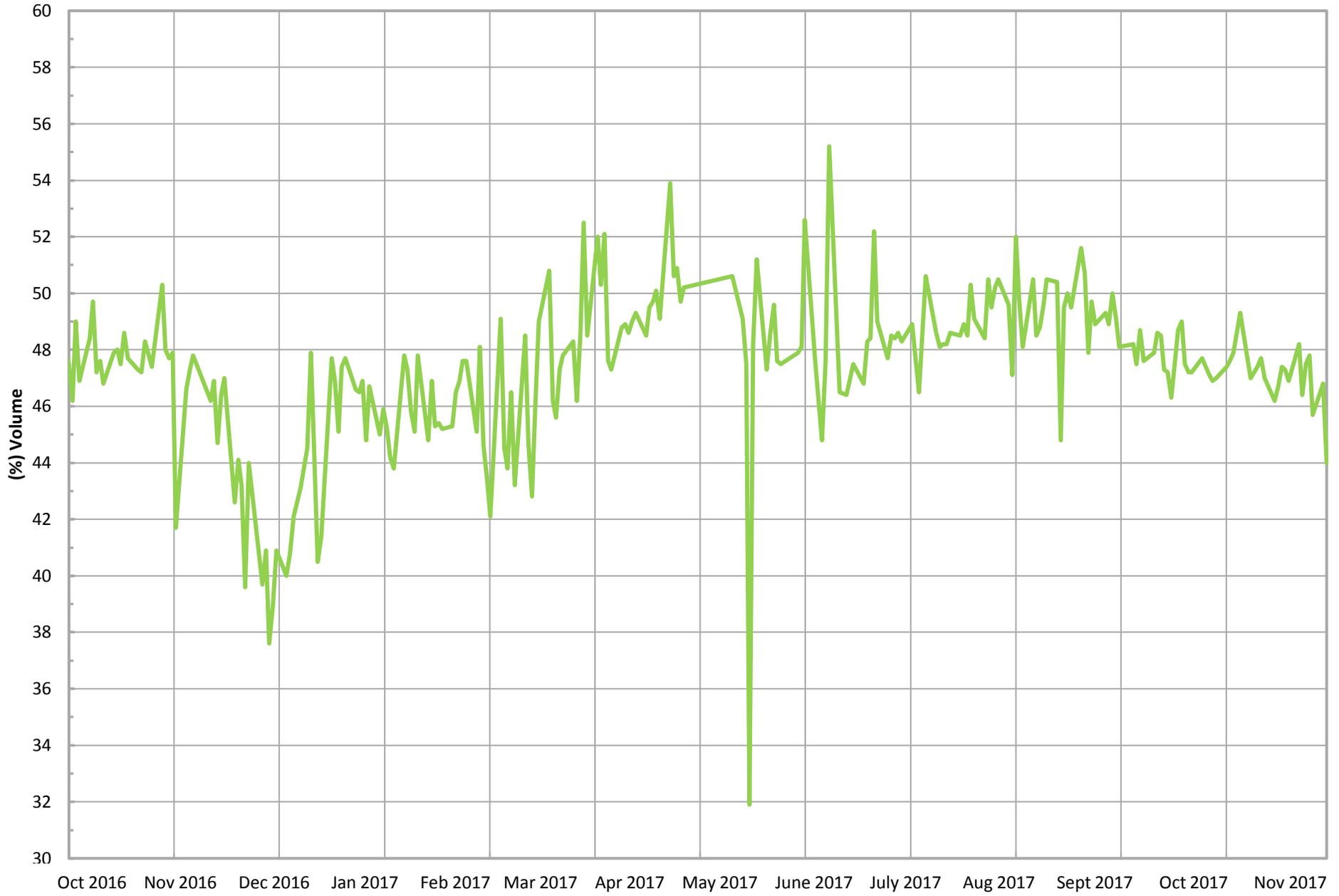
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

*BRIDGETON
LANDFILL*

North Quarry Inlet Methane (Field Data)*

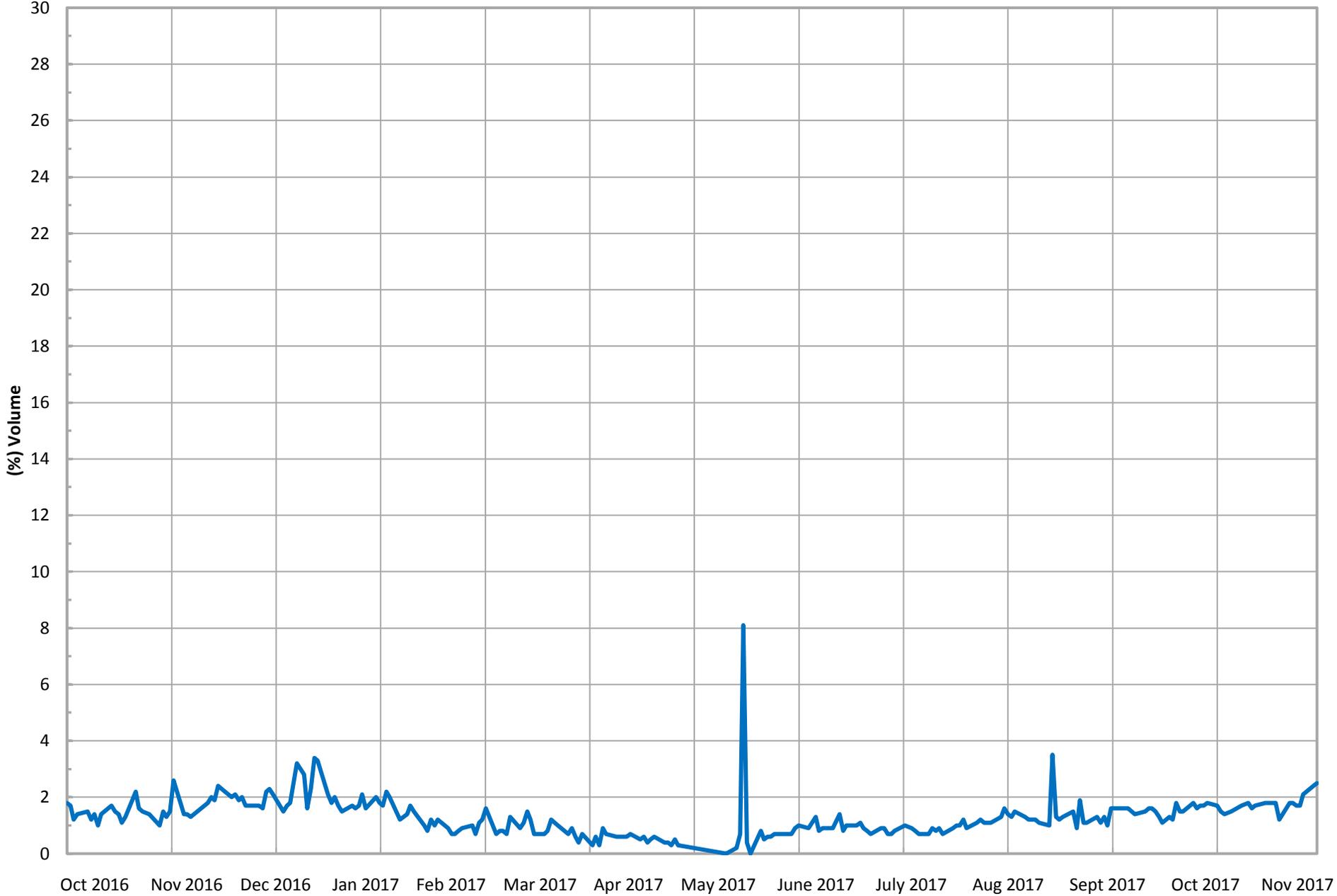


*Gas data collected from field monitoring data in the North Quarry.

— Combined Inlet Methane (Field Data)*

*BRIDGETON
LANDFILL*

North Quarry Inlet Oxygen (Field Data)*

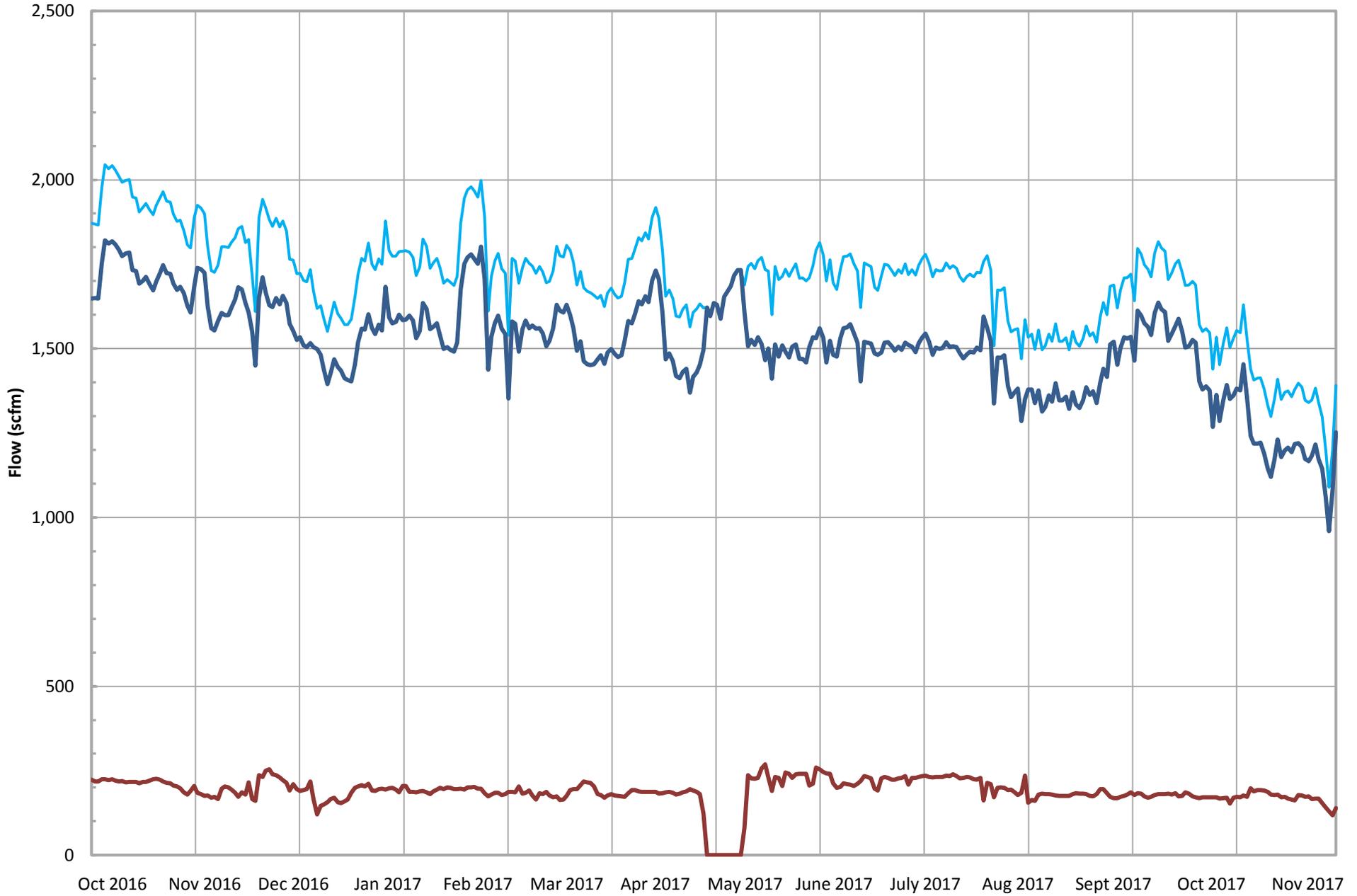


*Gas data collected from field monitoring data in the North Quarry.

— Combined Inlet Oxygen (Field Data)*

*BRIDGETON
LANDFILL*

Total Combined Flow (scfm)*



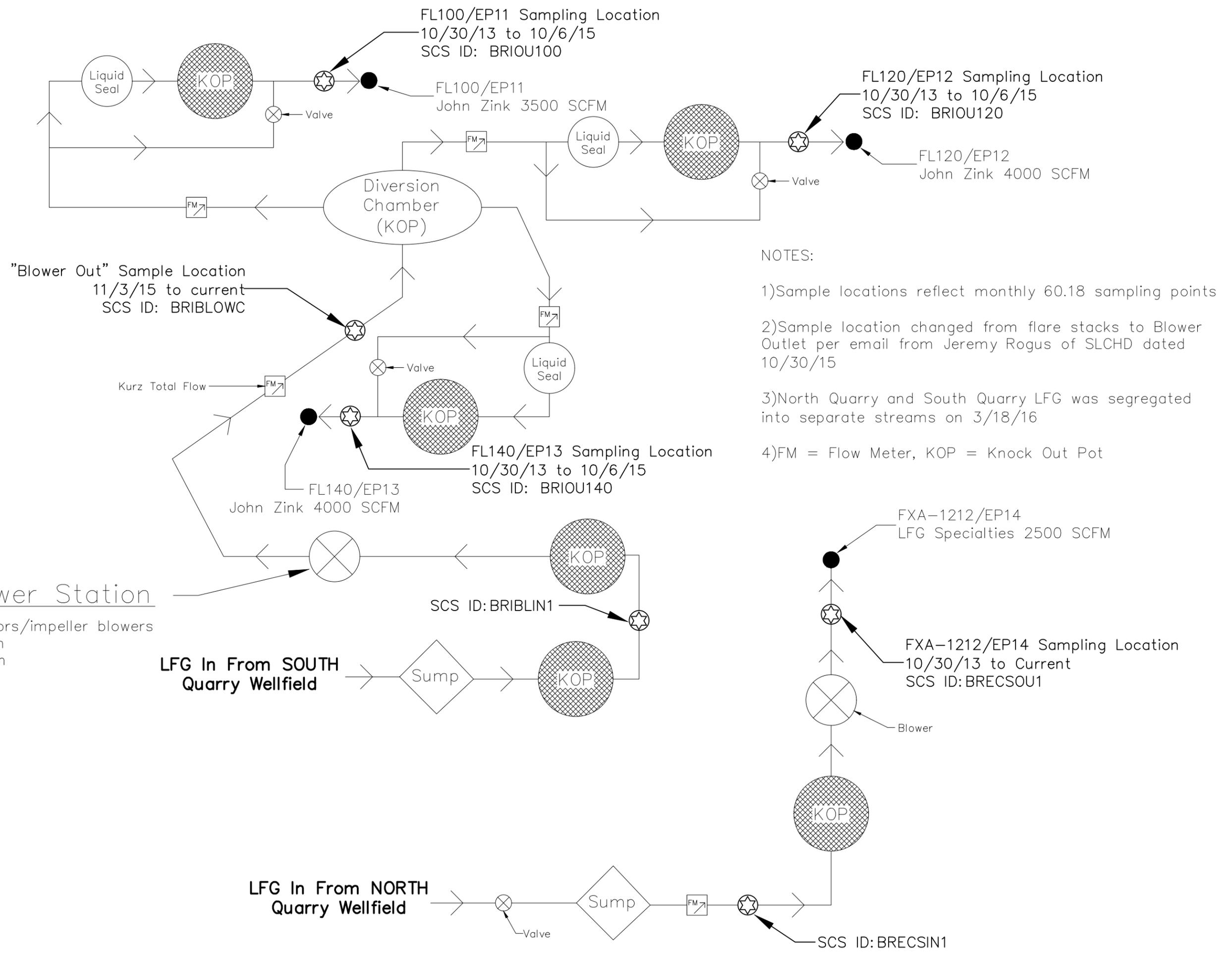
*Combined flow is based on tabulated flow data collected daily from FL-100, FL-120, FL-140, and the Auxillary Candlestick Flare.

— Total Combined Flow (scfm)*
— SQ Flare Station Total Utility Flare Flow
— NQ Utility 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 - NORTH & SOUTH QUARRY FLARE COMPOUND
 13570 ST. CHARLES ROCK ROAD
 BRIDGETON, MISSOURI

No.	DATE	REVISION DESCRIPTION
1	9/10/2016	EP-06 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

I:\PROJECTS\120\131 Bridgeton\Bridgeton Air Compliance 2016\Figure 1 - Flow Diagram.dwg; cthoenen; February 17, 2017

TABLE 1
Summary of Key LFG Tested Parameters
Flare Compound: Blower Outlet

Bridgeton Landfill, LLC.
October 10, 2017 to November 02, 2017

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
¹ 139-44	11/2/2017	15.42	1226	1500
				1500
² 138-43	10/24/2017	13.80	1118	1300
				1200
² 137-42	10/17/2017	13.81	1119	1300
				1200
¹ 136-41	10/10/2017	14.56	1126	1400
				1300

Notes:

¹Indicates velocity/flow determined by EPA Method 2

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

PARAMETER		Blower Out
SOUTH QUARRY LFG - BLOWER OUTLET (FL140/EP-13 Only)		
Date	Test Date	11/2/17
Start	Run Start Time	8:45
	Run Finish Time	10:19
	Net Traversing Points	8 (2 x 4)
	Net Run Time, minutes	1:33:20
C_p	Pitot Tube Coefficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.38
$\% H_2O$	Moisture Content of LFG, %	1.85
$\% RH$	Relative Humidity, %	57.00
M_{fd}	Dry Mole Fraction	0.982
$\% CH_4$	Methane, %	12.10
$\% CO_2$	Carbon Dioxide, %	33.60
$\% O_2$	Oxygen, %	7.80
$\% Balance$	Assumed as Nitrogen, %	35.95
$\% H_2$	Hydrogen, %	9.45
$\% CO$	Carbon Monoxide, %	0.05
M_d	Dry Molecular Weight, lb/lb-Mole	29.50
M_s	Wet Molecular weight, lb/lb-Mole	29.29
P_g	Flue Gas Static Pressure, inches of H_2O	13.19
P_s	Absolute Flue Gas Pressure, inches of Mercury	30.35
t_s	Average Stack Gas Temperature, °F	77
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.055
v_s	Average LFG Velocity, feet/second	15.42
A_s	Stack Crosssectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,226
Q_s	Standard Volumetric Flow Rate, scfm	1,249
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,252
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	5,634
NHV	Net Heating Value, Btu/scf	152.3
LFG_{CH4}	Methane, lb/hr	370.8
	Methane, grains/dscf	35.28
LFG_{CO2}	Carbon Dioxide, lb/hr	2,824.9
	Carbon Dioxide, grains/dscf	268.73
LFG_{O2}	Oxygen, lb/hr	476.8
	Oxygen, grains/dscf	45.36
LFG_{N2}	Balance gas as Nitrogen, lb/hr	1,923.9
	Balance gas as Nitrogen, grains/dscf	183.02
LFG_{H2}	Hydrogen, lb/hr	36.4
	Hydrogen, grains/dscf	3.46
LFG_{CO}	Carbon Monoxide, lb/hr	2.9
	Carbon Monoxide, grains/dscf	0.27

		Outlet A	Outlet B
H₂S	Hydrogen Sulfide Concentration, ppmvd	19.00	0.59
	Hydrogen Sulfide Rate, lb/hr	0.12	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.012	0.000
COS	Carbonyl Sulfide Concentration, ppmvd	0.59	0.59
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH₄S	Methyl Mercaptan Concentration, ppmvd	190	91
	Methyl Mercaptan Rate, lb/hr	1.75	0.84
	Methyl Mercaptan Rate, grains/dscf	0.166	0.080
C₂H₆S	Ethyl Mercaptan Concentration, ppmvd	1.8	1.3
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
(CH₃)₂S	Dimethyl Sulfide Concentration, ppmvd	1,100	1,100
	Dimethyl Sulfide Rate, lb/hr	13.06	13.06
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.242
CS₂	Carbon Disulfide Concentration, ppmvd	0.76	0.79
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C₂H₆S₂	Dimethyl Disulfide Concentration, ppmvd	82	120
	Dimethyl Disulfide Rate, lb/hr	1.48	1.75
	Dimethyl Disulfide Rate, grains/dscf	0.140	0.166
① E_{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	1,500	1,500
	TRS-->SO2 Emission Rate, lb/hr	18.36	18.36
	TRS-->SO2 Emission Rate, grains/dscf	1.746	1.746

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

Thursday, November 02, 2017

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	8:45	1,249	1,142	1,197	8.6%	4.2%	4.6%

**Note: Fleetzoom data derived from EP-13/FL140 TSI Flow Meter*

PARAMETER		Blower Out
EP14 NORTH QUARRY LFG ONLY		
Date	Test Date	11/2/17
Start	Run Start Time	13:44
	Run Finish Time	15:14
	Net Traversing Points	8 (2 x 4)
	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coefficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.37
$\% H_2O$	Moisture Content of LFG, %	2.94
$\% RH$	Relative Humidity, %	51.95
M_{fd}	Dry Mole Fraction	0.971
$\% CH_4$	Methane, %	48.00
$\% CO_2$	Carbon Dioxide, %	36.05
$\% O_2$	Oxygen, %	2.05
%Balance	Assumed as Nitrogen, %	12.75
$\% H_2$	Hydrogen, % (* reported at the laboratory detection limit)	3.10
$\% CO$	Carbon Monoxide, % (* reported at the laboratory detection limit)	0.00310
M_d	Dry Molecular Weight, lb/lb-Mole	27.86
M_s	Wet Molecular weight, lb/lb-Mole	27.57
P_g	Flue Gas Static Pressure, inches of H ₂ O	0.50
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.40
t_s	Average Stack Gas Temperature, °F	94
ΔP_{avg}	Average Velocity Head, inches of H ₂ O	0.009
v_s	Average LFG Velocity, feet/second	6.64
A_s	Stack Crosssectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	186
Q_s	Standard Volumetric Flow Rate, scfm	191
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	204
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	806
NHV	Net Heating Value, Btu/scf	449.5
LFG_{CH4}	Methane, lb/hr	222.8
	Methane, grains/dscf	139.94
LFG_{CO2}	Carbon Dioxide, lb/hr	459.0
	Carbon Dioxide, grains/dscf	288.33
LFG_{O2}	Oxygen, lb/hr	19.0
	Oxygen, grains/dscf	11.92
LFG_{N2}	Balance gas as Nitrogen, lb/hr	103.3
	Balance gas as Nitrogen, grains/dscf	64.91
LFG_{H4}	Hydrogen, lb/hr	1.8
	Hydrogen, grains/dscf	1.14
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H₂S	Hydrogen Sulfide Concentration, ppmvd	28	27
	Hydrogen Sulfide Rate, lb/hr	0.03	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.017
COS	Carbonyl Sulfide Concentration, ppmvd	0.63	0.63
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH₄S	Methyl Mercaptan Concentration, ppmvd	5.3	5.7
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.005	0.005
C₂H₆S	Ethyl Mercaptan Concentration, ppmvd	0.63	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH₃)₂S	Dimethyl Sulfide Concentration, ppmvd	19	21
	Dimethyl Sulfide Rate, lb/hr	0.03	0.04
	Dimethyl Sulfide Rate, grains/dscf	0.021	0.024
CS₂	Carbon Disulfide Concentration, ppmvd	0.63	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C₂H₆S₂	Dimethyl Disulfide Concentration, ppmvd	0.63	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
E_{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	53	54
	TRS-->SO2 Emission Rate, lb/hr	0.10	0.10
	TRS-->SO2 Emission Rate, grains/dscf	0.062	0.063

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

November 10, 2017

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I110303-01/04

Enclosed are results for sample(s) received 11/03/17 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, Anthony Kimutis and Ron Baker; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group; and Jan Feezor, Feezor Engineering on 11/10/17.

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.



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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME: Standard 48 hours Same Day **24 hours** 96 hours 5 day Other: _____
 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.: 6605567
 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/TYP	MATRIX	PRESERVATION	ANALYSIS REQUEST			
	Canister ID	Sample Start	Sample End	Lab Receive							EPA Method 15/16	ASTM 1946 + H2 + CO &	Btu/SCF	ASTM 1946 + H2 + CO &
I110303-01	1287	-19.72	-3.53		NQ EP14 A	11/2/2017	14:03	C-6L	LFG	He	X	X	X	
-02	5950	-19.71	-3.52		NQ EP14 B	11/2/2017	14:31	C-6L	LFG	He	X	X	X	
-03	1297	-20.09	-3.47		Blower Outlet A	11/2/2017	9:06	C-6L	LFG	He	X	X	X	
-04	6010	-20.21	-3.5		Blower Outlet B	11/2/2017	9:36	C-6L	LFG	He	X	X	X	

COMMENTS
 AUTHORIZATION TO PERFORM WORK: Dave Penoyer
 COMPANY: Republic Services
 SAMPLED BY: AKIRB
 COMPANY: Weaver Consultants Group
 RELINQUISHED BY: *Donald V. Baker Jr* DATE/RECEIVED BY: 11/2/2017
 RELINQUISHED BY: *FedEx* DATE/RECEIVED BY: 11/3/17 11:38
 DATE/RECEIVED BY: *J. Kang*

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other
 DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy
 Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other
 Rev. 03 - 5/7/09

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/03/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I110303-01	I110303-02	I110303-03	I110303-04				
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B	Blower Outlet A	Blower Outlet B				
Date/Time Sampled:	11/2/17 14:03	11/2/17 14:31	11/2/17 9:06	11/2/17 9:36				
Date/Time Analyzed:	11/8/17 11:56	11/8/17 12:08	11/8/17 12:21	11/8/17 12:33				
QC Batch No.:	171108GC3A1	171108GC3A1	171108GC3A1	171108GC3A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.2	3.2	3.0	3.0				
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	28	0.63	27	0.63	19	0.59	ND	0.59
Carbonyl Sulfide	ND	0.63	ND	0.63	ND	0.59	ND	0.59
Methyl Mercaptan	5.3	0.63	5.7	0.63	190 d	59	91 d	59
Ethyl Mercaptan	ND	0.63	ND	0.63	1.8	0.59	1.3	0.59
Dimethyl Sulfide	19	0.63	21	0.63	1,100 d	59	1,100 d	59
Carbon Disulfide	ND	0.63	ND	0.63	0.76	0.59	0.79	0.59
Dimethyl Disulfide	ND	0.63	ND	0.63	82 d	59	120 d	59
Total Reduced Sulfur	53	0.63	54	0.63	1,500	0.59	1,500	0.59

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 11-10-17

The cover letter is an integral part of this analytical report



QC Batch No.: 171108GC3A1
 Matrix: Air
 Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank	LCS	LCSD					
Date/Time Analyzed:	11/8/17 11:43	11/8/17 11:18	11/8/17 11:30					
Analyst Initials:	AS	AS	AS					
Datafile:	07nov031	07nov029	07nov030					
Dilution Factor:	1.0	1.0	1.0					
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	110	70-130%	109	70-130%	1.0	<30
Carbonyl Sulfide	ND	0.20	112	70-130%	110	70-130%	1.8	<30
Methyl Mercaptan	ND	0.20	123	70-130%	120	70-130%	1.8	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	113	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	101	70-130%	99	70-130%	2.3	<30
Carbon Disulfide	ND	0.20	101	70-130%	100	70-130%	1.9	<30
Dimethyl Disulfide	ND	0.20	94	70-130%	92	70-130%	2.3	<30

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

Reviewed/Approved By: Mark J. Johnson
 Mark J. Johnson
 Operations Manager

Date: 11-10-17

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/03/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

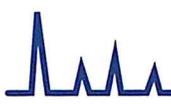
Lab No.:	I110303-01	I110303-02						
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B						
Date/Time Sampled:	11/2/17 14:03	11/2/17 14:31						
Date/Time Analyzed:	11/7/17 15:37	11/7/17 15:52						
QC Batch No.:	171107GC8A1	171107GC8A1						
Analyst Initials:	AS	AS						
Dilution Factor:	3.2	3.2						
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	3.2	ND	3.2				
Carbon Dioxide	36.1	0.032	35.8	0.032				
Oxygen/Argon	2.0	1.6	2.0	1.6				
Nitrogen	11.3	3.2	11.1	3.2				
Methane	49.3	0.0032	49.6	0.0032				
Carbon Monoxide	ND	0.0032	ND	0.0032				
Net Heating Value (BTU/ft3) methane only	448.2	3.2	450.7	3.2				
Gross Heating Value (BTU/ft3) methane only	497.8	3.2	500.6	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: 
 Mark Johnson
 Operations Manager

Date 11-10-17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/03/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946							
Lab No.:	I110303-03		I110303-04				
Client Sample I.D.:	Blower Outlet A		Blower Outlet B				
Date/Time Sampled:	11/2/17 9:06		11/2/17 9:36				
Date/Time Analyzed:	11/7/17 16:06		11/7/17 16:21				
QC Batch No.:	171107GC8A1		171107GC8A1				
Analyst Initials:	AS		AS				
Dilution Factor:	3.0		3.0				
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v			
Hydrogen	9.5	3.0	9.5	3.0			
Carbon Dioxide	32.4	0.030	32.1	0.030			
Oxygen/Argon	8.3	1.5	8.3	1.5			
Nitrogen	37.5	3.0	37.6	3.0			
Methane	11.4	0.0030	11.5	0.0030			
Carbon Monoxide	0.053	0.0030	0.053	0.0030			
Net Heating Value (BTU/ft3)	150.6	3.0	154.0	3.0			
Gross Heating Value (BTU/ft3)	170.4	3.0	174.0	3.0			

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 11-10-17

The cover letter is an integral part of this analytical report



QC Batch No: 171107GC8A1
 Matrix: Air
 Reporting Units: % v/v

**ASTM D1946
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/7/17 14:53			11/7/17 14:09		11/7/17 14:24					
Analyst Initials:	AS			AS		AS					
Dilution Factor:	1.0			1.0		1.0		Limits			
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	4.66	93	4.66	93	0.0	70	130	30
Carbon Dioxide	ND	0.010	10	9.04	90	8.97	89	0.9	70	130	30
Oxygen/Argon	ND	0.50	15	15.8	107	15.7	106	0.9	70	130	30
Nitrogen	ND	1.0	70	71.1	102	70.4	101	0.9	70	130	30
Methane	ND	0.0010	0.10	0.105	105	0.105	105	0.4	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.105	105	0.104	104	0.4	70	130	30

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 11-10-17

The cover letter is an integral part of this analytical report



Kurz FM = 1,177 scfm
 Fleetzoom Total = 1,217 scfm $\Delta = 3.3\%$

PARAMETER		Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date	10/24/17	10/24/17
Time	Start	10:28	10:45
*%CH ₄	Methane, %	12.8	12.4
*%CO ₂	Carbon Dioxide, %	36.4	37.6
**%O ₂	Oxygen, %	7.5	7.7
*%Balance	Assumed as Nitrogen, %	43.3	42.3
P _g	Flue Gas Static Pressure, inches of H ₂ O	14.33	14.20
t _s	Blower Outlet LFG Temperature, °F	72.1	74.1
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	1,118	
Q _s	Kurz Blower Outlet FM, Standard Volumetric Flow Rate, scfm	1,177	
LFG _{CH₄}	Methane, lb/hr	357.6	346.4
	Methane, grains/dscf	37.32	36.15
LFG _{CO₂}	Carbon Dioxide, lb/hr	2,789.6	2,881.6
	Carbon Dioxide, grains/dscf	291.13	300.73
LFG _{O₂}	Oxygen, lb/hr	417.9	429.1
	Oxygen, grains/dscf	43.61	44.78
LFG _{N₂}	Balance gas as Nitrogen, lb/hr	2,112.3	2,063.5
	Balance gas as Nitrogen, grains/dscf	220.44	215.35
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer</i>			
		Blower Outlet A	Blower Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmd	6.80	0.56
	Hydrogen Sulfide Rate, lb/hr	0.04	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.004	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmd	160.00	99.00
	Methyl Mercaptan Rate, lb/hr	1.34	0.83
	Methyl Mercaptan Rate, grains/dscf	0.140	0.087
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmd	1.70	0.94
	Ethyl Mercaptan Rate, lb/hr	0.02	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmd	980	930
	Dimethyl Sulfide Rate, lb/hr	10.60	10.06
	Dimethyl Sulfide Rate, grains/dscf	1.107	1.050
CS ₂	Carbon Disulfide Concentration, ppmd	0.72	0.70
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmd	75	99
	Dimethyl Disulfide Rate, lb/hr	1.23	1.62
	Dimethyl Disulfide Rate, grains/dscf	0.128	0.169
①E _{TRS-SO₂}	TRS-->SO ₂ Emission Concentration, ppmd	1,300	1,200
	TRS-->SO ₂ Emission Rate, lb/hr	14.50	13.39
	TRS-->SO ₂ Emission Rate, grains/dscf	1.514	1.397
		TPY =	
		63.52	58.64
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

Fleetzoom Total = 166 scfm

PARAMETER		EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	10/24/17	10/24/17
Time	Start	9:36	9:49
*%CH₄	Methane, %	46.9	46.3
*%CO₂	Carbon Dioxide, %	36.8	37.5
*%O₂	Oxygen, %	1.3	1.4
*%Balance	Assumed as Nitrogen, %	15.0	14.8
P_g	Flue Gas Static Pressure, inches of H ₂ O	0.63	0.63
t_s	Blower Outlet LFG Temperature, °F	68.4	69.1
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	158	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	166	
LFG_{CH4}	Methane, lb/hr	184.8	182.4
	Methane, grains/dscf	136.74	134.99
LFG_{CO2}	Carbon Dioxide, lb/hr	397.8	405.3
	Carbon Dioxide, grains/dscf	294.33	299.93
LFG_{O2}	Oxygen, lb/hr	10.2	11.0
	Oxygen, grains/dscf	7.56	8.14
LFG_{N2}	Balance gas as Nitrogen, lb/hr	103.2	101.8
	Balance gas as Nitrogen, grains/dscf	76.36	75.35
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envision Landfill Gas Analyzer</i>			
		EP14 NQ A	EP14 NQ B
H₂S	Hydrogen Sulfide Concentration, ppmd	37.00	43.00
	Hydrogen Sulfide Rate, lb/hr	0.03	0.04
	Hydrogen Sulfide Rate, grains/dscf	0.023	0.027
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH₄S	Methyl Mercaptan Concentration, ppmd	4.30	4.30
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C₂H₆S	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
(CH₃)₂S	Dimethyl Sulfide Concentration, ppmd	16.00	16.00
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.018	0.018
CS₂	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
C₂H₆S₂	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
① E_{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmd	59.00	63.00
	TRS-->SO2 Emission Rate, lb/hr	0.09	0.10
	TRS-->SO2 Emission Rate, grains/dscf	0.069	0.073
	TPY =	0.41	0.43
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

October 31, 2017

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I102502-01/04

Enclosed are results for sample(s) received 10/25/17 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, Ron Baker and Anthony Kimutis; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 10/31/17.

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.



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: Sealed Yes No Intact Yes No Chilled deg C
Same Day	72 hours	EDF	
24 hours	96 hours	Level 3	
Other:	<input checked="" type="checkbox"/> 5 day	Level 4	

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

BILLING
P.O. No.: 6605567
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 Method 15/16 + TRS	ANALYSIS REQUEST			
	Canister ID	Sample Start	Sample End	Lab Receive											
I 02502-01	R1352	-19.82	-3.44	- 3	EP-14 NQ A	10/24/2017	9:36	C -1L	LFG	He	X				
↓ -02	R1345	-20.42	-3.49	- 3	EP-14 NQ B	10/24/2017	9:49	C -1L	LFG	He	X				
↓ -03	J1721	-19.51	-3.49	- 3	Blower Outlet A	10/24/2017	10:28	C -1L	LFG	He	X				
↓ -04	1534	-19.81	-3.49	- 3	Blower Outlet B	10/24/2017	10:45	C -1L	LFG	He	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer
 COMPANY: Republic Services DATE/TIME: _____
SAMPLED BY: Anthony Kimutis
 COMPANY: Republic Services DATE/TIME: 10/24/17
RELINQUISHED BY: [Signature] DATE/TIME: 10/24/17
RELINQUISHED BY: [Signature] DATE/TIME: 10/25/17
RELINQUISHED BY: [Signature] DATE/TIME: 09/24

COMMENTS

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

Client: Republic Services
 Attn: Nick Bauer
 Project Name: Bridgeton Landfill
 Project No.: NA
 Date Received: 10/25/17
 Matrix: Air
 Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I102502-01	I102502-02	I102502-03	I102502-04
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B	Blower Outlet A	Blower Outlet B
Date/Time Sampled:	10/24/17 9:36	10/24/17 9:49	10/24/17 10:28	10/24/17 10:45
Date/Time Analyzed:	10/26/17 13:45	10/26/17 13:58	10/26/17 14:10	10/26/17 14:23
QC Batch No.:	171026GC3A1	171026GC3A1	171026GC3A1	171026GC3A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	2.8	2.8	2.8	2.8

ANALYTE	I102502-01		I102502-02		I102502-03		I102502-04	
	Result ppmv	RL ppmv						
Hydrogen Sulfide	37 d	5.6	43 d	5.6	6.8	0.56	ND	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.56	ND	0.56
Methyl Mercaptan	4.3	0.56	4.3	0.56	160 d	56	99 d	56
Ethyl Mercaptan	ND	0.56	ND	0.56	1.7	0.56	0.94	0.56
Dimethyl Sulfide	16	0.56	16	0.56	980 d	56	930 d	56
Carbon Disulfide	ND	0.56	ND	0.56	0.72	0.56	0.70	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56	75 d	56	99 d	56
Total Reduced Sulfur	59	0.56	63	0.56	1,300	0.56	1,200	0.56

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

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 10/31/17

The cover letter is an integral part of this analytical report



Kurz FM = 1,178 scfm
 Fleetzoom Total = 1,179 scfm $\Delta = 0.1\%$

PARAMETER		Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date	10/17/17	10/17/17
Time	Start	10:18	10:30
*%CH ₄	Methane, %	13.0	12.1
*%CO ₂	Carbon Dioxide, %	34.9	35.9
**%O ₂	Oxygen, %	7.7	7.5
*%Balance	Assumed as Nitrogen, %	44.4	44.5
P _g	Flue Gas Static Pressure, inches of H ₂ O	13.11	13.74
t _s	Blower Outlet LFG Temperature, °F	73.0	76.5
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	1,119	
Q _s	Kurz Blower Out FM, Standard Volumetric Flow Rate, scfm	1,178	
LFG _{CH₄}	Methane, lb/hr	363.5	338.4
	Methane, grains/dscf	37.90	35.28
LFG _{CO₂}	Carbon Dioxide, lb/hr	2,677.4	2,754.1
	Carbon Dioxide, grains/dscf	279.13	287.13
LFG _{O₂}	Oxygen, lb/hr	429.5	418.3
	Oxygen, grains/dscf	44.78	43.61
LFG _{N₂}	Balance gas as Nitrogen, lb/hr	2,168.1	2,173.0
	Balance gas as Nitrogen, grains/dscf	226.04	226.55
<i>* Fixed gas results based on field parameter data collection at the time of sampling, via Envirovision Landfill Gas Analyzer</i>			
		Blower Outlet A	Blower Outlet B
H ₂ S	Hydrogen Sulfide Concentration, ppmvd	12	14
	Hydrogen Sulfide Rate, lb/hr	0.07	0.08
	Hydrogen Sulfide Rate, grains/dscf	0.007	0.009
COS	Carbonyl Sulfide Concentration, ppmvd	0.58	0.58
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmvd	170	150
	Methyl Mercaptan Rate, lb/hr	1.43	1.26
	Methyl Mercaptan Rate, grains/dscf	0.149	0.131
C ₂ H ₆ S	Ethyl Mercaptan Concentration, ppmvd	1.6	1.7
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
(CH ₃) ₂ S	Dimethyl Sulfide Concentration, ppmvd	980	920
	Dimethyl Sulfide Rate, lb/hr	10.61	9.96
	Dimethyl Sulfide Rate, grains/dscf	1.107	1.039
CS ₂	Carbon Disulfide Concentration, ppmvd	0.79	0.80
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C ₂ H ₆ S ₂	Dimethyl Disulfide Concentration, ppmvd	74	69
	Dimethyl Disulfide Rate, lb/hr	1.22	1.13
	Dimethyl Disulfide Rate, grains/dscf	0.127	0.118
①E _{TRS-SO₂}	TRS-->SO ₂ Emission Concentration, ppmvd	1,300	1,200
	TRS-->SO ₂ Emission Rate, lb/hr	14.52	13.40
	TRS-->SO ₂ Emission Rate, grains/dscf	1.514	1.397
		TPY =	
		63.59	58.70
① TRS assumed molecular mass = SO ₂ , 64.06 gram/mole, i.e. 1 TRS in LFG assumed to = 1 SO ₂ emitted from the stack			

Fleetzoom Total = 168 scfm

PARAMETER		EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	10/17/17	10/17/17
Time	Start	9:20	9:34
*%CH ₄	Methane, %	48.4	45.6
*%CO ₂	Carbon Dioxide, %	35.0	37.4
**%O ₂	Oxygen, %	1.7	1.6
*%Balance	Assumed as Nitrogen, %	14.9	15.4
P _g	Flue Gas Static Pressure, inches of H ₂ O	0.62	0.63
t _s	Blower Outlet LFG Temperature, °F	73.9	76.1
Q _{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H ₂ O)	160	
Q _s	Fleetzoom Standard Volumetric Flow Rate, scfm	168	
LFG _{CH₄}	Methane, lb/hr	193.5	182.3
	Methane, grains/dscf	141.11	132.94
LFG _{CO₂}	Carbon Dioxide, lb/hr	383.9	410.2
	Carbon Dioxide, grains/dscf	279.93	299.13
LFG _{O₂}	Oxygen, lb/hr	13.6	12.8
	Oxygen, grains/dscf	9.89	9.30
LFG _{N₂}	Balance gas as Nitrogen, lb/hr	104.0	107.5
	Balance gas as Nitrogen, grains/dscf	75.86	78.40

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

		EP14 NQ A	EP14 NQ B
H ₂ S	Hydrogen Sulfide Concentration, ppmd	38	34
	Hydrogen Sulfide Rate, lb/hr	0.03	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.024	0.021
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH ₄ S	Methyl Mercaptan Concentration, ppmd	4.4	4.1
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C ₂ H ₆ S	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) ₂ S	Dimethyl Sulfide Concentration, ppmd	16	16
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.018	0.018
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 ₂ H ₆ S 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

① E _{TRS-SO₂}	TRS-->SO ₂ Emission Concentration, ppmd	59	54
	TRS-->SO ₂ Emission Rate, lb/hr	0.09	0.09
	TRS-->SO ₂ Emission Rate, grains/dscf	0.069	0.063
TPY =		0.41	0.38

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

October 25, 2017

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I101805-01/04

Enclosed are results for sample(s) received 10/18/17 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, Ron Baker and Anthony Kimutis; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, and Jan Feezor, Feezor Engineering on 10/25/17.

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.



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

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

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 _____

BILLING
P.O. No.: 6605567
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/TYP	MATRIX	PRESERVA-TION	ANALYSIS REQUEST
	Canister ID	Sample Start	Sample End	Lab Receive							
IL1855-81	R1155	-20.12	-3.49	-3	EP-14 NQ A	10/17/2017	9:20	C-1L	LFG	He	X
↓	R1350	-20.12	-3.48	-3	EP-14 NQ B	10/17/2017	9:34	C-1L	LFG	He	X
↓	1618	-20.11	-3.48	-3.5	Blower Outlet A	10/17/2017	10:18	C-1L	LFG	He	X
↓	1619	-19.88	-3.49	-3.5	Blower Outlet B	10/17/2017	10:32	C-1L	LFG	He	X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer
COMPANY: Republic Services
DATE/TIME: 10-17-17

SAMPLED BY: Anthony Kimutis
RELINQUISHED BY: [Signature] DATE/TIME: 10-17-17
RELINQUISHED BY: [Signature] DATE/TIME: 10/18/17
RELINQUISHED BY: [Signature] DATE/TIME: 10/18/17

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other _____
DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/18/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I101805-01	I101805-02	I101805-03	I101805-04				
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B	Blower Outlet A	Blower Outlet B				
Date/Time Sampled:	10/17/17 9:20	10/17/17 9:34	10/17/17 10:18	10/17/17 10:32				
Date/Time Analyzed:	10/19/17 13:53	10/19/17 14:05	10/19/17 14:18	10/19/17 14:30				
QC Batch No.:	171019GC3A1	171019GC3A1	171019GC3A1	171019GC3A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	2.8	2.8	2.9	2.9				
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	38 d	5.6	34 d	5.6	12	0.58	14	0.58
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.58	ND	0.58
Methyl Mercaptan	4.4	0.56	4.1	0.56	170 d	58	150 d	58
Ethyl Mercaptan	ND	0.56	ND	0.56	1.6	0.58	1.7	0.58
Dimethyl Sulfide	16	0.56	16	0.56	980 d	58	920 d	58
Carbon Disulfide	ND	0.56	ND	0.56	0.79	0.58	0.80	0.58
Dimethyl Disulfide	ND	0.56	ND	0.56	74 d	58	69 d	58
Total Reduced Sulfur	59	0.56	54	0.56	1,300	0.58	1,200	0.58

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 10-25-17

The cover letter is an integral part of this analytical report



QC Batch No.: 171019GC3A1
 Matrix: Air
 Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/19/17 10:06		10/19/17 9:41		10/19/17 9:53			
Analyst Initials:	AS		AS		AS			
Datafile:	19oct007		19oct005		19oct006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	101	70-130%	102	70-130%	1.0	<30
Carbonyl Sulfide	ND	0.20	108	70-130%	108	70-130%	0.4	<30
Methyl Mercaptan	ND	0.20	113	70-130%	113	70-130%	0.2	<30
Ethyl Mercaptan	ND	0.20	104	70-130%	104	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	97	70-130%	96	70-130%	0.4	<30
Carbon Disulfide	ND	0.20	99	70-130%	98	70-130%	1.3	<30
Dimethyl Disulfide	ND	0.20	91	70-130%	90	70-130%	0.5	<30

ND = Not Detected (Below RL)

RL = Reporting Limit

Reviewed/Approved By: 
 Mark J. Johnson
 Operations Manager

Date: 10-25-17

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



PARAMETER		Blower Out
SOUTH QUARRY LFG - BLOWER OUTLET (FL140/EP-13 Only)		
Date	Test Date	10/10/17
Start	Run Start Time	10:33
	Run Finish Time	12:03
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coefficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.61
% H_2O	Moisture Content of LFG, %	2.96
% RH	Relative Humidity, %	68.50
M_{fd}	Dry Mole Fraction	0.970
% CH_4	Methane, %	12.10
% CO_2	Carbon Dioxide, %	33.60
% O_2	Oxygen, %	7.80
%Balance	Assumed as Nitrogen, %	35.95
% H_2	Hydrogen, %	9.45
% CO	Carbon Monoxide, %	0.05
M_d	Dry Molecular Weight, lb/lb-Mole	29.50
M_s	Wet Molecular weight, lb/lb-Mole	29.16
P_g	Flue Gas Static Pressure, inches of H_2O	11.83
P_s	Absolute Flue Gas Pressure, inches of Mercury	30.48
t_s	Average Stack Gas Temperature, °F	88
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.048
v_s	Average LFG Velocity, feet/second	14.56
A_s	Stack Crosssectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,126
Q_s	Standard Volumetric Flow Rate, scfm	1,159
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,182
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	5,171
NHV	Net Heating Value, Btu/scf	160.1
LFG $_{CH_4}$	Methane, lb/hr	340.4
	Methane, grains/dscf	35.28
LFG $_{CO_2}$	Carbon Dioxide, lb/hr	2,592.8
	Carbon Dioxide, grains/dscf	268.73
LFG $_{O_2}$	Oxygen, lb/hr	437.6
	Oxygen, grains/dscf	45.36
LFG $_{N_2}$	Balance gas as Nitrogen, lb/hr	1,765.9
	Balance gas as Nitrogen, grains/dscf	183.02
LFG $_{H_2}$	Hydrogen, lb/hr	33.4
	Hydrogen, grains/dscf	3.46
LFG $_{CO}$	Carbon Monoxide, lb/hr	2.6
	Carbon Monoxide, grains/dscf	0.27

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmvd	0.59	7.2
	Hydrogen Sulfide Rate, lb/hr	0.00	0.04
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.004
COS	Carbonyl Sulfide Concentration, ppmvd	0.59	0.59
	Carbonyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmvd	130	170
	Methyl Mercaptan Rate, lb/hr	1.10	1.43
	Methyl Mercaptan Rate, grains/dscf	0.114	0.149
C_2H_6S	Ethyl Mercaptan Concentration, ppmvd	1.4	1.9
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmvd	1,100	1,000
	Dimethyl Sulfide Rate, lb/hr	11.98	10.89
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.129
CS_2	Carbon Disulfide Concentration, ppmvd	0.90	0.90
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmvd	100	74
	Dimethyl Disulfide Rate, lb/hr	1.65	0.99
	Dimethyl Disulfide Rate, grains/dscf	0.171	0.102
$\textcircled{1}E_{TRS-SO_2}$	TRS-->SO2 Emission Concentration, ppmvd	1,400	1,300
	TRS-->SO2 Emission Rate, lb/hr	15.73	14.60
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.514

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

PARAMETER		Blower Out
EP14 NORTH QUARRY LFG ONLY		
Date	Test Date	10/10/17
Start	Run Start Time	8:40
	Run Finish Time	10:09
	Net Traversing Points	8 (2 x 4)
	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coefficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.53
$\% H_2O$	Moisture Content of LFG, %	3.11
$\% RH$	Relative Humidity, %	72.80
M_{fd}	Dry Mole Fraction	0.969
$\% CH_4$	Methane, %	48.00
$\% CO_2$	Carbon Dioxide, %	36.05
$\% O_2$	Oxygen, %	2.05
$\% Balance$	Assumed as Nitrogen, %	12.75
$\% H_2$	Hydrogen, % (* reported at the laboratory detection limit)	3.10
$\% CO$	Carbon Monoxide, % (* reported at the laboratory detection limit)	0.00310
M_d	Dry Molecular Weight, lb/lb-Mole	27.86
M_s	Wet Molecular weight, lb/lb-Mole	27.55
P_g	Flue Gas Static Pressure, inches of H ₂ O	0.50
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.57
t_s	Average Stack Gas Temperature, °F	90
ΔP_{avg}	Average Velocity Head, inches of H ₂ O	0.004
v_s	Average LFG Velocity, feet/second	4.40
A_s	Stack Crosssectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	125
Q_s	Standard Volumetric Flow Rate, scfm	128
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	135
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	540
NHV	Net Heating Value, Btu/scf	436.1
LFG_{CH4}	Methane, lb/hr	149.4
	Methane, grains/dscf	139.94
LFG_{CO2}	Carbon Dioxide, lb/hr	307.7
	Carbon Dioxide, grains/dscf	288.33
LFG_{O2}	Oxygen, lb/hr	12.7
	Oxygen, grains/dscf	11.92
LFG_{N2}	Balance gas as Nitrogen, lb/hr	69.3
	Balance gas as Nitrogen, grains/dscf	64.91
LFG_{H4}	Hydrogen, lb/hr	1.2
	Hydrogen, grains/dscf	1.14
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H₂S	Hydrogen Sulfide Concentration, ppmvd	4.0	0.63
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.002	0.000
COS	Carbonyl Sulfide Concentration, ppmvd	0.59	0.63
	Carbonyl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH₄S	Methyl Mercaptan Concentration, ppmvd	2.9	3.2
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C₂H₆S	Ethyl Mercaptan Concentration, ppmvd	0.59	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
(CH₃)₂S	Dimethyl Sulfide Concentration, ppmvd	16	17
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.018	0.019
CS₂	Carbon Disulfide Concentration, ppmvd	0.59	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
C₂H₆S₂	Dimethyl Disulfide Concentration, ppmvd	0.59	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
E_{TRS-SO2}	TRS-->SO2 Emission Concentration, ppmvd	23	21
	TRS-->SO2 Emission Rate, lb/hr	0.03	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.027	0.024

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

October 12, 2017

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I101106-01/04

Enclosed are results for sample(s) received 10/11/17 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, Anthony Kimutis and Ron Baker; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group; and Jan Feezor, Feezor Engineering on 10/12/17.

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,

A handwritten signature in blue ink that reads "Mark Johnson".

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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



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

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME: Standard 48 hours Same Day **24 hours** Other: 5 day

DELIVERABLES: EDD EDF Level 3 Level 4

PAGE: 1 OF 1

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

BILLING

P.O. No.: 6605567

Bill to: Republic Services
 Attn: Nick Bauer
 13570 St. Charles Rock Rd.
 Bridgeton, MO 63044

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TPE	MATRIX	PRESERVA-TION	ASTM 1946 + H2 + CO &	ASTM 1946 + H2 + CO & Btu/SCF (by CH4 only)
10/10/2017	9:00	C-6L	LFG	He	X	X
10/10/2017	9:30	C-6L	LFG	He	X	X
10/10/2017	10:50	C-6L	LFG	He	X	X
10/10/2017	11:19	C-6L	LFG	He	X	X

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION
	Canister ID	Sample Start	Sample End	Lab Receive	
I101106-01	5960	-19.84	-3.5	-4	NQ EP14 A
-02	5223	-20	-3.47	-5	NQ EP14 B
-03	6009	-19.94	-3.5	-4	Blower Outlet A
-04	5955	-19.93	-3.49	-4	Blower Outlet B

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

COMPANY: Republic Services

DATE/TIME: 10/10/2017 07:00-1200

DATE/TIME: 10/10/2017

DATE/TIME: 10/10/17

DATE/TIME: 10/10/17 14:43

RELINQUISHED BY: [Signature]

RELINQUISHED BY: [Signature]

RELINQUISHED BY: [Signature]

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: 10/11/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101106-01	I101106-02						
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B						
Date/Time Sampled:	10/10/17 9:00	10/10/17 9:30						
Date/Time Analyzed:	10/12/17 11:29	10/12/17 11:44						
QC Batch No.:	171012GC8A1	171012GC8A1						
Analyst Initials:	AS	AS						
Dilution Factor:	3.0	3.2						
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	3.0	ND	3.2				
Carbon Dioxide	36.1	0.030	36.0	0.032				
Oxygen/Argon	2.06	1.5	2.1	1.6				
Nitrogen	12.7	3.0	12.8	3.2				
Methane	48.0	0.0030	47.9	0.0032				
Carbon Monoxide	ND	0.0030	ND	0.0032				
Net Heating Value (BTU/ft3) methane only	436.3	3.0	435.8	3.2				
Gross Heating Value (BTU/ft3) methane only	484.5	3.0	484.1	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: 
 Mark Johnson
 Operations Manager

Date 10-12-17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/11/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101106-03	I101106-04						
Client Sample I.D.:	Blower Outlet A	Blower Outlet B						
Date/Time Sampled:	10/10/17 10:50	10/10/17 11:19						
Date/Time Analyzed:	10/12/17 11:58	10/12/17 12:13						
QC Batch No.:	171012GC8A1	171012GC8A1						
Analyst Initials:	AS	AS						
Dilution Factor:	3.0	3.0						
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	9.2	3.0	9.7	3.0				
Carbon Dioxide	32.7	0.030	34.5	0.030				
Oxygen/Argon	8.2	1.5	7.4	1.5				
Nitrogen	37.1	3.0	34.8	3.0				
Methane	11.8	0.0030	12.4	0.0030				
Carbon Monoxide	0.052	0.0030	0.055	0.0030				
Net Heating Value (BTU/ft3)	155.7	3.0	164.4	3.0				
Gross Heating Value (BTU/ft3)	175.8	3.0	185.7	3.0				

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: 
 Mark Johnson
 Operations Manager

Date 10-12-17

The cover letter is an integral part of this analytical report



QC Batch No: 171012GC8A1
 Matrix: Air
 Reporting Units: % v/v

**ASTM D1946
 LABORATORY CONTROL SAMPLE SUMMARY**

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	10/12/17 11:15			10/12/17 10:31		10/12/17 10:46					
Analyst Initials:	AS			AS		AS					
Dilution Factor:	1.0			1.0		1.0		Limits			
ANALYTE	Result % v/v	RL % v/v	SPIKE AMT. % v/v	Result % v/v	% Rec.	Result % v/v	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Hydrogen	ND	1.0	5.0	4.63	93	4.62	92	0.2	70	130	30
Carbon Dioxide	ND	0.010	10	9.02	90	9.05	90	0.4	70	130	30
Oxygen/Argon	ND	0.50	15	15.6	105	15.6	105	0.0	70	130	30
Nitrogen	ND	1.0	70	70.5	101	70.4	101	0.1	70	130	30
Methane	ND	0.0010	0.10	0.106	106	0.106	106	0.5	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.106	106	0.105	105	0.5	70	130	30

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: 

Mark Johnson
 Operations Manager

Date 10-12-17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/11/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I101106-01	I101106-02	I101106-03	I101106-04
Client Sample I.D.:	EP-14 NQ A	EP-14 NQ B	Blower Outlet A	Blower Outlet B
Date/Time Sampled:	10/10/17 9:00	10/10/17 9:30	10/10/17 10:50	10/10/17 11:19
Date/Time Analyzed:	10/12/17 11:45	10/12/17 11:58	10/12/17 12:11	10/12/17 12:23
QC Batch No.:	171012GC3A1	171012GC3A1	171012GC3A1	171012GC3A1
Analyst Initials:	AS	AS	AS	AS
Dilution Factor:	3.0	3.2	3.0	3.0

ANALYTE	I101106-01		I101106-02		I101106-03		I101106-04	
	Result ppmv	RL ppmv						
Hydrogen Sulfide	4.0	0.59	ND	0.63	ND	0.59	7.2	0.59
Carbonyl Sulfide	ND	0.59	ND	0.63	ND	0.59	ND	0.59
Methyl Mercaptan	2.9	0.59	3.2	0.63	130 d	59	170 d	59
Ethyl Mercaptan	ND	0.59	ND	0.63	1.4	0.59	1.9	0.59
Dimethyl Sulfide	16	0.59	17	0.63	1,100 d	59	1,000 d	59
Carbon Disulfide	ND	0.59	ND	0.63	0.90	0.59	0.90	0.59
Dimethyl Disulfide	ND	0.59	ND	0.63	100 d	59	74 d	59
Total Reduced Sulfur	23	0.59	21	0.63	1,400	0.59	1,300	0.59

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

Reviewed/Approved By: 
 Mark Johnson
 Operations Manager

Date 10-12-17

The cover letter is an integral part of this analytical report



QC Batch No.: 171012GC3A1
 Matrix: Air
 Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	10/12/17 11:05		10/12/17 10:40		10/12/17 10:53			
Analyst Initials:	AS		AS		AS			
Datafile:	12oct003		12oct001		12oct002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	96	70-130%	96	70-130%	0.6	<30
Carbonyl Sulfide	ND	0.20	103	70-130%	102	70-130%	0.4	<30
Methyl Mercaptan	ND	0.20	107	70-130%	106	70-130%	0.3	<30
Ethyl Mercaptan	ND	0.20	99	70-130%	99	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	92	70-130%	90	70-130%	2.4	<30
Carbon Disulfide	ND	0.20	92	70-130%	90	70-130%	2.4	<30
Dimethyl Disulfide	ND	0.20	80	70-130%	79	70-130%	0.5	<30

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

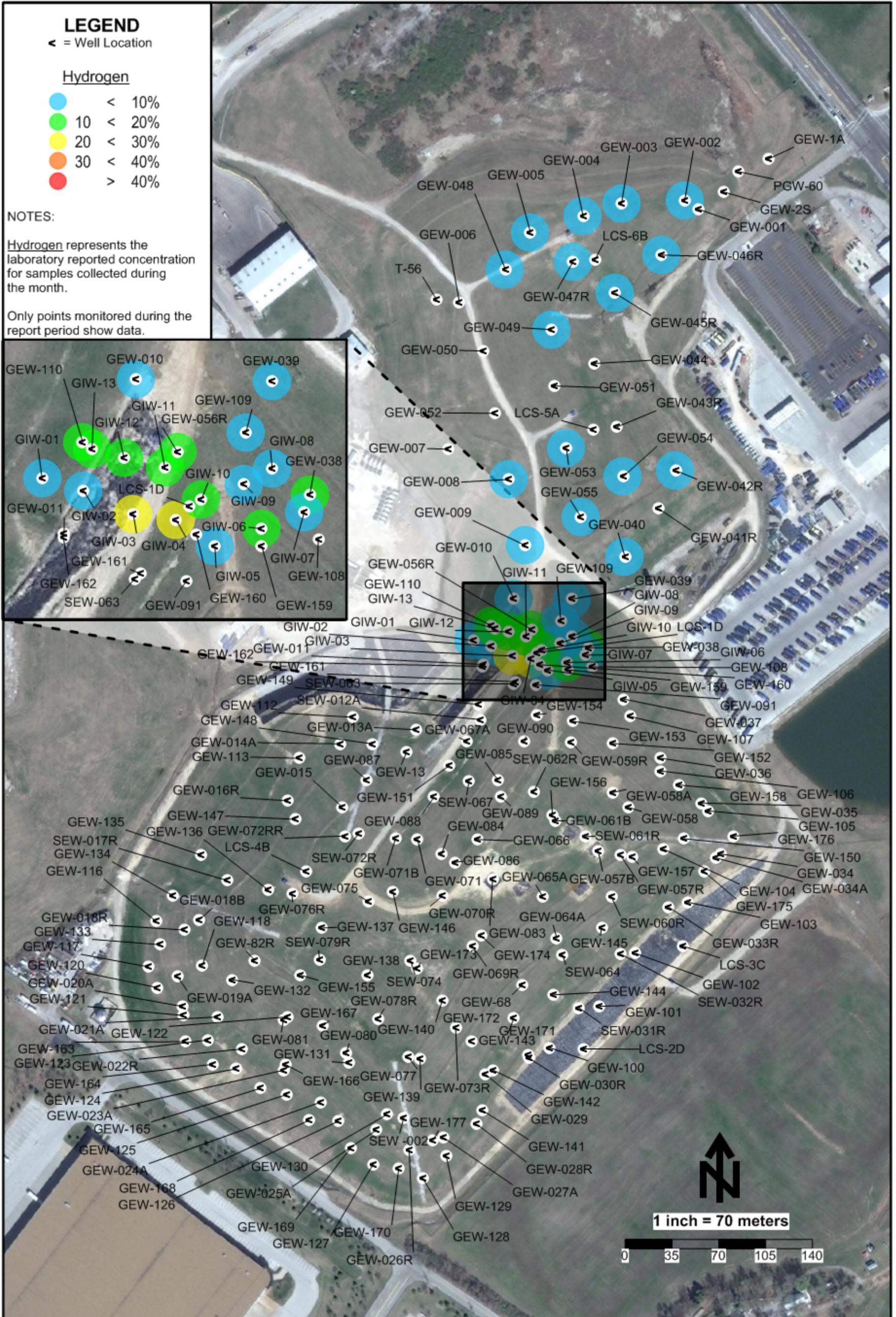
Reviewed/Approved By: 
 Mark J. Johnson
 Operations Manager

Date: 10-12-17

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



ATTACHMENT C
GAS WELL ANALYSIS MAPS



Hydrogen Data Map - October 2017 - 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 (ppm)	Comments
North Quarry								
GEW-002	6/5/2017	40	32	6.2	22	ND	ND	See Note 3
GEW-002	7/12/2017	56	42	ND	ND	ND	ND	
GEW-002	8/8/2017	53	40	ND	4.9	ND	ND	
GEW-002	9/12/2017	45	33	4.9	17	ND	ND	See Note 3
GEW-002	10/9/2017	56	40	ND	ND	ND	ND	
GEW-02S	7/12/2017	60	37	ND	ND	ND	ND	
GEW-02S	9/14/2017	60	37	ND	ND	ND	ND	
GEW-003	6/5/2017	48	36	3.2	13.0	0.08	ND	See Note 3
GEW-003	7/12/2017	51	39	ND	9.0	0.18	ND	
GEW-003	8/8/2017	54	39	ND	6.3	0.09	ND	
GEW-003	9/12/2017	51	39	ND	8.7	0.09	ND	
GEW-003	10/9/2017	47	36	ND	15.0	0.06	ND	
GEW-004	6/5/2017	51	39	ND	9.4	0.07	ND	
GEW-004	7/12/2017	51	39	ND	8.5	0.15	ND	
GEW-004	8/8/2017	55	39	ND	4.5	0.08	ND	
GEW-004	9/12/2017	56	40	ND	3.7	0.06	ND	
GEW-004	10/9/2017	56	39	ND	3.7	0.06	ND	
GEW-005	6/5/2017	40	33	ND	25	ND	ND	
GEW-005	7/12/2017	37	29	3.6	30	ND	ND	See Note 3
GEW-005	8/8/2017	55	38	ND	6.4	0.04	ND	
GEW-005	9/11/2017	54	36	ND	8.6	ND	ND	
GEW-005	10/9/2017	52	34	1.9	12	ND	ND	
GEW-006	7/10/2017	53	37	ND	9.2	ND	ND	
GEW-006	9/11/2017	47	31	4.9	18	ND	ND	See Note 3
GEW-007	7/10/2017	58	40	ND	ND	ND	ND	
GEW-007	9/12/2017	56	40	ND	ND	ND	ND	
GEW-008	6/6/2017	51	43	ND	4.2	0.98	ND	
GEW-008	7/10/2017	52	44	ND	ND	1.0	ND	
GEW-008	8/9/2017	52	43	ND	ND	1.1	ND	
GEW-008	9/12/2017	53	44	ND	ND	1.1	ND	
GEW-008	10/11/2017	53	43	ND	ND	1.1	ND	
GEW-009	6/6/2017	48	41	ND	10	0.49	ND	
GEW-009	7/10/2017	52	42	ND	4.6	0.7	ND	
GEW-009	8/9/2017	53	42	ND	4.5	0.48	ND	
GEW-009	9/12/2017	37	29	7.1	26	0.48	ND	See Note 4
GEW-009	10/11/2017	49	39	ND	10	0.41	ND	
GEW-040	6/7/2017	58	40	ND	ND	ND	ND	
GEW-040	7/11/2017	56	39	ND	4.0	ND	ND	
GEW-040	8/9/2017	57	41	ND	ND	ND	ND	
GEW-040	9/14/2017	57	40	ND	ND	ND	ND	
GEW-040	10/11/2017	57	39	ND	3.2	ND	ND	
GEW-041R	7/11/2017	58	39	ND	ND	ND	ND	
GEW-041R	9/14/2017	58	39	ND	ND	ND	ND	
GEW-042R	6/7/2017	56	42	ND	ND	ND	ND	
GEW-042R	7/11/2017	57	41	ND	ND	ND	ND	
GEW-042R	8/9/2017	57	41	ND	ND	ND	ND	
GEW-042R	9/12/2017	56	42	ND	ND	ND	ND	
GEW-042R	10/11/2017	55	39	ND	4.2	ND	ND	
GEW-043R	7/11/2017	55	42	ND	ND	0.49	ND	
GEW-043R	9/12/2017	55	43	ND	ND	0.25	ND	
GEW-044	7/10/2017	57	39	ND	ND	ND	ND	
GEW-044	9/12/2017	55	39	ND	4.4	ND	ND	
GEW-045R	6/7/2017	50	32	3.9	14.0	ND	ND	See Note 3
GEW-045R	7/12/2017	58	36	ND	4.8	ND	ND	
GEW-045R	8/8/2017	56	41	ND	ND	ND	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
GEW-045R	9/12/2017	56	41	ND	ND	ND	ND	
GEW-045R	10/11/2017	57	41	ND	ND	ND	ND	
GEW-046R	6/7/2017	56	40	ND	3.5	0.07	ND	
GEW-046R	7/12/2017	55	40	ND	4.1	0.15	ND	
GEW-046R	8/8/2017	55	39	ND	5	0.06	ND	
GEW-046R	9/12/2017	56	41	ND	ND	0.07	ND	
GEW-046R	10/9/2017	56	40	ND	ND	0.05	ND	
GEW-047R	6/5/2017	40	31	3.8	25	0.07	ND	See Note 3
GEW-047R	7/12/2017	44	36	ND	19	0.21	ND	
GEW-047R	8/8/2017	56	41	ND	ND	ND	ND	
GEW-047R	9/12/2017	54	39	ND	6.3	ND	ND	
GEW-047R	10/9/2017	56	42	ND	ND	ND	ND	
GEW-048	6/6/2017	53	39	ND	7.6	ND	ND	
GEW-048	7/12/2017	54	38	ND	6.9	ND	ND	
GEW-048	8/8/2017	55	38	ND	6.7	ND	ND	
GEW-048	9/11/2017	56	39	ND	4.7	ND	ND	
GEW-048	10/9/2017	54	36	2.1	7.8	ND	ND	See Note 3
GEW-049	6/6/2017	42	32	3.5	22	ND	ND	See Note 3
GEW-049	7/10/2017	54	39	ND	6.8	ND	ND	
GEW-049	8/9/2017	56	39	ND	4.2	0.05	ND	
GEW-049	9/12/2017	56	40	ND	3.7	0.06	ND	
GEW-049	10/11/2017	55	39	ND	5.7	ND	ND	
GEW-050	7/10/2017	53	38	ND	7.8	0.05	ND	
GEW-050	9/12/2017	57	39	ND	ND	0.05	ND	
GEW-051	7/10/2017	55	41	ND	ND	0.8	ND	
GEW-051	9/12/2017	43	32	5.3	19	0.7	ND	See Note 4
GEW-052	7/10/2017	51	38	ND	10	0.04	ND	
GEW-052	9/12/2017	49	35	3.2	13	0.04	ND	See Note 3
GEW-053	6/6/2017	39	33	5.4	20	2.8	56	See Note 3
GEW-053	7/11/2017	51	40	ND	ND	4.7	53	
GEW-053	8/9/2017	50	42	ND	ND	5.3	61	
GEW-053	9/13/2017	49	41	ND	ND	5	56	
GEW-053	10/9/2017	53	40	ND	ND	2.8	58	
GEW-054	6/7/2017	54	42	ND	ND	1.5	ND	
GEW-054	7/11/2017	52	40	ND	ND	2.8	ND	
GEW-054	8/9/2017	53	41	ND	ND	2.3	ND	
GEW-054	9/13/2017	52	43	ND	ND	2.7	ND	
GEW-054	10/9/2017	53	42	ND	ND	2.7	ND	
GEW-055	6/7/2017	50	42	ND	ND	5	36	
GEW-055	7/11/2017	49	42	ND	ND	4.9	40	
GEW-055	8/9/2017	49	41	ND	3.7	4.6	36	
GEW-055	9/14/2017	49	41	ND	4.2	4.3	35	
GEW-055	10/11/2017	49	40	1.9	6.4	2.8	36	
Flare Station ²	6/6/2017	43.4	34.3	2.8	18.3	ND	ND	See Note 5
Flare Station ²	7/6/2017	45.5	34.6	2.7	16.1	ND	ND	See Note 5
Flare Station ²	8/2/2017	49.4	37.2	1.8	10.5	ND	ND	See Note 5
Flare Station ²	9/7/2017	47.8	36.6	2.1	12.1	ND	ND	See Note 5
Flare Station ²	10/10/2017	48.0	36.1	2.1	12.8	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. (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) Sample not reported by lab due to canister leak.

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 (ppm)	Comments
GEW-010	6/5/2017	49	35	3.5	12	ND	ND	
GEW-010	7/11/2017	56	41	ND	ND	ND	ND	
GEW-010	8/8/2017	57	40	ND	ND	ND	ND	
GEW-010	9/12/2017	55	42	ND	ND	0.35	ND	
GEW-010	10/9/2017	57	41	ND	ND	0.061	ND	
GEW-022R	7/12/2017	0.83	60	ND	4.3	31	2,500	
GEW-022R	9/18/2017	2.8	58	1.8	6.2	30	2,100	
GEW-038	6/5/2017	1.1	48	3.4	12	34	2,400	
GEW-038	7/12/2017	0.91	52	2.2	7.7	36	2,100	
GEW-038	8/9/2017	1.1	51	2.1	7.2	38	2,100	See Note 4
GEW-038	9/12/2017	0.67	44	5.8	20	29	1,800	See Note 4
GEW-038	10/9/2017	1.2	19	14.0	51	14	840	See Note 4
GEW-039	6/6/2017	45	53	ND	ND	ND	ND	
GEW-039	7/12/2017	44	54	ND	ND	ND	ND	
GEW-039	8/9/2017	42	51	ND	4.7	ND	ND	
GEW-039	9/12/2017	45	52	ND	ND	ND	ND	
GEW-039	10/9/2017	46	52	ND	ND	ND	ND	
GEW-056R	6/5/2017	11	42	5.2	18	23	860	
GEW-056R	7/12/2017	18	51	ND	ND	26	820	
GEW-056R	8/8/2017	18	51	ND	ND	28	850	
GEW-056R	9/12/2017	27	52	ND	ND	18	590	
GEW-056R	10/9/2017	31	48	ND	ND	17	580	
GEW-057R	7/7/2017	16	42	2.8	38	1.3	190	
GEW-058	5/8/2017	11	38	1.8	42	7.4	260	
GEW-058	7/6/2017	5.3	28	6.1	52	8.7	300	
GEW-058	9/6/2017	1.5	25	5.2	53	14	510	See Note 3
GEW-058A	7/6/2017	4.5	18	11	61	5.4	240	See Note 3
GEW-058A	9/6/2017	11	24	7.6	44	13	540	See Note 3
GEW-059R	7/6/2017	7.3	45	ND	ND	44	1,600	
GEW-059R	9/6/2017	11	45	ND	ND	41	1,300	
GEW-082R	7/10/2017	7.8	40	3.5	17	31	990	
GEW-082R	9/14/2017	12	42	ND	16	28	950	
GEW-086	7/7/2017	3.6	49	1.9	6.5	37	680	
GEW-086	9/6/2017	8.5	30	4.0	51	6.9	180	
GEW-090	7/7/2017	11	43	ND	5	39	1,400	
GEW-090	9/6/2017	18	45	ND	3.9	32	980	
GEW-102	9/8/2017	7.8	42	4.8	17	28	440	
GEW-104	9/6/2017	17	52	ND	ND	26	1,000	
GEW-105	9/6/2017	11	44	4.1	18	22	1,200	
GEW-106	9/6/2017	27	50	ND	6.9	14	510	
GEW-107	9/6/2017	0.13	1.6	21	76	0.43	55	See Note 4
GEW-108	9/6/2017	29	44	1.7	5.7	18	640	
GEW-109	6/6/2017	26	49	ND	8.2	16	440	
GEW-109	7/12/2017	31	48	ND	7.9	12	320	
GEW-109	8/9/2017	29	48	ND	6.8	15	330	
GEW-109	9/12/2017	32	44	ND	12	11	240	
GEW-109	10/9/2017	36	42	ND	14	7.6	180	
GEW-110	6/5/2017	7.3	30	9.3	36	17	810	See Note 4
GEW-110	7/11/2017	6.3	23	12	45	13	560	See Note 4
GEW-110	8/8/2017	6.2	22	11	52	9.2	420	See Note 4
GEW-110	9/12/2017	13	53	ND	ND	31	1,100	
GEW-110	10/9/2017	7.9	21	12	48	10	510	See Note 4
GEW-116	7/10/2017	4.2	53	5.4	19	17	960	
GEW-116	9/14/2017	5	65	ND	ND	26	1,200	
GEW-117	7/10/2017	13	63	ND	4.6	17	970	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
GEW-117	9/14/2017	34	51	ND	5.2	7.5	310	
GEW-118	7/12/2017	1.3	57	ND	ND	38	1,300	
GEW-118	9/14/2017	0.9	50	1.9	6.8	39	1,400	
GEW-120	7/12/2017	2.3	47	4.2	15	31	1,500	
GEW-120	9/14/2017	17	55	ND	18	9	390	
GEW-121	7/12/2017	11	59	ND	7.3	21	950	
GEW-121	9/18/2017	9.3	50	ND	19	19	860	
GEW-122	7/12/2017	4.8	53	ND	3.7	37	2,100	
GEW-122	9/18/2017	12	34	ND	36	16	1,400	
GEW-123	7/12/2017	18	48	ND	26	5.7	330	
GEW-123	9/18/2017	2.8	61	ND	ND	32	2,400	
GEW-124	9/18/2017	48	49	ND	ND	0.067	ND	
GEW-125	7/12/2017	3.5	54	ND	5.9	34	2,000	
GEW-125	9/18/2017	4.2	53	ND	10	31	1,800	
GEW-126	7/12/2017	26	51	ND	17	5	410	
GEW-126	9/18/2017	29	48	ND	13	7.8	570	
GEW-127	7/12/2017	5.9	57	2.2	13	20	2,100	
GEW-127	9/14/2017	3.6	65	ND	ND	27	2,700	
GEW-128	7/12/2017	7.5	64	ND	3.8	23	2,500	
GEW-128	9/14/2017	7.8	63	ND	4.3	23	2,300	
GEW-129	9/14/2017	0.69	60	ND	ND	35	3,500	
GEW-130	7/12/2017	3.9	45	4.8	18	26	2,100	
GEW-130	9/14/2017	3.5	46	3.3	16	31	2,300	
GEW-131	7/12/2017	15	39	ND	24	20	1,600	
GEW-131	9/18/2017	20	42	ND	15	21	1,400	
GEW-132	7/12/2017	6.6	34	3.7	47	8.5	450	
GEW-132	9/14/2017	2.2	27	7.6	47	16	820	See Note 4
GEW-133	7/10/2017	5.8	57	ND	3.8	32	1,400	
GEW-133	9/14/2017	10	53	ND	13	22	990	
GEW-134	7/10/2017	9.2	29	7.1	49	4.8	200	See Note 4
GEW-134	9/14/2017	14	46	ND	27	12	500	
GEW-135	7/10/2017	5	35	4.7	38	17	870	
GEW-135	9/14/2017	6	52	ND	8.6	32	1,200	
GEW-136	7/10/2017	6.1	27	9.3	38	19	520	See Note 4
GEW-136	9/8/2017	5.4	30	7.7	37	19	490	See Note 4
GEW-137	7/10/2017	22	31	ND	45	ND	ND	
GEW-137	9/8/2017	22	31	3	44	ND	ND	
GEW-138	7/10/2017	1.7	12	12	71	2.4	250	See Note 4
GEW-138	9/14/2017	14	43	ND	28	14	790	
GEW-139	7/12/2017	6.4	42	3.2	21	27	1,800	
GEW-139	9/14/2017	2.6	50	ND	4.2	41	2,700	
GEW-140	7/7/2017	12	36	4.9	34	12	450	
GEW-141	7/12/2017	0.45	58	ND	ND	38	4,000	
GEW-144	3/3/2017	0.78	45	4.8	17	32	1800	See Note 4
GEW-144	7/7/2017	0.61	55	ND	ND	40	2100	
GEW-145	9/8/2017	1.3	32	8.8	31	26	1100	See Note 3
GEW-146	7/10/2017	2.7	12	13	72	0.45	360	See Note 4
GEW-146	9/8/2017	1.7	7.4	16	74	0.44	ND	See Note 4
GEW-147	7/10/2017	9.6	43	2	20	25	970	
GEW-147	9/14/2017	12	46	ND	13	27	960	
GEW-148	7/10/2017	3.2	45	4.1	14	33	1,900	
GEW-148	9/6/2017	4	51	1.8	6	37	2,100	
GEW-149	5/2/2017	12	41	3.6	33	9.9	400	
GEW-149	7/7/2017	14	44	2.2	29	11	340	
GEW-149	9/6/2017	12	36	5.2	34	13	570	See Note 3
GEW-150	7/7/2017	18	56	ND	6.5	17	600	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
GEW-150	9/6/2017	9.2	41	6.4	28	15	580	See Note 4
GEW-151	7/7/2017	1.3	43	ND	ND	52	720	
GEW-151	9/6/2017	23	51	ND	5.3	20	780	
GEW-152	9/6/2017	24	45	ND	3.8	26	1300	
GEW-153	7/6/2017	27	39	2.7	22	9.5	290	
GEW-153	9/6/2017	45	40	ND	8.1	5.3	66	
GEW-154	7/7/2017	8	23	10	58	0.33	45	See Note 4
GEW-154	9/6/2017	13	18	13	55	1.5	88	See Note 4
GEW-155	7/10/2017	1.2	22	8.2	56	12	430	
GEW-155	9/14/2017	2.2	21	4.8	69	2.8	77	
GEW-156	7/7/2017	25	39	4.2	21	11	210	
GEW-158	9/6/2017	34	48	ND	ND	15	470	
GEW-159	7/6/2017	30	45	ND	ND	21	940	
GEW-159	9/6/2017	26	43	ND	25	4.8	150	
GEW-160	7/7/2017	4.9	48	ND	5.2	40	2,100	
GEW-160	9/8/2017	1.2	55	ND	ND	40	1,900	
GEW-161	9/8/2017	0.84	59	ND	ND	36	1,900	
GEW-162	7/7/2017	16	67	ND	6.4	7.8	320	
GEW-162	9/6/2017	7.9	64	ND	ND	25	930	
GEW-163	7/12/2017	8.9	49	4	25	12	740	
GEW-163	9/14/2017	4.6	31	7.2	46	9.7	450	See Note 4
GEW-164	7/12/2017	13	64	ND	4	17	1,300	
GEW-164	9/14/2017	18	60	ND	6.4	14	920	
GEW-165	7/12/2017	5	49	4.7	17	23	1,600	
GEW-165	9/14/2017	5.4	38	8.8	32	14	850	See Note 4
GEW-166	7/12/2017	0.37	54	ND	4.7	38	2,900	
GEW-166	9/14/2017	0.66	53	1.8	6.9	37	2,400	
GEW-167	7/12/2017	0.32	53	ND	3.9	41	2,500	
GEW-167	9/14/2017	0.33	40	5.5	20	33	1,900	See Note 4
GEW-168	7/12/2017	6.1	39	7.7	27	19	1,300	
GEW-168	9/14/2017	6.5	59	ND	ND	31	1,900	
GEW-169	7/12/2017	2	52	3.8	14	28	2,200	
GEW-169	9/14/2017	3.2	62	ND	ND	32	2,400	
GEW-170	7/12/2017	6.5	47	5.2	24	16	1,600	
GEW-170	9/14/2017	7.6	52	3.5	16	19	1,800	
GEW-172	7/7/2017	0.3	52	ND	ND	43	3,200	
GEW-173	9/14/2017	28	44	3.2	23	1.8	210	
GEW-174	7/7/2017	12	52	ND	8.2	26	1,400	
GEW-174	9/8/2017	10	42	3.6	23	20	1,100	
GEW-175	7/7/2017	18	48	3.4	17	13	500	
GEW-175	9/6/2017	14	40	5.3	31	9.8	420	See Note 4
GEW-176	7/7/2017	29	44	3.1	17	6.9	260	
GEW-176	9/6/2017	21	42	4.4	23	9.3	370	
GEW-177	7/12/2017	0.29	60	ND	4.4	33	4,700	
GIW-01	6/5/2017	14	53	2.9	20	9.4	620	
GIW-01	7/12/2017	14	37	3.8	44	1.4	190	
GIW-01	8/8/2017	12	64	ND	8.7	13	780	
GIW-01	9/12/2017	13	39	3.8	38	5.8	340	
GIW-01	10/9/2017	27	41	3.3	28	0.67	110	
GIW-02	6/5/2017	5.5	31	9.8	45	8.7	250	See Note 4
GIW-02	7/12/2017	15	64	ND	ND	17	720	
GIW-02	8/8/2017	17	62	ND	ND	19	660	
GIW-02	9/12/2017	2.8	20	16	58	2.7	110	See Note 4
GIW-02	10/9/2017	2.3	17	13	65	2.8	290	See Note 4
GIW-03	6/5/2017	0.83	47	4.9	17	29	1,700	
GIW-03	7/12/2017	0.99	48	4.1	14	32	1,600	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide (ppm)	Comments
GIW-03	8/8/2017	1.1	50	4.7	17	27	1,500	See Note 4
GIW-03	9/12/2017	2.5	59	2	8.5	27	1,400	
GIW-03	10/9/2017	3.3	53	1.9	17	24	1,400	
GIW-04	6/5/2017	0.56	30	9.1	32	27	1,500	
GIW-04	7/12/2017	0.31	19	14	51	16	850	See Note 3
GIW-04	8/8/2017	0.4	23	12	42	22	1,200	See Note 4
GIW-04	9/12/2017	12	49	3.4	14	21	1,100	
GIW-04	10/9/2017	3.3	53	3	15	26	1,400	
GIW-05	6/5/2017	0.47	12	16	59	12	190	See Note 4
GIW-05	7/12/2017	4.9	50	ND	ND	41	2,200	
GIW-05	8/9/2017	1.7	50	ND	ND	46	610	
GIW-05	9/12/2017	0.3	6.8	19	68	6.1	120	See Note 3
GIW-05	10/9/2017	0.36	7.2	18	66	8.2	150	See Note 4
GIW-06	6/5/2017	7.2	48	1.7	6	35	870	
GIW-06	7/12/2017	9.4	49	ND	11	28	570	
GIW-06	8/9/2017	21	48	ND	ND	28	530	
GIW-06	9/12/2017	12	44	ND	24	18	410	
GIW-06	10/9/2017	15	43	ND	25	15	340	
GIW-07	6/5/2017	34	50	ND	5	9.7	550	
GIW-07	7/12/2017	26	56	1.8	6.8	9	400	
GIW-07	8/9/2017	32	52	ND	ND	12	590	
GIW-07	9/12/2017	26	59	ND	10	2.8	160	
GIW-07	10/9/2017	22	61	ND	10	5	210	
GIW-08	6/5/2017	29	61	ND	7	1.4	180	
GIW-08	7/12/2017	24	60	ND	13	1.3	150	
GIW-08	8/9/2017	44	51	ND	ND	1.4	120	
GIW-08	9/12/2017	22	56	ND	20	0.84	99	
GIW-08	10/9/2017	24	55	ND	19	0.49	78	
GIW-09	6/6/2017	3	21	5.5	65	5.1	250	See Note 4
GIW-09	7/12/2017	9	28	2.1	55	5	170	
GIW-09	8/9/2017	28	40	ND	22	9.3	280	
GIW-09	9/12/2017	7.2	22	5	61	4.5	120	See Note 4
GIW-09	10/9/2017	3.9	17	9.8	66	2.6	160	See Note 4
GIW-10	6/5/2017	3.6	48	2.1	7.2	39	980	
GIW-10	7/12/2017	2.2	51	ND	ND	44	830	
GIW-10	8/9/2017	7.3	51	ND	ND	39	810	
GIW-10	9/12/2017	11	42	ND	26	20	590	
GIW-10	10/9/2017	14	36	ND	34	15	470	
GIW-11	6/5/2017	2	58	ND	ND	37	1,700	
GIW-11	7/12/2017	7	58	ND	ND	32	1,300	
GIW-11	8/8/2017	9.8	55	ND	ND	33	1,200	
GIW-11	9/12/2017	18	48	ND	18	15	580	
GIW-11	10/9/2017	15	40	2.6	30	12	560	
GIW-12	6/5/2017	12	40	5.5	27	15	480	See Note 4
GIW-12	7/11/2017	12	39	5.7	30	12	350	
GIW-12	8/8/2017	15	44	3.7	22	15	390	See Note 4
GIW-12	9/12/2017	11	34	7.9	36	11	590	See Note 4
GIW-12	10/9/2017	6.2	33	8.7	37	15	990	See Note 4
GIW-13	6/5/2017	9.4	65	ND	ND	23	860	
GIW-13	7/11/2017	11	65	ND	ND	21	770	
GIW-13	8/8/2017	11	62	ND	ND	24	850	
GIW-13	9/12/2017	15	63	1.6	6	14	550	
GIW-13	10/9/2017	20	57	ND	5.2	16	550	
Flare Station ²	6/6/2017	9.7	32.9	8.5	38.5	9.3	540	See Note 6
Flare Station ²	7/6/2017	11.1	35.2	7.5	35.0	10.0	610	See Note 6
Flare Station ²	8/2/2017	12.8	37.6	6.7	30.9	10.7	590	See Note 6

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO ₂	O ₂ /Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
							(ppm)	
Flare Station ²	9/7/2017	11.0	31.8	8.4	38.6	9.2	475	See Note 6
Flare Station ²	10/10/2017	12.1	33.6	7.8	36.0	9.5	535	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) Sample not reported by lab due to canister leak.

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

October 18, 2017

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



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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I101204-01/35

Enclosed are results for sample(s) received 10/12/17 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, Anthony Kimutis and Ron Baker; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group; and Jan Feezor, Feezor Engineering on 10/18/17.

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,

A handwritten signature in blue ink that appears to read "mjk - j".

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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



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

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: 618-420-5209

e-mail: nbauer@republicservices.com

Cannister Pressure (”ng)

LAB USE ONLY

SAMPLE IDENTIFICATION

Cannister ID	Sample Start	Sample End	
6158	-20	-5	GEW 46R
5916	-19.5	-5	GEW 2
3440	-19.6	-5	GEW 3
A7646	-19.8	-5	GEW 4
3837	-19.4	-5	GEW 47R
A8086	-19.5	-5	GEW 5
5309	-19.8	-5	GEW 48
A7803	-19.6	-5	GEW 54
4656	-19.7	-5	GEW 53
3128	-20.5	-5	GEW 8

CHAIN OF CUSTODY RECORD

TURNAROUND TIME	DELIVERABLES	PAGE: 1 OF 4
Standard <input type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:
Same Day <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>
24 hours <input type="checkbox"/>	Level 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/> No <input type="checkbox"/>
Other: <input type="checkbox"/>	Level 4 <input type="checkbox"/>	Chilled _____ deg C

BILLING

P.O. No.: PO6342652-665567
 Bill to: Republic Services
 Attn: Nick Bauer
 13570 St. Charles Rock Rd.
 Bridgeton, MO 63044

ANALYSIS REQUEST

SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	
10/9/2017	930	C	LFG	NA	X
10/9/2017	941	C	LFG	NA	X
10/9/2017	952	C	LFG	NA	X
10/9/2017	1003	C	LFG	NA	X
10/9/2017	1016	C	LFG	NA	X
10/9/2017	1030	C	LFG	NA	X
10/9/2017	1040	C	LFG	NA	X
10/9/2017	1112	C	LFG	NA	X
10/9/2017	1129	C	LFG	NA	X
10/11/2017	914	C	LFG	NA	X

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Ronald Baker DATE/TIME: 10/11/17

RELINQUISHED BY: *Ronald Baker* DATE/TIME: 10/11/17

RELINQUISHED BY: *PEM EX* DATE/TIME: 10/12/17 1315

RELINQUISHED BY: DATE/TIME:

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



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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME: Standard 48 hours, Same Day 72 hours, 24 hours 96 hours, Other: _____

DELIVERABLES: EDD , EDF , Level 3 , Level 4

PAGE: 2 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: 618-420-5209

e-mail: nbauer@republicservices.com

BILLING

P.O. No.: PO6312552

Bill to: Republic Services

Attn: Nick Bauer

13570 St. Charles Rock Rd.

Bridgeton, MO 63044

LAB USE ONLY	Cannister Pressure (\"hg)		SAMPLE IDENTIFICATION		SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TPE	MATRIX	PRESERVATION	ANALYSIS REQUEST	
	Cannister ID	Sample Start	Sample End								
I 101204-11	4644	-20.5	-5	GEW 9	10/11/2017	927	C	LFG	NA	X	-4.5
-12	5817	-20.3	-5	GEW 45R	10/11/2017	949	C	LFG	NA	X	-4.5
-13	A8054	-20.3	-5	GEW 49	10/11/2017	1008	C	LFG	NA	X	-5
-14	A7798	-20.4	-5	GEW 55	10/11/2017	1022	C	LFG	NA	X	-5
-15	5269	-20.3	-5	GEW 40	10/11/2017	1034	C	LFG	NA	X	-5
-16	5308	-20.4	-5	GEW 42R	10/11/2017	1051	C	LFG	NA	X	-5
			-5				C	LFG	NA	X	
			-5				C	LFG	NA	X	
			-5				C	LFG	NA	X	
			-5				C	LFG	NA	X	

COMMENTS

AUTHORIZATION TO PERFORM WORK: Dave Penoyer

COMPANY: Republic Services

SAMPLED BY: Ronald Baker

RELINQUISHED BY: *Ronald Baker* DATE/TIME: 10/11/17

RELINQUISHED BY: *FedEx* DATE/TIME: 10/12/17 1315

RELINQUISHED BY: _____ DATE/TIME: _____

METHOD OF TRANSPORT (circle one): Walk-in FedEx UPS Courier ATLI Other _____



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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME
 Standard 48 hours
 Same Day 72 hours
 24 hours 96 hours
 Other: _____

DELIVERABLES
 EDD
 EDF
 Level 3
 Level 4

PAGE: 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: 618-420-5209
e-mail: nbauer@republicservices.com

BILLING
P.O. No.: PO6312552
Bill to: Republic Services
 Attn: Nick Bauer
 13570 St. Charles Rock Rd.
 Bridgeton, MO 63044

LAB USE ONLY	Cannister Pressure (hg)		SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST	
	Cannister ID	Sample Start								Sample End
I101204-27	5831	-19.6	-5 GIW 10	10/9/2017	1132	C	LFG	NA	X	-6
-28	A7809	-19.7	-5 GIW 5	10/9/2017	1142	C	LFG	NA	X	-6
-29	A8096	-19.6	-5 GIW 6	10/9/2017	1331	C	LFG	NA	X	-6
-30	3157	-19.6	-5 GIW 7	10/9/2017	1340	C	LFG	NA	X	-6
-31	5936	-19.5	-5 GIW 8	10/9/2017	1354	C	LFG	NA	X	-6
-32	A7666	-19.4	-5 GEW 38	10/9/2017	1402	C	LFG	NA	X	-6
-33	5829	-19.6	-5 GIW 9	10/9/2017	1413	C	LFG	NA	X	-6
-34	A7792	-19.7	-5 GEW 109	10/9/2017	1422	C	LFG	NA	X	-6
-35	5815	-19.3	-5 GEW 39	10/9/2017	1430	C	LFG	NA	X	-6

LAB USE ONLY

LABORATORY TO PERFORM WORK: Dave Penoyer
COMPANY: Republic Services

SAMPLED BY: Anthony Kimutis
DATE/TIME: _____

RELINQUISHED BY: Donald Park
DATE/TIME: 10/11/17
RECEIVED BY: _____
DATE/TIME: _____

RELINQUISHED BY: FEM
DATE/TIME: _____
RECEIVED BY: DAD - 10/14/17
DATE/TIME: 1315
RECEIVED BY: _____
DATE/TIME: _____

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

COMMENTS:

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/12/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101204-05	I101204-06	I101204-07	I101204-08				
Client Sample I.D.:	GEW 47R	GEW 5	GEW 48	GEW 54				
Date/Time Sampled:	10/9/17 10:16	10/9/17 10:30	10/9/17 10:40	10/9/17 11:12				
Date/Time Analyzed:	10/13/17 12:16	10/13/17 12:30	10/13/17 12:45	10/13/17 12:59				
QC Batch No.:	171013GC8A1	171013GC8A1	171013GC8A1	171013GC8A1				
Analyst Initials:	AS	AS	AS	AS				
Dilution Factor:	3.4	3.4	3.4	3.4				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	ND d	0.034	ND d	0.034	ND d	0.034	2.7 d	0.034
Carbon Dioxide	42	0.034	34	0.034	36	0.034	42	0.034
Oxygen/Argon	ND	1.7	1.9	1.7	2.1	1.7	ND	1.7
Nitrogen	ND	3.4	12	3.4	7.8	3.4	ND	3.4
Methane	56	0.0034	52	0.0034	54	0.0034	53	0.0034
Carbon Monoxide	ND	0.0034	ND	0.0034	ND	0.0034	ND	0.0034

Results normalized including non-methane hydrocarbons
 ND = Not Detected (below RL)
 RL = Reporting Limit
 d = Reported from a secondary analysis. QC Batch: 171017GC8A2

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 10/18/17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/12/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101204-21	I101204-22	I101204-23	I101204-24				
Client Sample I.D.:	GEW 56R	GIW 11	GIW 1	GIW 2				
Date/Time Sampled:	10/9/17 10:20	10/9/17 10:30	10/9/17 10:46	10/9/17 10:56				
Date/Time Analyzed:	10/16/17 12:13	10/16/17 12:27	10/16/17 12:42	10/16/17 12:57				
QC Batch No.:	171016GC8A1	171016GC8A1	171016GC8A1	171016GC8A1				
Analyst Initials:	MJ	MJ	MJ	MJ				
Dilution Factor:	3.4	3.4	3.4	3.4				
ANALYTE	Result	RL	Result	RL	Result	RL	Result	RL
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v
Hydrogen	17	3.4	12	3.4	0.67 d	0.034	2.8 d	0.034
Carbon Dioxide	48	0.034	40	0.034	41	0.034	17	0.034
Oxygen/Argon	ND	1.7	2.6	1.7	3.3	1.7	13	1.7
Nitrogen	ND	3.4	30	3.4	28	3.4	65	3.4
Methane	31	0.0034	15	0.0034	27	0.0034	2.3	0.0034
Carbon Monoxide	0.058	0.0034	0.056	0.0034	0.011	0.0034	0.029	0.0034

Results normalized including non-methane hydrocarbons

ND = Not Detected (below RL)

RL = Reporting Limit

d = Reported from a secondary analysis. QC Batch: 171017GC8A3

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 10/18/17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/12/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101204-29	I101204-30	I101204-31	I101204-32
Client Sample I.D.:	GIW 6	GIW 7	GIW 8	GEW 38
Date/Time Sampled:	10/9/17 13:31	10/9/17 13:40	10/9/17 13:54	10/9/17 14:02
Date/Time Analyzed:	10/16/17 15:02	10/16/17 15:17	10/16/17 15:32	10/16/17 15:46
QC Batch No.:	171016GC8A1	171016GC8A1	171016GC8A1	171016GC8A1
Analyst Initials:	MJ	MJ	MJ	MJ
Dilution Factor:	3.4	3.4	3.4	3.4

ANALYTE	I101204-29		I101204-30		I101204-31		I101204-32	
	Result % v/v	RL % v/v						
Hydrogen	15	3.4	5.0	3.4	0.49 d	0.034	14	3.4
Carbon Dioxide	43	0.034	61	0.034	55	0.034	19	0.034
Oxygen/Argon	ND	1.7	ND	1.7	ND	1.7	14	1.7
Nitrogen	25	3.4	10	3.4	19	3.4	51	3.4
Methane	15	0.0034	22	0.0034	24	0.0034	1.2	0.0034
Carbon Monoxide	0.034	0.0034	0.021	0.0034	0.0078	0.0034	0.084	0.0034

Results normalized including non-methane hydrocarbons
 ND = Not Detected (below RL)
 RL = Reporting Limit
 d = Reported from a secondary analysis. QC Batch: 171017GC8A3

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date: 10/18/17

The cover letter is an integral part of this analytical report



Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 10/12/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I101204-33	I101204-34	I101204-35					
Client Sample I.D.:	GIW 9	GEW 109	GEW 39					
Date/Time Sampled:	10/9/17 14:13	10/9/17 14:22	10/9/17 14:30					
Date/Time Analyzed:	10/16/17 16:01	10/16/17 16:15	10/16/17 16:55					
QC Batch No.:	171016GC8A1	171016GC8A1	171016GC8A1					
Analyst Initials:	MJ	MJ	MJ					
Dilution Factor:	3.4	3.4	3.4					
ANALYTE	Result	RL	Result	RL	Result	RL		
	% v/v	% v/v	% v/v	% v/v	% v/v	% v/v		
Hydrogen	2.6 d	0.034	7.6	3.4	ND d	0.034		
Carbon Dioxide	17	0.034	42	0.034	52	0.034		
Oxygen/Argon	9.8	1.7	ND	1.7	ND	1.7		
Nitrogen	66	3.4	14	3.4	ND	3.4		
Methane	3.9	0.0034	36	0.0034	46	0.0034		
Carbon Monoxide	0.016	0.0034	0.018	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: 171017GC8A3

Reviewed/Approved By: Mark Johnson
 Mark Johnson
 Operations Manager

Date 10/18/17

The cover letter is an integral part of this analytical report



QC Batch # 171017GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	10/17/2017 14:57		10/17/2017 14:47		10/17/2017 14:52			
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	103	70-130	98	70-130	5.2	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: Mark Johnson  fr Date: 10/18/17
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 2017 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 ₂ O		
GEW-002	10/2/2017 10:55	56.5	36.8	0.0	6.7	121.0	120.8	18.5	17.5	-0.7	-0.7	-11.9
GEW-002	10/2/2017 10:57	55.0	40.6	0.0	4.4	120.8	120.9	17.3	16.6	-0.5	-0.5	-12.0
GEW-002	10/9/2017 9:36	55.4	39.6	0.0	5.0	119.4	119.4	17.1	19.7	-1.0	-1.0	-14.8
GEW-002	10/9/2017 9:42	55.7	39.7	0.0	4.6	119.4	119.2	14.5	14.0	-0.9	-0.9	-14.4
GEW-002	10/16/2017 10:47	56.0	38.1	0.0	5.9	117.9	117.9	15.8	17.3	-0.7	-0.6	-14.1
GEW-002	10/23/2017 10:30	57.7	39.6	0.0	2.7	117.3	117.4	23.6	24.8	-1.2	-1.1	-14.0
GEW-002	10/25/2017 13:45	57.2	40.7	0.1	2.0	118.1	118.1	33.0	28.5	-1.0	-0.9	-13.3
GEW-002	10/25/2017 13:47	56.6	40.8	0.0	2.6	116.8	114.3	38.7	39.0	-0.6	-0.5	-13.3
GEW-002	10/27/2017 11:13	58.3	38.8	0.2	2.7	99.5	99.4	16.0	16.7	-0.1	-0.1	-13.7
GEW-002	10/30/2017 10:18	56.7	41.3	0.0	2.0	100.1	100.0	41.9	39.1	-0.6	-0.5	-12.0
GEW-003	10/2/2017 11:01	49.3	38.3	0.0	12.4	114.7	114.6	12.0	12.3	-0.4	-0.4	-11.4
GEW-003	10/2/2017 11:02	48.1	38.1	0.0	13.8	114.6	114.7	10.7	10.7	-0.4	-0.4	-11.2
GEW-003	10/9/2017 9:47	46.6	37.5	0.0	15.9	113.7	113.7	12.3	6.7	-0.8	-0.7	-11.0
GEW-003	10/9/2017 9:54	46.7	36.1	0.0	17.2	113.7	113.7	40.5	39.6	-0.7	-0.7	-13.4
GEW-003	10/16/2017 10:51	46.7	37.2	0.0	16.1	113.0	112.8	10.7	11.4	-0.5	-0.5	-12.9
GEW-003	10/16/2017 10:53	45.6	37.6	0.0	16.8	112.7	112.7	27.4	27.8	-0.5	-0.5	-12.9
GEW-003	10/23/2017 10:34	47.9	37.3	0.0	14.8	112.2	112.3	16.3	11.4	-0.3	-0.3	-13.3
GEW-003	10/23/2017 10:35	47.2	38.2	0.0	14.6	112.2	112.2	35.6	35.2	-0.3	-0.3	-13.5
GEW-003	10/25/2017 13:51	51.0	37.8	0.0	11.2	113.0	113.0	12.0	14.9	0.2	0.2	-13.2
GEW-003	10/25/2017 13:52	50.1	38.9	0.0	11.0	113.0	113.0	12.9	12.3	0.2	0.2	-13.2
GEW-003	10/26/2017 8:19	48.7	38.9	0.0	12.4	111.7	111.7	13.8	18.1	-0.2	-0.2	-13.4
GEW-003	10/30/2017 10:22	48.2	39.3	0.0	12.5	110.0	109.8	10.0	15.6	-0.5	-0.5	-11.2
GEW-004	10/2/2017 11:05	54.2	38.3	0.0	7.5	118.1	118.1	23.8	23.8	-0.2	-0.2	-11.6
GEW-004	10/9/2017 9:58	54.5	38.9	0.0	6.6	117.6	117.5	9.9	11.3	-0.6	-0.6	-11.1
GEW-004	10/9/2017 10:04	55.0	38.7	0.0	6.3	117.5	117.4	9.5	12.0	-0.6	-0.6	-13.3
GEW-004	10/16/2017 10:57	54.0	39.7	0.0	6.3	116.8	116.8	7.8	12.6	-0.4	-0.3	-12.9
GEW-004	10/23/2017 10:38	54.1	38.6	0.0	7.3	115.8	116.0	26.5	24.8	-0.1	-0.1	-13.5
GEW-004	10/30/2017 10:26	55.7	39.8	0.0	4.5	113.7	113.7	11.3	11.7	-0.6	-0.6	-11.4
GEW-005	10/2/2017 9:03	52.7	37.0	0.0	10.3	91.2	91.2	27.1	26.2	-0.2	-0.2	-12.6
GEW-005	10/9/2017 10:25	52.6	37.5	0.0	9.9	91.5	91.5	8.4	7.4	-0.3	-0.3	-14.0
GEW-005	10/9/2017 10:31	52.9	34.7	0.0	12.4	91.5	91.5	38.2	38.2	-0.3	-0.3	-14.0
GEW-005	10/16/2017 8:35	51.5	39.4	0.0	9.1	88.6	88.5	9.8	9.8	-0.3	-0.3	-14.0
GEW-005	10/23/2017 8:39	53.1	39.0	0.0	7.9	88.9	88.9	19.1	19.1	-0.2	-0.2	-14.1
GEW-005	10/30/2017 8:54	53.5	38.7	0.0	7.8	85.8	86.0	35.0	34.3	-0.5	-0.5	-12.6
GEW-006	10/2/2017 9:12	54.0	37.5	0.0	8.5	87.5	87.5	24.2	23.9	-0.3	-0.3	-12.7
GEW-006	10/12/2017 8:41	54.4	38.1	0.0	7.5	84.9	84.9	17.0	16.5	-0.3	-0.3	-14.9
GEW-006	10/16/2017 8:43	52.6	37.8	0.0	9.6	83.6	83.7	14.1	15.0	-0.4	-0.4	-14.0
GEW-006	10/23/2017 8:46	55.7	38.4	0.0	5.9	87.4	87.4	15.4	9.8	-0.2	-0.2	-13.8
GEW-006	10/30/2017 9:01	53.1	38.1	0.0	8.8	83.0	83.0	38.3	37.2	-0.5	-0.5	-13.2
GEW-007	10/2/2017 9:36	57.1	38.1	0.0	4.8	93.6	93.9	6.9	6.3	-1.1	-1.2	-12.9
GEW-007	10/11/2017 9:02	57.5	41.0	0.0	1.5	89.3	89.3	11.9	10.9	-1.6	-1.6	-15.0
GEW-007	10/11/2017 9:03	57.4	41.0	0.0	1.6	89.6	89.3	8.9	8.9	-1.6	-1.6	-15.0
GEW-007	10/17/2017 9:28	55.3	42.2	0.0	2.5	90.8	91.0	7.9	7.9	-1.1	-1.1	-13.7

October 2017 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 ₂ O		
GEW-007	10/24/2017 11:22	56.5	40.9	0.0	2.6	88.6	88.6	12.9	8.4	-1.2	-1.0	-13.9
GEW-008	10/2/2017 9:41	54.2	38.9	0.0	6.9	111.5	111.5	11.7	14.8	-0.8	-0.8	-12.6
GEW-008	10/11/2017 9:09	53.8	41.2	0.0	5.0	110.3	110.2	15.1	15.6	-1.0	-0.9	-14.8
GEW-008	10/11/2017 9:17	52.0	43.7	0.0	4.3	110.7	110.4	40.5	37.8	-1.0	-1.0	-14.9
GEW-008	10/17/2017 9:24	53.4	41.7	0.0	4.9	111.0	111.0	15.8	12.0	-0.7	-0.7	-13.3
GEW-008	10/24/2017 11:17	52.9	42.3	0.0	4.8	110.3	110.5	13.5	17.0	-0.9	-0.9	-14.3
GEW-009	10/2/2017 9:45	51.2	40.8	0.0	8.0	121.5	121.3	15.5	12.2	-0.5	-0.5	-13.0
GEW-009	10/11/2017 9:22	49.5	40.5	0.0	10.0	119.9	119.7	31.6	30.6	-0.6	-0.6	-15.2
GEW-009	10/11/2017 9:30	49.9	39.4	0.0	10.7	119.6	119.4	38.1	36.9	-0.6	-0.6	-14.6
GEW-009	10/17/2017 9:20	48.7	39.9	0.1	11.3	120.5	120.5	14.0	15.7	-0.4	-0.4	-14.1
GEW-009	10/24/2017 11:13	52.1	39.9	0.2	7.8	119.7	119.6	39.3	40.7	-0.6	-0.6	-14.1
GEW-010	10/2/2017 10:40	53.6	45.2	0.0	1.2	84.9	84.9	1.2	1.2	-0.7	-0.7	-18.3
GEW-010	10/9/2017 9:35	55.2	38.9	0.0	5.9	76.5	76.5	5.7	5.8	-0.9	-0.9	-18.3
GEW-010	10/9/2017 9:42	53.1	39.4	0.0	7.5	76.5	76.5	3.5	3.5	-0.9	-0.9	-18.3
GEW-010	10/16/2017 9:13	59.0	38.9	0.0	2.1	52.4	52.5	5.8	5.4	-0.9	-0.9	-19.2
GEW-010	10/23/2017 8:52	60.1	39.9	0.0	0.0	56.9	56.9	6.4	6.4	-0.9	-0.8	-19.9
GEW-010	10/30/2017 9:05	59.7	40.2	0.1	0.0	49.0	48.9	4.8	4.5	-1.0	-1.0	-21.6
GEW-013A	10/4/2017 14:58	11.6	38.1	3.5	46.8	129.7	129.4	104.5	105.9	-2.8	-3.1	-13.6
GEW-013A	10/17/2017 14:39	13.1	40.8	3.9	42.2	127.9	127.8	115.9	115.1	-3.1	-3.3	-15.5
GEW-015	10/5/2017 10:35	1.4	29.5	5.4	63.7	156.9	156.9	NFD		-1.7	-1.8	-14.3
GEW-015	10/5/2017 10:36	1.1	28.8	5.7	64.4	156.8	156.9	NFD		-1.6	-1.7	-14.0
GEW-016R	10/5/2017 10:45	8.2	51.2	0.0	40.6	183.3	182.8	NFD		-17.9	-17.9	-17.8
GEW-016R	10/5/2017 10:46	7.7	53.3	0.0	39.0	182.7	183.3	NFD		-18.6	-18.3	-18.3
GEW-016R	10/17/2017 15:26	5.6	47.7	0.0	46.7	182.2	182.1	NFD		-18.7	-18.3	-19.0
GEW-016R	10/17/2017 15:28	5.2	49.6	0.0	45.2	182.1	182.3	NFD		-19.3	-19.3	-19.4
GEW-018B	10/5/2017 13:52	3.5	49.2	1.4	45.9	181.3	181.3	4.0	4.0	-5.0	-5.0	-17.6
GEW-018B	10/5/2017 13:54	2.8	51.5	1.3	44.4	180.8	180.5	3.0	1.8	-3.7	-3.7	-16.7
GEW-018B	10/18/2017 10:47	4.5	39.7	2.2	53.6	171.0	171.0	1.0	5.1	-3.8	-3.8	-17.4
GEW-018B	10/18/2017 10:48	2.3	44.7	2.5	50.5	171.6	171.6	4.2	3.5	-3.7	-3.7	-17.6
GEW-022R	10/6/2017 11:48	2.7	58.2	0.8	38.3	102.3	102.3	6.9	5.0	-16.2	-16.3	-17.5
GEW-022R	10/18/2017 13:55	2.7	49.5	3.0	44.8	96.7	96.8	7.8	9.3	-17.4	-17.6	-17.9
GEW-038	10/2/2017 11:30	6.8	50.3	3.9	39.0	90.6	90.5	1.6	1.2	-1.4	-1.4	-16.3
GEW-038	10/9/2017 13:58	2.9	30.3	12.1	54.7	84.7	84.7	2.0	2.0	-0.1	-0.1	-16.9
GEW-038	10/9/2017 14:05	0.9	19.5	14.3	65.3	89.8	89.8	2.3	2.3	-0.2	-0.2	-17.9
GEW-038	10/16/2017 10:16	1.1	50.9	3.9	44.1	68.5	68.4	1.2	1.2	-1.2	-1.1	-15.5
GEW-038	10/23/2017 9:58	1.2	57.8	1.1	39.9	60.6	60.6	2.4	2.4	-0.5	-0.5	-18.9
GEW-038	10/30/2017 10:19	1.7	56.5	1.4	40.4	51.0	51.0	2.2	2.2	-0.7	-0.7	-20.9
GEW-039	10/2/2017 11:40	46.2	52.4	0.0	1.4	113.2	113.3	11.5	13.3	-0.4	-0.7	-17.9
GEW-039	10/9/2017 14:26	44.8	51.4	0.0	3.8	112.5	112.5	10.6	9.8	-0.6	-0.3	-18.9
GEW-039	10/9/2017 14:31	43.9	49.6	0.0	6.5	113.7	113.7	12.5	10.9	-0.3	-0.7	-19.2
GEW-039	10/16/2017 10:35	45.9	50.9	0.0	3.2	106.2	106.2	12.3	11.7	-0.5	-0.4	-19.4
GEW-039	10/23/2017 10:08	46.6	51.4	0.0	2.0	98.2	98.2	17.2	15.8	-0.7	-0.8	-20.3
GEW-039	10/30/2017 10:30	46.6	50.9	0.0	2.5	92.2	92.2	11.2	11.8	-0.6	-0.6	-20.6

October 2017 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 ₂ O		
GEW-040	10/2/2017 10:11	53.4	40.9	0.0	5.7	79.6	79.6	9.4	5.7	-0.5	-0.5	-12.2
GEW-040	10/11/2017 10:29	55.2	41.0	0.3	3.5	60.4	60.4	10.4	10.8	-0.6	-0.6	-14.7
GEW-040	10/11/2017 10:36	55.8	39.1	0.5	4.6	60.4	60.4	9.6	9.6	-0.6	-0.6	-14.7
GEW-040	10/16/2017 9:32	54.7	42.8	0.0	2.5	59.9	60.0	10.4	11.9	-0.6	-0.6	-13.7
GEW-040	10/23/2017 9:34	55.0	40.2	0.3	4.5	59.1	59.1	40.8	40.9	-0.5	-0.5	-13.8
GEW-040	10/23/2017 9:35	56.1	40.7	0.1	3.1	59.2	59.2	5.8	5.8	-0.5	-0.5	-13.8
GEW-040	10/30/2017 9:50	57.6	42.1	0.0	0.3	50.7	50.7	2.9	7.7	-0.6	-0.6	-12.7
GEW-041R	10/2/2017 10:15	56.7	38.6	0.0	4.7	104.5	104.4	11.1	11.1	-0.2	-0.2	-12.4
GEW-041R	10/12/2017 9:07	56.5	39.8	0.2	3.5	100.1	100.1	20.7	20.3	-0.3	-0.3	-15.0
GEW-041R	10/16/2017 9:36	56.7	40.2	0.0	3.1	100.2	100.6	33.1	32.0	-0.3	-0.3	-13.8
GEW-041R	10/23/2017 9:39	57.6	39.4	0.1	2.9	98.4	98.5	7.9	4.8	-0.2	-0.2	-13.9
GEW-041R	10/30/2017 9:54	58.2	40.6	0.1	1.1	99.4	99.1	39.8	40.1	-0.3	-0.3	-12.7
GEW-042R	10/2/2017 10:19	55.1	40.7	0.0	4.2	107.0	107.0	6.8	6.2	-0.6	-0.6	-12.2
GEW-042R	10/11/2017 10:46	56.6	39.2	0.1	4.1	101.8	101.8	8.3	7.9	-0.7	-0.7	-14.7
GEW-042R	10/11/2017 10:53	56.0	40.1	0.1	3.8	101.1	101.1	9.2	26.1	-0.7	-0.7	-14.7
GEW-042R	10/16/2017 9:40	56.8	39.1	0.0	4.1	101.9	101.8	17.1	18.4	-0.6	-0.6	-13.7
GEW-042R	10/23/2017 9:42	57.2	38.8	0.0	4.0	98.7	98.4	26.8	26.6	-0.3	-0.3	-13.8
GEW-042R	10/30/2017 9:58	57.1	40.0	0.0	2.9	93.4	93.3	8.9	7.9	-0.4	-0.5	-12.8
GEW-043R	10/2/2017 10:23	54.1	40.1	0.0	5.8	119.7	119.7	11.9	11.3	-0.6	-0.6	-12.2
GEW-043R	10/12/2017 9:14	56.5	39.1	0.0	4.4	118.4	118.4	15.0	13.7	-0.7	-0.7	-15.1
GEW-043R	10/16/2017 9:43	54.9	41.2	0.0	3.9	119.2	119.2	33.8	35.3	-0.8	-0.8	-13.8
GEW-043R	10/23/2017 9:45	54.5	39.8	0.0	5.7	117.3	117.3	25.3	25.3	-0.5	-0.5	-14.3
GEW-043R	10/30/2017 10:02	56.2	41.2	0.0	2.6	116.1	116.3	14.5	12.6	-1.0	-1.0	-13.0
GEW-044	10/2/2017 10:28	55.3	39.2	0.0	5.5	95.0	95.0	4.9	4.9	-0.5	-0.5	-12.2
GEW-044	10/12/2017 9:18	54.7	40.4	0.0	4.9	85.0	85.1	35.6	35.6	-0.6	-0.6	-13.8
GEW-044	10/16/2017 9:47	52.7	41.3	0.0	6.0	88.9	88.7	6.3	6.3	-0.7	-0.7	-13.7
GEW-044	10/23/2017 9:49	56.2	40.1	0.0	3.7	82.6	82.7	39.5	39.5	-0.4	-0.4	-13.8
GEW-044	10/30/2017 10:06	56.7	41.1	0.0	2.2	68.9	69.1	7.0	6.4	-0.7	-0.7	-12.4
GEW-045R	10/2/2017 10:32	55.4	39.9	0.0	4.7	96.3	96.3	7.4	7.4	-1.3	-1.3	-12.1
GEW-045R	10/11/2017 9:43	56.8	40.2	0.0	3.0	86.8	86.8	8.0	8.9	-1.3	-1.3	-14.8
GEW-045R	10/11/2017 9:55	56.3	38.9	0.0	4.8	87.4	87.4	10.5	10.1	-1.5	-1.5	-14.8
GEW-045R	10/16/2017 9:55	59.1	40.9	0.0	0.0	91.7	91.7	10.1	10.1	-1.2	-1.2	-13.7
GEW-045R	10/23/2017 9:53	54.0	39.5	0.0	6.5	86.1	86.2	7.5	6.9	-0.3	-0.3	-13.8
GEW-045R	10/30/2017 10:11	57.0	40.4	0.0	2.6	79.6	79.6	8.5	9.8	-0.4	-0.4	-12.6
GEW-046R	10/2/2017 10:38	54.7	36.8	0.0	8.5	99.4	99.4	11.5	9.7	-0.3	-0.2	-11.7
GEW-046R	10/9/2017 9:25	56.0	39.7	0.0	4.3	88.7	88.6	38.0	38.2	-0.6	-0.6	-13.0
GEW-046R	10/9/2017 9:31	56.5	36.6	0.0	6.9	86.4	86.3	8.9	10.9	-0.6	-0.6	-11.2
GEW-046R	10/16/2017 10:02	55.5	38.1	0.0	6.4	97.9	97.9	36.1	36.5	-0.5	-0.4	-13.2
GEW-046R	10/23/2017 10:11	55.9	38.9	0.0	5.2	95.8	95.8	6.3	6.3	-0.3	-0.3	-10.8
GEW-046R	10/30/2017 10:14	55.2	41.5	0.0	3.3	93.2	93.2	9.7	9.7	-0.4	-0.4	-10.2
GEW-047R	10/2/2017 8:59	55.4	39.8	0.0	4.8	75.7	75.7	42.4	42.2	-0.4	-0.4	-13.2
GEW-047R	10/9/2017 10:12	54.6	40.7	0.0	4.7	79.8	79.8	66.1	66.1	-0.9	-0.9	-13.8
GEW-047R	10/9/2017 10:18	54.8	39.7	0.0	5.5	80.0	79.9	62.7	62.6	-0.8	-0.8	-13.8

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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 ₂ O		
GEW-047R	10/16/2017 8:29	55.8	41.0	0.0	3.2	56.7	57.2	102.8	102.9	-2.2	-2.2	-14.1
GEW-047R	10/16/2017 8:30	55.7	41.4	0.0	2.9	57.8	57.8	34.4	34.4	-0.2	-0.2	-14.2
GEW-047R	10/23/2017 8:36	54.2	41.8	0.1	3.9	54.2	54.2	5.8	5.8	-0.1	-0.1	-13.8
GEW-047R	10/25/2017 10:13	55.5	42.0	0.0	2.5	52.1	52.0	5.8	5.8	0.2	0.2	-14.0
GEW-047R	10/25/2017 10:15	55.7	42.5	0.0	1.8	53.1	53.1	66.8	66.4	-0.8	-0.8	-13.9
GEW-047R	10/26/2017 8:23	56.1	39.2	0.0	4.7	59.7	59.8	115.6	113.9	-2.9	-2.8	-14.0
GEW-047R	10/26/2017 8:25	56.2	41.8	0.0	2.0	60.8	60.9	46.8	47.0	-0.3	-0.3	-13.7
GEW-047R	10/30/2017 8:51	56.2	39.6	0.0	4.2	49.1	49.1	54.3	54.0	-0.7	-0.6	-12.6
GEW-048	10/2/2017 9:07	56.7	38.9	0.0	4.4	102.8	102.8	11.8	10.8	-0.4	-0.5	-7.5
GEW-048	10/9/2017 10:35	56.8	37.8	0.0	5.4	103.3	103.3	15.2	10.0	-0.6	-0.5	-12.1
GEW-048	10/9/2017 10:43	56.2	39.0	0.0	4.8	103.3	103.3	17.1	14.2	-0.5	-0.5	-8.6
GEW-048	10/16/2017 8:38	56.1	37.5	0.0	6.4	100.4	100.4	8.4	12.8	-0.5	-0.5	-8.2
GEW-048	10/23/2017 8:42	57.2	38.2	0.0	4.6	101.1	101.1	18.5	13.9	-0.4	-0.4	-9.3
GEW-048	10/30/2017 8:57	58.2	39.4	0.0	2.4	99.6	99.4	28.4	26.3	-0.7	-0.7	-7.5
GEW-049	10/2/2017 9:23	54.6	38.2	0.0	7.2	108.7	108.7	9.2	14.6	-0.5	-0.5	-12.7
GEW-049	10/11/2017 10:04	53.9	37.9	0.0	8.2	104.8	104.7	13.6	13.6	-0.6	-0.6	-14.8
GEW-049	10/11/2017 10:10	54.2	38.6	0.0	7.2	105.0	105.0	13.6	13.6	-0.6	-0.6	-14.9
GEW-049	10/16/2017 8:59	51.3	38.4	0.0	10.3	105.5	105.2	14.1	12.1	-0.5	-0.5	-14.0
GEW-049	10/23/2017 9:02	54.8	39.0	0.0	6.2	106.6	106.5	7.3	8.3	-0.4	-0.4	-14.1
GEW-049	10/31/2017 11:17	55.1	40.1	0.0	4.8	105.1	105.0	28.4	28.6	-0.2	-0.2	-14.4
GEW-050	10/2/2017 9:19	56.7	37.7	0.0	5.6	106.2	106.4	13.0	10.4	-0.3	-0.4	-6.0
GEW-050	10/12/2017 8:47	56.5	37.8	0.0	5.7	105.2	105.2	15.7	15.4	-0.4	-0.4	-7.8
GEW-050	10/16/2017 8:51	57.4	38.4	0.0	4.2	104.5	104.5	14.7	7.9	-0.5	-0.5	-7.8
GEW-050	10/23/2017 8:53	57.2	39.0	0.0	3.8	104.4	104.3	12.7	6.2	-0.3	-0.3	-8.6
GEW-050	10/30/2017 9:08	57.2	39.5	0.0	3.3	101.8	101.8	33.5	34.1	-0.6	-0.6	-8.3
GEW-051	10/2/2017 9:27	55.1	39.0	0.0	5.9	123.9	123.9	14.4	11.9	-0.8	-0.8	-12.6
GEW-051	10/2/2017 9:29	54.7	40.6	0.0	4.7	123.9	123.7	17.0	9.8	-0.8	-0.8	-12.6
GEW-051	10/12/2017 8:55	55.8	38.3	0.0	5.9	122.9	123.1	22.3	23.2	-0.8	-0.8	-14.4
GEW-051	10/16/2017 9:04	56.1	39.2	0.0	4.7	123.0	123.1	31.1	31.0	-0.8	-0.8	-13.7
GEW-051	10/23/2017 9:06	55.8	39.3	0.0	4.9	122.9	122.9	12.2	15.2	-0.6	-0.6	-13.8
GEW-051	10/30/2017 9:24	56.8	39.4	0.0	3.8	121.3	121.3	2.7	11.9	-1.2	-1.2	-12.1
GEW-051	10/30/2017 9:26	56.1	41.0	0.0	2.9	120.2	120.2	12.8	9.5	-1.1	-1.1	-12.2
GEW-052	10/2/2017 9:32	52.7	39.1	0.0	8.2	112.0	112.0	40.7	40.9	-0.4	-0.5	-12.7
GEW-052	10/12/2017 8:51	53.4	37.9	0.0	8.7	111.0	111.0	32.9	32.5	-0.5	-0.5	-15.1
GEW-052	10/16/2017 8:55	52.2	37.5	0.0	10.3	110.2	110.4	14.3	16.3	-0.5	-0.5	-13.9
GEW-052	10/23/2017 8:57	51.6	38.4	0.0	10.0	111.7	111.7	34.1	35.1	-0.4	-0.4	-14.3
GEW-052	10/30/2017 9:12	49.6	38.1	0.0	12.3	109.3	109.1	13.5	19.3	-0.5	-0.5	-12.7
GEW-053	10/2/2017 9:50	52.0	39.2	0.0	8.8	134.1	133.8	11.5	10.8	-0.9	-0.9	-12.9
GEW-053	10/2/2017 9:51	51.7	41.7	0.0	6.6	133.8	133.8	13.2	12.4	-0.9	-0.9	-12.8
GEW-053	10/9/2017 11:24	51.8	40.7	0.0	7.5	134.6	134.7	11.8	12.1	-0.9	-0.9	-14.0
GEW-053	10/9/2017 11:30	51.9	40.1	0.0	8.0	134.4	134.4	14.3	14.0	-0.9	-0.9	-14.4
GEW-053	10/16/2017 9:11	54.0	39.9	0.0	6.1	133.2	133.4	37.6	37.0	-0.9	-0.9	-14.0
GEW-053	10/16/2017 9:12	53.0	41.3	0.0	5.7	133.5	133.2	15.5	14.0	-0.9	-0.9	-13.9

October 2017 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 ₂ O		
GEW-053	10/23/2017 9:10	53.3	40.8	0.0	5.9	133.4	133.3	11.2	11.2	-0.8	-0.8	-14.1
GEW-053	10/23/2017 9:11	52.7	42.2	0.0	5.1	133.5	133.3	10.8	12.7	-0.8	-0.8	-14.0
GEW-053	10/30/2017 9:30	53.3	41.6	0.0	5.1	130.5	130.6	12.1	13.3	-1.3	-1.3	-12.9
GEW-054	10/2/2017 9:58	52.2	40.0	0.0	7.8	142.5	142.5	39.5	29.6	-3.3	-3.4	-13.0
GEW-054	10/2/2017 9:59	51.4	42.2	0.0	6.4	142.5	142.5	39.6	31.8	-3.3	-3.3	-13.2
GEW-054	10/9/2017 11:07	52.3	40.1	0.0	7.6	142.5	142.5	44.0	47.0	-3.7	-3.6	-14.8
GEW-054	10/9/2017 11:14	51.5	40.7	0.0	7.8	142.5	142.5	34.1	29.4	-3.7	-3.7	-14.6
GEW-054	10/16/2017 9:16	53.2	41.1	0.0	5.7	142.8	142.9	46.9	23.4	-3.6	-3.6	-14.2
GEW-054	10/16/2017 9:17	52.2	42.2	0.0	5.6	142.9	142.9	46.5	33.6	-3.7	-3.7	-14.1
GEW-054	10/23/2017 9:18	52.2	41.5	0.0	6.3	142.5	142.5	42.3	47.5	-3.8	-3.8	-14.7
GEW-054	10/23/2017 9:19	51.7	42.6	0.0	5.7	142.5	142.4	26.5	34.2	-3.8	-3.8	-14.3
GEW-054	10/30/2017 9:36	54.3	39.8	0.0	5.9	142.2	142.2	41.9	36.3	-3.9	-4.0	-13.5
GEW-054	10/30/2017 9:37	52.9	42.2	0.0	4.9	142.2	142.2	34.1	42.1	-3.9	-3.9	-13.8
GEW-055	10/2/2017 10:06	50.4	40.1	0.1	9.4	120.0	119.6	7.2	7.7	-0.4	-0.4	-12.3
GEW-055	10/11/2017 10:17	50.8	41.7	0.2	7.3	132.0	131.8	9.4	8.6	-0.6	-0.6	-15.2
GEW-055	10/11/2017 10:24	50.6	42.3	0.2	6.9	130.0	130.4	9.0	8.6	-0.4	-0.5	-14.7
GEW-055	10/16/2017 9:24	49.2	40.0	0.0	10.8	132.0	131.8	31.7	31.3	-0.3	-0.3	-13.8
GEW-055	10/16/2017 9:28	50.7	42.8	0.0	6.5	130.6	130.6	8.6	8.1	-0.3	-0.3	-13.7
GEW-055	10/17/2017 8:51	51.7	40.8	0.0	7.5	124.7	124.7	18.9	18.9	-0.1	-0.2	-13.5
GEW-055	10/23/2017 9:28	50.8	40.2	0.0	9.0	118.6	118.6	26.9	26.9	0.0	0.0	-13.8
GEW-055	10/23/2017 9:29	50.1	42.7	0.0	7.2	121.0	121.0	31.5	31.7	-0.1	-0.1	-13.8
GEW-055	10/25/2017 9:13	51.1	42.0	0.0	6.9	128.3	128.3	0.0	0.0	0.2	0.2	-14.1
GEW-055	10/25/2017 9:15	50.6	42.7	0.0	6.7	129.7	130.1	0.0	0.0	0.2	0.2	-14.2
GEW-055	10/30/2017 9:46	52.0	42.5	0.2	5.3	130.9	130.6	11.2	10.8	-1.1	-1.1	-12.7
GEW-055	10/30/2017 9:47	51.3	42.9	0.2	5.6	129.7	129.4	12.1	9.0	-1.0	-1.0	-12.8
GEW-056R	10/2/2017 10:55	29.2	54.2	0.0	16.6	109.2	109.2	2.7	4.0	-0.5	-0.4	-18.3
GEW-056R	10/9/2017 10:16	30.1	52.1	0.0	17.8	108.2	108.1	3.5	2.7	-0.6	-0.6	-18.2
GEW-056R	10/9/2017 10:22	30.4	47.9	0.0	21.7	111.0	111.0	1.1	1.6	-0.5	-0.6	-18.2
GEW-056R	10/16/2017 9:36	29.4	49.1	0.0	21.5	102.6	102.6	4.4	5.4	-0.6	-0.6	-19.8
GEW-056R	10/23/2017 9:07	30.7	52.7	0.0	16.6	86.1	85.7	4.0	3.7	-0.6	-0.6	-20.0
GEW-056R	10/30/2017 9:26	33.5	49.7	0.0	16.8	73.6	73.6	4.3	3.6	-0.7	-0.8	-21.2
GEW-057B	10/4/2017 10:49	6.3	53.4	0.0	40.3	73.8	73.7	15.4	8.6	-16.9	-18.3	-16.8
GEW-057B	10/17/2017 11:11	8.1	39.1	0.7	52.1	74.1	74.3	4.4	5.0	-17.5	-17.5	-17.6
GEW-057R	10/4/2017 14:35	0.6	28.5	7.9	63.0	85.0	85.1	6.3	2.7	-16.8	-16.8	-16.7
GEW-057R	10/4/2017 14:35	0.4	28.0	7.9	63.7	85.6	85.5	3.7	8.3	-17.5	-17.7	-17.7
GEW-057R	10/17/2017 11:14	0.8	16.7	16.9	65.6	74.1	74.3	1.1	4.1	-17.4	-17.4	-17.6
GEW-057R	10/17/2017 11:15	1.3	10.1	16.7	71.9	75.9	75.9	2.3	3.2	-17.4	-17.3	-17.5
GEW-058	10/4/2017 10:12	3.6	35.5	2.5	58.4	84.7	84.9	10.8	11.8	-3.6	-3.5	-18.8
GEW-058	10/17/2017 10:37	3.3	38.2	0.2	58.3	70.3	70.4	5.8	2.7	-2.9	-2.9	-19.7
GEW-058A	10/4/2017 10:09	13.3	39.2	2.9	44.6	85.4	85.5	11.2	12.0	-1.1	-1.1	-18.7
GEW-058A	10/17/2017 10:34	12.0	32.7	3.6	51.7	77.7	77.7	1.7	2.6	-1.3	-1.2	-19.1
GEW-059R	10/4/2017 10:04	14.9	46.1	0.0	39.0	168.1	168.1	9.5	9.6	-18.0	-18.2	-18.5
GEW-059R	10/4/2017 10:05	14.0	48.8	0.0	37.2	168.5	168.5	7.7	10.1	-18.0	-18.0	-18.6

October 2017 Wellfield Monitoring Data - Bridgeton Landfill

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		(% vol)				°F		scfm		H ₂ O		
GEW-059R	10/17/2017 10:29	15.7	44.1	0.0	40.2	152.5	154.0	9.5	7.8	-18.9	-18.9	-19.6
GEW-059R	10/17/2017 10:30	15.3	46.4	0.0	38.3	156.0	156.0	11.0	10.8	-18.9	-18.9	-19.6
GEW-067A	10/4/2017 14:16	3.6	52.9	0.0	43.5	84.7	84.1	4.1	4.1	0.0	0.0	0.2
GEW-067A	10/4/2017 14:18	3.2	55.5	0.0	41.3	84.0	84.0	2.2	3.0	0.0	0.0	0.2
GEW-067A	10/5/2017 10:08	10.1	41.5	1.9	46.5	153.3	153.3	5.4	5.6	-0.1	-0.1	-17.6
GEW-067A	10/5/2017 10:09	10.0	43.1	1.7	45.2	153.7	153.7	4.6	5.3	-0.1	-0.1	-18.5
GEW-067A	10/17/2017 14:10	3.8	54.9	0.0	41.3	87.3	85.3	4.0	6.9	0.2	0.1	-0.1
GEW-067A	10/17/2017 14:12	3.4	58.0	0.0	38.6	85.7	85.7	9.5	7.3	0.1	0.1	-0.1
GEW-067A	10/18/2017 14:38	3.7	59.3	0.0	37.0	84.7	84.6	6.1	8.5	0.1	0.2	0.3
GEW-067A	10/18/2017 14:39	3.7	60.1	0.0	36.2	84.7	84.7	1.5	1.5	0.1	0.1	0.0
GEW-067A	10/19/2017 9:38	7.1	50.3	0.1	42.5	160.7	161.1	4.7	5.5	-0.1	-0.1	-20.1
GEW-067A	10/19/2017 9:39	8.0	52.8	0.4	38.8	169.5	169.7	14.3	14.9	-0.7	-0.5	-19.7
GEW-068A	10/19/2017 13:42	12.3	47.7	2.0	38.0	181.5	181.5	24.8	26.4	-16.8	-16.8	-17.4
GEW-068A	10/19/2017 13:43	10.8	48.6	1.8	38.8	183.3	183.3	28.9	30.6	-16.8	-17.0	-17.4
GEW-078R	10/5/2017 11:43	12.5	50.0	0.0	37.5	169.0	169.0	8.3	11.6	-16.9	-17.3	-17.3
GEW-078R	10/5/2017 11:44	12.4	52.2	0.0	35.4	169.0	169.0	9.1	8.6	-16.6	-16.6	-16.7
GEW-078R	10/18/2017 9:45	12.8	46.9	0.1	40.2	157.7	157.7	9.5	9.4	-17.4	-17.4	-17.8
GEW-078R	10/18/2017 9:46	12.6	48.5	0.2	38.7	158.1	158.1	8.2	6.2	-17.5	-17.4	-17.8
GEW-081	10/6/2017 11:45	0.6	44.6	2.5	52.3	87.5	87.5	3.7	3.5	-17.6	-17.4	-17.7
GEW-081	10/18/2017 11:01	0.6	42.2	4.6	52.6	78.2	78.4	5.8	4.8	-16.9	-17.3	-17.1
GEW-082R	10/5/2017 13:46	12.7	44.8	0.0	42.5	183.3	183.3	2.7	2.2	-16.2	-15.9	-17.0
GEW-082R	10/5/2017 13:47	12.9	47.7	0.0	39.4	183.3	183.3	4.1	3.7	-15.8	-16.3	-16.4
GEW-082R	10/18/2017 10:42	12.6	41.9	0.1	45.4	175.3	175.3	1.9	3.2	-16.3	-16.4	-17.3
GEW-082R	10/18/2017 10:43	13.1	43.8	0.0	43.1	175.8	175.8	3.6	2.7	-16.4	-16.3	-17.6
GEW-086	10/5/2017 10:23	20.1	45.5	0.2	34.2	97.4	97.4	7.8	7.7	-0.4	-0.4	-18.6
GEW-086	10/19/2017 9:50	25.6	52.3	0.4	21.7	99.4	99.4	9.3	8.8	-0.5	-0.5	-19.7
GEW-087	10/4/2017 15:34	4.8	30.7	4.4	60.1	167.6	170.0	NFD		-17.5	-17.0	-17.5
GEW-087	10/4/2017 15:35	5.0	30.9	4.3	59.8	169.0	169.8	NFD		-17.0	-17.0	-17.2
GEW-087	10/17/2017 14:51	2.6	28.5	4.3	64.6	167.6	167.1	NFD		-19.3	-19.3	-19.9
GEW-087	10/17/2017 14:52	2.5	27.0	4.0	66.5	168.1	168.6	NFD		-18.6	-18.7	-19.1
GEW-088	10/5/2017 10:18	8.7	56.4	0.0	34.9	186.4	186.4	71.2	67.0	-2.3	-2.3	-18.2
GEW-088	10/5/2017 10:19	8.5	55.9	0.0	35.6	186.4	186.4	65.6	66.4	-2.3	-2.2	-16.7
GEW-088	10/19/2017 9:46	3.0	54.7	0.0	42.3	197.2	197.2	71.7	77.1	-0.6	-0.6	-19.3
GEW-088	10/19/2017 9:47	3.4	54.4	0.0	42.2	197.2	197.2	70.6	72.9	-0.6	-0.6	-19.9
GEW-090	10/4/2017 14:01	21.2	47.2	0.0	31.6	170.0	170.0	10.4	14.7	-17.7	-17.7	-17.9
GEW-090	10/4/2017 14:02	20.7	50.2	0.0	29.1	170.1	170.5	10.2	9.3	-17.7	-17.7	-17.9
GEW-090	10/17/2017 13:54	20.8	45.9	0.0	33.3	164.3	164.0	9.6	9.2	-18.7	-18.7	-19.0
GEW-090	10/17/2017 13:56	20.4	50.8	0.0	28.8	164.3	163.8	14.3	14.6	-18.6	-18.8	-19.3
GEW-091	10/4/2017 13:53	5.1	58.8	0.0	36.1	197.9	197.9	29.0	34.5	-15.7	-15.0	-17.9
GEW-091	10/4/2017 13:54	3.8	65.0	0.0	31.2	199.3	199.2	43.3	46.6	-14.3	-13.7	-17.7
GEW-091	10/17/2017 13:32	2.4	59.7	0.0	37.9	195.7	195.8	21.2	21.5	-13.5	-13.3	-15.0
GEW-091	10/17/2017 13:34	2.1	62.7	0.0	35.2	195.7	195.7	22.2	18.4	-13.5	-14.3	-14.1
GEW-100	10/5/2017 14:15	0.7	43.3	7.0	49.0	85.7	85.7	6.1	5.6	-17.6	-17.5	-17.6

October 2017 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 ₂ O		
GEW-100	10/5/2017 14:16	0.7	42.7	7.1	49.5	85.5	85.4	5.7	5.0	-17.9	-17.6	-18.1
GEW-100	10/19/2017 13:48	1.0	41.9	7.0	50.1	91.5	91.5	3.1	1.6	-17.9	-17.6	-17.8
GEW-100	10/19/2017 13:49	0.9	42.9	7.2	49.0	91.9	91.9	4.3	4.3	-17.7	-17.7	-17.4
GEW-102	10/5/2017 14:42	4.4	48.5	1.9	45.2	85.6	85.6	2.9	4.5	-18.4	-18.0	-18.5
GEW-102	10/17/2017 14:12	5.5	50.0	0.4	44.1	80.3	80.4	5.6	3.2	-18.6	-18.5	-18.9
GEW-104	10/4/2017 10:38	19.3	50.3	0.3	30.1	172.6	172.6	12.2	7.8	-5.2	-5.9	-8.5
GEW-104	10/4/2017 10:39	18.6	52.5	0.3	28.6	173.6	173.6	9.9	13.6	-5.2	-5.7	-8.5
GEW-104	10/17/2017 11:03	1.6	42.1	2.3	54.0	74.1	74.1	5.6	5.6	-7.9	-7.9	-7.7
GEW-105	10/17/2017 10:48	16.3	45.1	1.1	37.5	81.7	81.7	12.2	11.6	-1.4	-1.3	-12.7
GEW-106	10/4/2017 10:15	22.2	46.6	3.0	28.2	76.2	76.2	3.9	3.9	-1.0	-1.0	-9.9
GEW-106	10/17/2017 10:41	26.4	49.8	0.9	22.9	67.5	67.5	1.2	1.2	-0.8	-0.8	-8.3
GEW-107	10/4/2017 9:56	50.5	41.8	0.0	7.7	71.6	71.6	2.4	2.9	-3.2	-3.2	-18.8
GEW-107	10/17/2017 10:16	48.8	43.1	0.0	8.1	68.8	68.8	8.0	7.5	-3.1	-3.1	-19.5
GEW-107	10/25/2017 14:30	25.5	38.4	3.7	32.4	78.3	78.4	10.8	7.7	-13.6	-13.6	-19.1
GEW-107	10/25/2017 14:38	24.4	39.5	3.9	32.2	78.9	78.8	13.6	9.6	-18.8	-18.8	-19.0
GEW-108	10/4/2017 9:47	34.2	44.7	0.0	21.1	145.9	145.6	2.2	2.8	-18.5	-18.5	-18.8
GEW-108	10/4/2017 9:48	34.2	46.2	0.0	19.6	146.3	146.3	1.7	3.9	-18.8	-18.8	-19.0
GEW-108	10/17/2017 10:11	33.4	43.8	0.0	22.8	143.2	143.3	2.8	2.7	-19.8	-19.8	-19.8
GEW-108	10/17/2017 10:12	33.6	45.2	0.0	21.2	144.2	144.5	4.6	3.3	-19.6	-19.4	-19.6
GEW-109	10/2/2017 11:37	36.3	46.1	0.0	17.6	92.2	92.2	1.1	1.6	-5.2	-5.2	-15.6
GEW-109	10/9/2017 14:17	29.2	39.6	0.0	31.2	92.7	92.7	4.9	4.5	-5.7	-5.7	-16.5
GEW-109	10/9/2017 14:23	34.6	41.9	0.0	23.5	91.7	91.7	4.1	3.9	-5.7	-5.7	-17.2
GEW-109	10/16/2017 10:31	35.5	43.4	0.0	21.1	73.2	73.2	2.0	1.6	-5.3	-5.3	-17.5
GEW-109	10/23/2017 10:05	33.4	45.2	0.0	21.4	61.4	61.4	4.0	4.0	-5.3	-5.2	-16.6
GEW-109	10/30/2017 10:27	35.4	42.8	0.1	21.7	52.3	52.3	3.7	3.9	-6.5	-6.5	-17.9
GEW-110	10/2/2017 10:43	14.8	34.7	5.4	45.1	89.6	89.7	4.3	4.2	-0.2	-0.2	-18.6
GEW-110	10/2/2017 10:45	14.6	35.8	4.5	45.1	89.2	89.3	12.7	12.5	-0.1	-0.2	-18.2
GEW-110	10/9/2017 9:45	9.1	25.4	11.8	53.7	79.1	79.1	3.9	3.9	-0.2	-0.2	-18.5
GEW-110	10/9/2017 9:52	7.5	23.2	12.4	56.9	80.2	80.2	2.1	1.2	-0.1	-0.1	-18.2
GEW-110	10/16/2017 9:17	12.8	38.2	5.8	43.2	62.0	62.0	16.6	12.2	-0.3	-0.2	-19.2
GEW-110	10/16/2017 9:22	5.4	20.9	13.4	60.3	69.3	69.1	13.6	14.8	-0.1	-0.2	-19.8
GEW-110	10/23/2017 8:56	12.5	54.7	0.0	32.8	56.2	56.2	3.5	4.6	0.1	0.1	-19.9
GEW-110	10/23/2017 8:57	11.0	57.3	0.0	31.7	59.2	59.2	12.7	10.8	-0.4	-0.4	-19.7
GEW-110	10/30/2017 9:08	12.8	27.6	9.7	49.9	60.1	60.2	14.9	12.8	-0.3	-0.3	-21.7
GEW-110	10/30/2017 9:16	7.1	21.8	12.7	58.4	66.8	66.2	2.3	2.2	-0.2	-0.2	-21.7
GEW-113	10/5/2017 10:41	9.2	45.9	2.8	42.1	159.4	159.4	19.4	19.6	-8.9	-8.9	-18.1
GEW-113	10/5/2017 10:42	9.3	47.4	2.8	40.5	159.0	159.4	17.2	17.9	-7.9	-7.9	-17.5
GEW-113	10/17/2017 15:21	8.5	46.4	2.1	43.0	156.5	156.5	78.9	68.0	-17.3	-16.5	-21.5
GEW-113	10/17/2017 15:23	8.4	47.7	2.1	41.8	156.5	156.5	12.3	11.7	-8.6	-8.6	-19.2
GEW-116	10/5/2017 14:02	8.0	61.0	0.1	30.9	190.9	190.9	6.6	7.0	-7.5	-7.6	-17.9
GEW-116	10/5/2017 14:03	6.5	67.0	0.1	26.4	190.9	190.9	6.0	6.4	-7.8	-7.8	-17.3
GEW-116	10/18/2017 10:05	3.6	52.1	3.4	40.9	112.0	112.2	6.0	5.9	-17.4	-17.4	-18.0
GEW-117	10/5/2017 14:13	42.5	55.8	0.0	1.7	139.9	139.9	NR	NR	-11.8	-11.8	-17.7

October 2017 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 ₂ O		
GEW-117	10/5/2017 14:14	43.9	54.5	0.0	1.6	139.6	139.4	NR	NR	-11.8	-11.8	-17.4
GEW-117	10/18/2017 10:16	39.1	50.8	0.0	10.1	133.8	133.8	NR	NR	-9.6	-9.6	-17.6
GEW-117	10/18/2017 10:17	37.3	51.8	0.0	10.9	133.5	133.2	NR	NR	-9.5	-9.5	-17.6
GEW-118	10/5/2017 14:53	1.8	50.2	5.0	43.0	191.6	190.2	84.9	84.5	-1.0	-1.1	-18.3
GEW-118	10/5/2017 15:14	0.9	50.5	0.1	48.5	195.0	195.0	82.7	83.4	-1.2	-1.2	-18.2
GEW-118	10/18/2017 10:28	2.2	48.0	0.3	49.5	188.3	188.3	78.8	79.5	-0.7	-0.7	-17.1
GEW-118	10/18/2017 10:31	1.4	21.3	10.0	67.3	169.0	168.5	75.3	76.0	-2.4	-2.4	-17.5
GEW-120	10/5/2017 14:17	19.1	58.8	0.0	22.1	143.5	143.5	15.5	15.6	-17.2	-16.9	-17.4
GEW-120	10/5/2017 14:19	18.8	59.7	0.0	21.5	143.2	143.4	16.1	17.7	-17.2	-17.2	-17.4
GEW-120	10/18/2017 10:21	17.8	51.5	0.0	30.7	156.6	156.9	22.5	22.6	-17.0	-16.9	-17.2
GEW-120	10/18/2017 10:23	16.9	54.4	0.0	28.7	158.1	158.1	23.4	21.8	-16.9	-16.9	-16.7
GEW-121	10/5/2017 15:41	10.2	58.5	0.0	31.3	175.3	175.3	17.0	20.9	-15.8	-16.3	-16.7
GEW-121	10/5/2017 15:42	10.4	60.3	0.0	29.3	174.7	174.7	25.6	26.4	-16.5	-16.5	-16.8
GEW-121	10/18/2017 11:05	8.8	49.1	0.3	41.8	174.7	174.7	22.8	22.8	-15.5	-15.5	-16.8
GEW-121	10/18/2017 11:06	10.6	53.0	0.2	36.2	175.3	175.3	21.0	22.0	-15.5	-15.7	-16.7
GEW-122	10/6/2017 11:40	12.5	40.5	0.1	46.9	158.1	158.1	23.1	23.1	-17.1	-17.1	-18.0
GEW-122	10/6/2017 11:41	12.1	38.7	0.1	49.1	158.5	158.5	21.6	20.5	-16.8	-16.7	-17.6
GEW-122	10/18/2017 10:56	12.1	36.3	0.3	51.3	153.7	153.7	18.2	19.0	-16.8	-16.5	-17.1
GEW-122	10/18/2017 10:57	12.2	38.1	0.3	49.4	154.0	154.0	20.2	19.5	-16.5	-16.8	-17.2
GEW-123	10/5/2017 15:45	3.3	68.2	0.0	28.5	173.6	173.6	1.6	1.6	-0.3	-0.3	-18.2
GEW-123	10/5/2017 15:46	3.0	70.1	0.0	26.9	173.6	173.6	1.6	3.4	-0.3	-0.3	-17.7
GEW-123	10/18/2017 11:10	4.4	57.0	0.0	38.6	155.2	152.1	1.8	2.1	-0.5	-0.6	-19.5
GEW-123	10/18/2017 11:11	4.0	59.1	0.0	36.9	157.7	158.1	2.3	2.5	-0.7	-0.7	-19.1
GEW-124	10/6/2017 14:04	48.5	42.5	0.9	8.1	82.7	82.7	5.4	4.1	-15.4	-15.5	-17.9
GEW-124	10/18/2017 14:00	47.5	46.0	0.1	6.4	86.3	86.3	1.9	4.2	-13.8	-13.8	-14.9
GEW-125	10/6/2017 11:31	4.7	49.3	0.5	45.5	180.3	180.3	18.4	19.8	-14.6	-14.7	-18.1
GEW-125	10/6/2017 11:32	3.9	51.7	0.4	44.0	180.9	180.9	20.3	19.9	-14.7	-14.6	-18.3
GEW-125	10/18/2017 14:14	4.8	46.2	0.7	48.3	180.9	180.9	20.1	21.0	-14.4	-14.4	-17.9
GEW-125	10/18/2017 14:14	4.2	49.4	0.7	45.7	181.0	181.2	12.7	18.9	-14.6	-14.5	-17.9
GEW-126	10/6/2017 11:27	25.2	49.1	0.0	25.7	95.2	95.3	6.2	5.9	-7.0	-7.4	-7.4
GEW-126	10/18/2017 14:18	28.6	50.8	0.0	20.6	96.5	96.5	9.8	11.3	-6.8	-6.6	-6.9
GEW-127	10/6/2017 11:14	0.0	5.3	20.1	74.6	84.0	84.0	2.0	1.1	-13.2	-13.1	-13.3
GEW-127	10/6/2017 11:19	1.3	64.7	0.0	34.0	86.8	86.8	18.7	23.9	-12.5	-12.2	-12.7
GEW-127	10/17/2017 14:45	2.0	59.6	0.9	37.5	85.1	85.4	10.0	8.5	-12.4	-12.4	-12.5
GEW-128	10/6/2017 10:46	8.4	60.7	0.0	30.9	180.8	180.6	19.3	21.4	-7.1	-7.1	-18.4
GEW-128	10/6/2017 10:48	8.6	63.0	0.0	28.4	181.5	181.6	29.0	29.5	-16.3	-16.3	-17.0
GEW-128	10/17/2017 14:30	13.2	58.8	0.1	27.9	175.8	175.8	27.7	30.6	-16.1	-16.1	-16.8
GEW-128	10/17/2017 14:31	13.4	58.3	0.1	28.2	175.8	175.8	27.8	30.4	-15.7	-16.0	-16.8
GEW-129	10/6/2017 10:40	8.5	52.1	0.0	39.4	158.1	158.1	7.6	10.5	-18.0	-17.7	-18.3
GEW-129	10/6/2017 10:40	5.9	58.7	0.0	35.4	158.1	158.1	5.8	5.3	-17.7	-17.8	-18.4
GEW-129	10/6/2017 10:44	5.9	59.6	0.0	34.5	158.1	158.1	9.3	7.7	-18.2	-18.2	-18.2
GEW-129	10/17/2017 14:25	8.4	57.9	0.1	33.6	144.9	144.9	6.4	4.0	-17.7	-17.8	-17.9
GEW-129	10/17/2017 14:26	8.1	59.1	0.0	32.8	145.3	145.5	9.1	8.2	-17.7	-17.7	-17.9

October 2017 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 ₂ O		
GEW-130	10/6/2017 11:23	4.6	46.3	6.1	43.0	144.9	144.9	34.0	33.0	-8.7	-8.6	-18.2
GEW-130	10/6/2017 11:24	5.8	41.4	6.2	46.6	144.9	144.9	28.1	19.8	-6.0	-6.0	-18.4
GEW-130	10/17/2017 14:39	1.0	56.0	0.0	43.0	188.9	188.9	20.9	24.9	0.4	0.4	-18.5
GEW-130	10/17/2017 14:41	2.7	56.4	0.0	40.9	186.4	186.4	17.8	23.5	-3.6	-3.7	-18.4
GEW-131	10/6/2017 11:36	18.4	47.0	0.0	34.6	170.0	169.7	15.2	15.1	-8.8	-8.9	-17.7
GEW-131	10/6/2017 11:37	18.9	46.4	0.0	34.7	170.5	170.5	12.6	14.8	-8.8	-8.9	-17.4
GEW-131	10/18/2017 14:05	23.4	40.0	0.0	36.6	170.0	170.0	11.7	12.9	-9.5	-9.4	-17.7
GEW-131	10/18/2017 14:07	20.7	42.8	0.0	36.5	170.3	170.2	13.5	12.3	-9.4	-9.6	-18.1
GEW-132	10/5/2017 15:20	1.9	36.0	6.5	55.6	162.0	161.6	4.5	4.6	-0.4	-0.4	-18.8
GEW-132	10/5/2017 15:37	1.7	40.6	4.7	53.0	146.3	146.3	4.7	4.2	-0.2	-0.2	-17.9
GEW-132	10/18/2017 10:37	1.3	36.6	4.3	57.8	144.9	144.9	5.5	5.3	-0.1	-0.1	-17.4
GEW-132	10/18/2017 10:39	1.2	38.9	4.2	55.7	145.9	145.9	7.0	6.7	-0.1	-0.1	-17.6
GEW-133	10/5/2017 14:06	9.7	62.7	0.0	27.6	170.0	170.0	25.7	24.9	-14.0	-14.2	-16.4
GEW-133	10/5/2017 14:08	9.9	61.3	0.0	28.8	170.0	170.0	17.9	16.6	-14.6	-14.2	-17.4
GEW-133	10/18/2017 10:09	10.5	52.3	0.0	37.2	156.7	156.7	9.0	7.9	-14.6	-14.5	-16.8
GEW-133	10/18/2017 10:11	10.7	54.5	0.0	34.8	156.9	157.3	34.4	36.1	-14.5	-14.7	-17.3
GEW-134	10/5/2017 13:58	11.2	49.1	0.4	39.3	142.5	142.4	2.7	3.6	-0.7	-0.7	-16.8
GEW-134	10/5/2017 13:59	11.9	48.6	0.3	39.2	143.2	143.1	2.7	1.6	-0.7	-0.7	-16.8
GEW-134	10/18/2017 10:01	6.1	52.3	0.0	41.6	118.9	119.7	4.2	3.3	-0.9	-0.9	-18.3
GEW-135	10/5/2017 10:58	7.6	45.3	1.4	45.7	156.5	156.5	18.6	12.6	-8.9	-8.5	-18.2
GEW-135	10/5/2017 10:59	6.7	46.8	1.4	45.1	156.5	156.2	17.8	18.7	-8.5	-8.5	-17.7
GEW-135	10/17/2017 15:39	9.1	40.5	2.2	48.2	156.3	156.1	12.2	11.2	-7.9	-8.6	-18.7
GEW-135	10/17/2017 15:40	8.8	43.3	2.2	45.7	156.0	156.4	17.2	14.9	-8.2	-7.3	-18.3
GEW-136	10/5/2017 11:03	5.6	31.7	7.4	55.3	111.2	111.3	1.6	1.5	-0.2	-0.2	-8.0
GEW-136	10/5/2017 11:04	5.7	30.8	7.5	56.0	111.4	111.2	1.9	1.1	-0.2	-0.2	-7.6
GEW-136	10/17/2017 15:46	7.4	33.4	5.5	53.7	104.5	104.5	11.1	15.4	-0.2	-0.2	-8.2
GEW-136	10/17/2017 15:48	7.2	32.5	5.5	54.8	95.3	96.2	1.1	3.8	-0.1	-0.1	-8.7
GEW-137	10/5/2017 11:07	23.4	36.3	0.4	39.9	95.9	96.0	1.6	1.6	-10.6	-10.6	-17.9
GEW-137	10/18/2017 9:54	27.6	37.2	0.2	35.0	80.3	80.0	1.2	2.0	-10.0	-10.0	-18.1
GEW-138	10/5/2017 11:36	11.6	36.9	1.4	50.1	130.0	130.0	15.6	14.3	-1.0	-1.0	-16.9
GEW-138	10/18/2017 9:50	11.3	36.6	2.1	50.0	123.3	123.2	12.0	12.4	-0.9	-0.9	-17.3
GEW-139	10/31/2017 11:02	0.2	54.7	0.0	45.1	178.6	178.6	4.3	3.0	1.5	1.5	-17.7
GEW-139	10/31/2017 11:04	0.2	59.9	0.0	39.9	181.6	181.6	1.7	3.1	-0.4	-0.4	-19.3
GEW-140	10/19/2017 13:55	0.0	4.1	20.0	75.9	93.1	93.2	4.1	9.1	-17.5	-17.6	-17.1
GEW-140	10/19/2017 13:56	0.0	0.9	20.4	78.7	93.4	93.3	6.0	4.5	-17.5	-17.5	-17.4
GEW-143	10/19/2017 13:34	0.0	6.0	19.3	74.7	92.9	92.9	4.8	1.1	-17.7	-17.5	-17.4
GEW-143	10/19/2017 13:36	0.0	2.3	19.7	78.0	92.4	92.4	2.2	1.6	-17.7	-17.7	-18.1
GEW-145	10/5/2017 14:37	0.4	7.0	18.3	74.3	83.0	83.0	4.6	3.0	-17.4	-17.5	-19.3
GEW-145	10/5/2017 14:38	0.3	14.5	15.4	69.8	83.3	83.3	3.0	2.2	-18.6	-18.5	-19.2
GEW-145	10/17/2017 14:15	0.2	11.5	17.6	70.7	81.0	81.0	1.1	2.5	-17.2	-17.2	-18.4
GEW-145	10/17/2017 14:16	0.5	17.3	14.9	67.3	81.9	81.9	2.7	3.4	-18.2	-18.4	-18.9
GEW-146	10/4/2017 15:44	6.3	18.8	7.6	67.3	101.6	101.6	14.2	12.6	-0.2	-0.2	-17.6
GEW-146	10/4/2017 15:46	6.4	20.1	7.5	66.0	101.3	101.3	13.0	12.7	-0.2	-0.2	-17.3

October 2017 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 ₂ O		
GEW-146	10/17/2017 15:01	2.9	15.0	9.4	72.7	100.9	101.1	12.7	12.6	-0.1	-0.1	-20.0
GEW-146	10/17/2017 15:03	3.5	14.3	9.4	72.8	99.4	99.6	6.0	6.1	-0.1	-0.1	-20.4
GEW-147	10/5/2017 10:49	13.2	54.5	0.0	32.3	185.1	185.1	37.0	31.0	-15.5	-15.3	-17.5
GEW-147	10/5/2017 10:51	13.3	54.9	0.0	31.8	185.1	185.1	40.1	39.0	-16.0	-16.0	-18.3
GEW-147	10/17/2017 15:31	12.6	52.0	0.0	35.4	184.5	184.5	40.1	33.1	-15.6	-15.3	-18.0
GEW-147	10/17/2017 15:32	12.8	52.8	0.0	34.4	184.6	184.7	40.6	39.8	-17.2	-17.2	-19.6
GEW-148	10/4/2017 15:02	3.3	54.2	2.1	40.4	158.1	158.2	3.5	8.8	-17.1	-17.0	-17.2
GEW-148	10/4/2017 15:04	3.1	57.2	2.2	37.5	158.9	158.6	7.1	9.9	-17.1	-17.0	-17.0
GEW-148	10/17/2017 14:44	5.4	47.5	6.2	40.9	80.1	80.5	3.7	3.5	-19.2	-19.3	-19.3
GEW-148	10/17/2017 14:46	5.6	51.2	4.6	38.6	79.9	80.0	4.2	4.4	-18.0	-18.0	-19.8
GEW-148	10/18/2017 15:16	2.3	59.1	0.0	38.6	92.5	92.6	1.9	2.8	11.1	11.1	-19.2
GEW-148	10/18/2017 15:18	2.6	62.1	0.0	35.3	110.5	110.3	4.8	8.8	-16.4	-16.6	-19.4
GEW-149	10/4/2017 14:09	17.1	52.6	0.8	29.5	141.9	141.9	12.8	13.4	-0.3	-0.2	-5.5
GEW-149	10/4/2017 14:11	18.4	49.9	0.8	30.9	142.5	142.5	10.7	12.5	-0.2	-0.2	-5.6
GEW-149	10/17/2017 14:05	17.8	50.4	0.5	31.3	131.7	131.9	11.7	12.1	-0.2	-0.2	-7.7
GEW-149	10/17/2017 14:06	18.1	49.8	0.5	31.6	131.7	131.7	9.8	10.1	-0.2	-0.2	-7.4
GEW-150	10/4/2017 10:33	8.9	36.9	6.5	47.7	140.9	140.7	4.9	5.1	-1.1	-1.1	-13.2
GEW-150	10/4/2017 10:34	8.9	36.9	6.5	47.7	139.6	139.6	1.1	6.0	-1.1	-1.1	-12.8
GEW-150	10/17/2017 11:00	13.5	39.9	4.3	42.3	120.3	120.5	6.2	3.3	-1.0	-1.0	-10.8
GEW-151	10/5/2017 10:14	4.7	55.2	0.0	40.1	80.7	80.7	14.9	11.8	-18.3	-18.0	-19.1
GEW-151	10/19/2017 9:42	5.3	58.9	0.0	35.8	82.2	82.5	17.7	22.3	-19.7	-18.3	-19.9
GEW-152	10/4/2017 10:00	29.6	42.4	0.2	27.8	127.4	127.2	2.4	1.8	-6.7	-6.6	-19.2
GEW-152	10/17/2017 10:20	24.0	45.4	0.8	29.8	123.7	123.5	2.8	3.4	-6.7	-6.7	-19.5
GEW-153	10/4/2017 9:52	43.8	41.0	0.0	15.2	88.4	88.3	4.4	4.0	-4.2	-4.2	-19.2
GEW-153	10/17/2017 10:26	44.1	41.0	0.0	14.9	89.1	89.1	5.6	1.6	-4.4	-4.4	-19.3
GEW-154	10/4/2017 13:57	7.8	16.3	11.9	64.0	98.4	98.4	1.4	2.7	-1.2	-1.2	-17.1
GEW-154	10/4/2017 13:58	8.7	12.9	12.1	66.3	98.2	98.2	2.1	2.1	-1.2	-1.2	-16.9
GEW-154	10/17/2017 13:39	3.4	23.8	10.4	62.4	89.0	89.1	2.7	2.4	-0.8	-0.8	-14.3
GEW-154	10/17/2017 13:50	8.1	17.7	10.8	63.4	104.3	104.2	3.4	2.8	-1.0	-0.9	-13.7
GEW-155	10/5/2017 13:42	2.8	26.9	0.1	70.2	124.3	124.5	7.8	7.9	-0.3	-0.3	-15.8
GEW-155	10/18/2017 10:52	1.1	27.2	3.0	68.7	115.1	115.1	11.5	11.5	-0.5	-0.5	-15.7
GEW-156	10/5/2017 14:29	21.9	36.5	5.5	36.1	102.4	102.5	2.3	2.5	-0.1	-0.1	-18.6
GEW-156	10/5/2017 14:31	23.7	34.9	5.5	35.9	102.3	102.3	2.8	3.0	-0.1	-0.1	-19.0
GEW-156	10/17/2017 14:04	19.1	27.9	5.7	47.3	99.9	100.1	2.5	2.5	0.0	0.0	-19.7
GEW-156	10/17/2017 14:05	18.5	29.8	5.6	46.1	101.7	102.0	3.0	4.5	-0.1	-0.1	-19.3
GEW-157	10/4/2017 10:43	0.2	19.9	13.7	66.2	75.6	75.6	2.3	2.3	-16.5	-16.4	-17.8
GEW-157	10/4/2017 10:44	0.2	23.2	12.4	64.2	75.5	75.5	1.1	2.3	-17.4	-17.3	-18.2
GEW-157	10/17/2017 11:07	0.0	9.3	19.7	71.0	73.2	73.2	1.7	4.5	-8.4	-8.5	-17.9
GEW-157	10/17/2017 11:08	0.0	1.7	20.9	77.4	74.7	74.7	1.2	0.0	-9.2	-9.4	-17.8
GEW-158	10/4/2017 10:18	30.3	47.5	0.0	22.2	107.8	107.7	5.1	3.9	-1.3	-1.3	-19.0
GEW-158	10/17/2017 10:43	31.3	50.8	0.0	17.9	86.8	86.8	3.1	0.0	-0.9	-0.9	-11.9
GEW-159	10/4/2017 9:44	27.1	44.5	0.0	28.4	116.8	116.8	7.3	5.0	-9.8	-9.7	-18.5
GEW-159	10/17/2017 10:08	29.5	39.7	0.0	30.8	106.0	106.2	5.0	4.5	-10.7	-10.7	-19.2

October 2017 Wellfield Monitoring Data - Bridgeton Landfill

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		(% vol)				°F		scfm		H ₂ O		
GEW-160	10/4/2017 13:41	4.7	48.3	0.9	46.1	156.0	156.5	8.3	5.5	-17.7	-17.7	-17.9
GEW-160	10/4/2017 13:43	4.2	53.0	0.9	41.9	155.7	155.6	8.3	8.3	-17.7	-17.7	-17.6
GEW-160	10/17/2017 13:23	4.1	51.7	0.0	44.2	128.0	125.0	14.2	11.1	-13.6	-13.3	-13.7
GEW-161	10/4/2017 13:46	4.6	57.4	0.8	37.2	178.6	178.5	4.6	2.9	-16.0	-16.0	-17.9
GEW-161	10/4/2017 13:47	4.6	58.4	0.8	36.2	178.6	178.6	4.4	3.9	-16.0	-16.0	-17.8
GEW-161	10/17/2017 13:26	5.6	56.3	0.0	38.1	100.4	100.7	4.1	5.0	-14.0	-13.7	-14.4
GEW-162	10/4/2017 14:06	11.2	70.3	0.0	18.5	113.2	113.2	3.0	2.5	-6.8	-6.7	-17.6
GEW-162	10/17/2017 14:00	16.0	63.9	1.2	18.9	83.3	83.5	12.3	12.6	-17.7	-17.7	-19.0
GEW-163	10/2/2017 9:27	15.1	43.1	5.3	36.5	153.3	153.3	45.6	42.1	-2.1	-2.1	-18.6
GEW-163	10/2/2017 9:43	14.6	44.7	4.8	35.9	154.0	154.4	50.7	52.0	-2.1	-2.0	-19.7
GEW-163	10/9/2017 15:12	16.1	45.7	3.6	34.6	160.2	160.6	38.7	33.9	-4.4	-4.3	-18.4
GEW-163	10/9/2017 15:14	14.9	47.5	3.6	34.0	160.7	160.2	36.8	43.8	-3.9	-3.9	-18.1
GEW-163	10/16/2017 13:28	15.1	41.6	4.8	38.5	152.9	152.9	39.0	34.3	-6.2	-6.1	-18.3
GEW-163	10/16/2017 13:30	14.3	44.2	4.7	36.8	152.5	152.5	41.3	38.2	-5.9	-5.9	-17.8
GEW-163	10/23/2017 13:36	16.8	47.3	3.0	32.9	165.2	164.8	29.3	27.2	-4.5	-4.5	-16.1
GEW-163	10/23/2017 13:38	16.0	49.2	3.0	31.8	163.8	164.3	33.8	34.0	-4.3	-4.3	-16.7
GEW-163	10/30/2017 14:32	19.2	50.3	3.7	26.8	161.1	161.1	43.6	47.9	-1.1	-1.1	-20.5
GEW-163	10/30/2017 14:34	18.2	52.5	3.5	25.8	160.2	160.7	46.1	43.5	-1.1	-1.1	-19.4
GEW-164	10/2/2017 9:46	18.8	60.7	0.8	19.7	172.1	172.1	33.6	39.4	-0.7	-0.7	-18.5
GEW-164	10/2/2017 9:47	18.6	62.6	0.8	18.0	172.5	172.1	38.6	40.9	-0.7	-0.6	-18.8
GEW-164	10/9/2017 15:17	19.4	62.0	0.4	18.2	173.6	173.6	28.4	39.1	-0.6	-0.5	-17.4
GEW-164	10/9/2017 15:19	19.4	63.4	0.4	16.8	173.3	173.5	34.1	36.8	-0.6	-0.5	-17.0
GEW-164	10/16/2017 13:34	20.0	58.2	1.1	20.7	171.6	171.6	35.6	33.2	-0.7	-0.7	-18.1
GEW-164	10/16/2017 13:36	19.8	61.0	1.0	18.2	172.1	172.1	39.2	35.3	-0.7	-0.7	-18.0
GEW-164	10/23/2017 13:41	20.9	60.4	0.2	18.5	173.1	173.1	44.8	49.2	-0.5	-0.5	-16.8
GEW-164	10/23/2017 13:42	20.6	62.6	0.2	16.6	173.1	173.1	37.3	37.5	-0.5	-0.4	-16.3
GEW-164	10/30/2017 14:37	21.0	62.2	0.0	16.8	172.6	173.1	29.8	37.1	-1.3	-1.3	-19.5
GEW-164	10/30/2017 14:38	20.8	64.4	0.0	14.8	172.6	172.7	30.9	34.2	-1.3	-1.4	-18.9
GEW-165	10/2/2017 9:51	7.7	56.1	4.8	31.4	183.3	183.3	28.5	27.5	-1.6	-1.6	-15.8
GEW-165	10/2/2017 9:57	7.5	57.7	4.0	30.8	183.8	183.9	21.4	20.3	-1.1	-1.0	-16.0
GEW-165	10/9/2017 15:22	8.5	61.6	2.1	27.8	186.4	186.4	20.8	21.0	-0.8	-0.8	-15.6
GEW-165	10/9/2017 15:25	7.8	63.3	2.2	26.7	186.4	186.4	29.6	32.5	-0.7	-0.6	-16.1
GEW-165	10/16/2017 13:39	8.5	58.3	3.0	30.2	186.4	186.4	21.3	20.4	-1.0	-1.0	-16.8
GEW-165	10/16/2017 13:40	7.5	60.9	3.1	28.5	186.4	186.4	24.9	26.2	-1.0	-1.0	-16.5
GEW-165	10/23/2017 13:45	9.0	62.9	1.1	27.0	186.4	186.4	36.4	31.4	-0.5	-0.6	-14.8
GEW-165	10/23/2017 13:47	8.6	65.4	1.1	24.9	186.4	186.4	40.2	33.6	-0.6	-0.5	-15.0
GEW-165	10/30/2017 14:41	8.9	64.5	0.3	26.3	188.3	188.3	34.6	32.8	-1.5	-1.5	-19.6
GEW-165	10/30/2017 14:42	8.2	67.1	0.3	24.4	188.3	188.1	28.4	28.1	-1.5	-1.5	-19.5
GEW-166	10/2/2017 10:01	1.1	60.5	0.2	38.2	195.7	195.7	39.5	31.7	-15.4	-15.3	-17.7
GEW-166	10/2/2017 10:02	0.8	63.8	0.1	35.3	195.8	195.7	38.2	30.3	-14.8	-14.9	-17.9
GEW-166	10/9/2017 15:28	0.9	60.3	0.3	38.5	195.7	195.7	39.5	37.2	-14.0	-14.2	-16.2
GEW-166	10/9/2017 15:29	0.7	63.2	0.3	35.8	195.7	195.7	27.9	28.1	-13.8	-13.8	-17.5
GEW-166	10/16/2017 13:44	1.2	59.4	0.5	38.9	195.8	195.9	22.8	23.3	-14.0	-13.7	-17.9

October 2017 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 ₂ O		
GEW-166	10/16/2017 13:45	0.7	62.7	0.5	36.1	195.8	196.0	42.7	42.2	-13.8	-13.8	-17.7
GEW-166	10/23/2017 13:50	1.1	61.2	0.2	37.5	195.7	195.7	34.9	33.3	-13.7	-13.5	-17.2
GEW-166	10/23/2017 13:52	0.7	63.0	0.2	36.1	195.7	195.7	22.1	21.8	-13.7	-13.7	-16.6
GEW-166	10/30/2017 14:59	2.0	58.8	0.4	38.8	195.8	195.7	37.5	36.6	-14.5	-14.5	-18.7
GEW-166	10/30/2017 15:01	0.9	62.4	0.3	36.4	196.4	196.4	24.8	29.0	-13.8	-13.8	-18.5
GEW-167	10/2/2017 10:05	0.6	36.2	9.2	54.0	185.7	185.7	14.4	15.1	-0.2	-0.3	-16.3
GEW-167	10/2/2017 10:10	0.6	40.7	6.9	51.8	186.4	187.4	19.3	21.2	-0.2	-0.2	-17.2
GEW-167	10/2/2017 10:53	0.4	48.7	3.5	47.4	189.1		11.1	10.8	-0.1	-0.1	-16.4
GEW-167	10/2/2017 16:00	0.3	50.3	2.1	47.3	87.4		9.3	9.9	0.0	0.0	-16.5
GEW-167	10/9/2017 15:32	0.5	53.4	3.4	42.7	192.3	192.2	17.3	16.6	-0.1	-0.1	-16.7
GEW-167	10/9/2017 15:34	0.5	52.8	3.5	43.2	192.3	192.3	14.0	16.0	-0.2	-0.1	-16.7
GEW-167	10/16/2017 13:48	0.5	42.9	6.8	49.8	188.3	188.3	18.3	14.3	-0.2	-0.2	-16.5
GEW-167	10/16/2017 13:50	0.5	43.1	6.4	50.0	188.3	188.9	14.8	15.1	-0.2	-0.2	-15.2
GEW-167	10/23/2017 13:55	1.0	57.0	0.5	41.5	192.3	192.5	19.7	18.7	-0.1	-0.1	-17.0
GEW-167	10/23/2017 13:57	2.1	57.6	1.9	38.4	190.9	190.9	17.1	19.4	-0.3	-0.2	-15.4
GEW-167	10/25/2017 14:17	2.1	40.1	6.7	51.1	185.1	185.1	19.4	19.4	-0.3	-0.3	-14.7
GEW-167	10/25/2017 14:24	1.3	50.2	2.6	45.9	186.4	187.6	33.5	30.6	-0.3	-0.4	-17.2
GEW-167	10/30/2017 15:03	0.5	57.9	0.0	41.6	194.7	195.0	16.1	14.7	-0.1	0.0	-18.7
GEW-167	10/30/2017 15:05	0.2	62.0	0.0	37.8	195.0	194.3	27.4	35.3	-0.3	-0.4	-17.9
GEW-168	10/2/2017 10:20	9.2	61.4	0.6	28.8	171.6	171.4	165.8	166.3	-3.3	-3.3	-17.2
GEW-168	10/2/2017 10:21	9.6	63.2	0.5	26.7	171.4	171.3	164.2	164.6	-3.3	-3.3	-16.6
GEW-168	10/9/2017 15:37	6.2	62.0	0.0	31.8	187.0	187.0	167.6	171.1	-1.2	-1.2	-16.9
GEW-168	10/9/2017 15:38	6.6	65.9	0.0	27.5	187.0	187.0	168.0	168.6	-1.2	-1.2	-17.2
GEW-168	10/16/2017 13:54	7.8	61.1	0.2	30.9	185.1	185.1	174.8	175.9	-1.7	-1.7	-18.8
GEW-168	10/16/2017 13:55	8.2	65.0	0.2	26.6	184.5	184.5	174.5	173.3	-1.7	-1.7	-18.9
GEW-168	10/23/2017 14:01	6.9	58.3	0.3	34.5	185.7	185.7	175.3	178.3	-1.1	-1.1	-17.9
GEW-168	10/23/2017 14:02	7.5	62.7	0.2	29.6	185.1	185.1	156.1	146.9	-0.8	-0.7	-13.3
GEW-168	10/30/2017 15:09	4.9	64.4	0.0	30.7	184.4	183.9	175.2	174.4	-1.5	-1.5	-19.2
GEW-168	10/30/2017 15:10	5.1	66.1	0.0	28.8	183.9	183.9	175.4	176.3	-1.6	-1.6	-19.1
GEW-169	10/2/2017 10:25	4.2	65.4	0.1	30.3	194.4	194.8	12.8	14.0	-0.8	-0.9	-17.0
GEW-169	10/2/2017 10:26	3.8	68.4	0.1	27.7	195.0	194.7	26.2	18.6	-0.9	-0.9	-16.8
GEW-169	10/9/2017 10:13	4.8	60.6	0.1	34.5	193.1		27.7	31.1	-2.8	-2.8	-17.5
GEW-169	10/9/2017 15:51	2.9	48.5	5.2	43.4	187.6		35.4	34.6	-9.3	-9.4	-17.8
GEW-169	10/16/2017 13:58	3.8	42.5	8.1	45.6	171.0	171.0	41.7	42.6	-10.3	-10.3	-19.0
GEW-169	10/16/2017 14:09	3.7	39.9	8.2	48.2	170.5	169.6	21.9	23.9	-4.2	-4.1	-18.9
GEW-169	10/23/2017 14:26	5.5	52.2	4.5	37.8	175.8	175.4	16.2	14.0	-3.2	-3.2	-12.3
GEW-169	10/23/2017 14:27	5.4	52.9	4.4	37.3	175.5	175.3	13.2	15.9	-3.6	-3.6	-13.9
GEW-169	10/25/2017 13:55	3.9	58.3	2.3	35.5	187.0	187.0	18.4	20.3	-2.3	-2.2	-17.2
GEW-169	10/25/2017 13:56	3.8	60.9	2.0	33.3	187.6	187.4	17.0	15.3	-2.4	-2.4	-17.2
GEW-169	10/30/2017 15:14	3.3	60.8	2.4	33.5	190.2	190.2	23.4	22.5	-2.7	-2.7	-18.9
GEW-169	10/30/2017 15:15	3.1	60.9	2.5	33.5	190.2	190.2	21.0	25.2	-2.8	-2.7	-19.1
GEW-170	10/6/2017 11:07	8.3	46.4	5.4	39.9	162.9	163.3	44.5	39.7	-14.6	-14.6	-17.1
GEW-170	10/6/2017 11:09	8.2	47.2	5.6	39.0	164.3	163.8	32.8	35.4	-12.9	-12.9	-17.2

October 2017 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 ₂ O		
GEW-170	10/17/2017 14:34	9.3	50.5	4.5	35.7	163.3	163.3	31.7	33.4	-12.1	-12.1	-13.5
GEW-170	10/17/2017 14:35	9.2	48.8	4.7	37.3	163.3	163.3	34.3	40.3	-12.1	-12.1	-14.0
GEW-173	10/6/2017 10:11	37.8	49.2	0.2	12.8	106.7	106.7	13.0	12.8	-0.3	-0.2	-18.6
GEW-175	10/4/2017 10:28	17.8	47.9	2.7	31.6	127.0	127.0	48.5	55.1	-0.8	-0.8	-19.2
GEW-175	10/17/2017 10:56	16.5	42.2	2.5	38.8	123.1	123.1	54.8	46.6	-0.7	-0.7	-18.5
GEW-176	10/4/2017 10:24	18.9	48.8	2.1	30.2	87.9	88.1	13.9	16.0	-0.7	-0.8	-18.9
GEW-176	10/17/2017 10:52	23.6	44.2	3.0	29.2	78.0	78.0	21.2	18.2	-0.7	-0.7	-19.5
GEW-177	10/31/2017 11:10	0.1	64.8	1.1	34.0	60.2	60.4	17.0	18.1	-18.9	-19.0	-19.4
GEW-1A	10/2/2017 10:43	0.6	3.3	20.5	75.6	82.6	82.6	3.9	1.1	-12.3	-12.5	-12.2
GEW-1A	10/2/2017 10:45	0.1	0.4	21.0	78.5	83.3	83.3	2.8	4.9	-12.3	-12.3	-12.1
GEW-1A	10/12/2017 9:32	0.6	7.1	20.0	72.3	58.0	58.0	4.4	3.4	-13.5	-13.8	-13.8
GEW-1A	10/12/2017 9:33	0.2	2.1	21.0	76.7	58.0	58.0	4.7	1.7	-13.7	-13.9	-14.0
GEW-1A	10/16/2017 10:34	0.6	7.2	20.2	72.0	64.1	64.2	1.7	4.4	-13.4	-13.4	-13.7
GEW-1A	10/16/2017 10:35	0.1	1.5	21.4	77.0	65.0	65.0	3.1	2.3	-13.4	-13.4	-13.7
GEW-1A	10/23/2017 10:18	0.8	7.3	20.4	71.5	60.8	60.9	11.6	5.4	-13.6	-14.0	-13.8
GEW-1A	10/23/2017 10:19	0.3	1.9	21.5	76.3	61.6	61.6	6.4	3.9	-14.0	-13.6	-13.9
GEW-1A	10/30/2017 11:02	0.8	9.0	20.3	69.9	52.9	52.9	7.6	7.3	-12.1	-12.1	-12.4
GEW-1A	10/30/2017 11:03	0.1	2.7	21.6	75.6	53.2	53.2	7.3	7.9	-12.1	-12.1	-12.7
GEW-2S	10/2/2017 10:52	56.4	35.8	0.0	7.8	87.0	87.0	2.8	4.6	-1.1	-1.0	-8.8
GEW-2S	10/12/2017 9:42	58.3	38.4	0.0	3.3	58.4	58.4	14.2	12.0	-9.6	-9.7	-11.6
GEW-2S	10/16/2017 10:43	57.8	36.8	0.0	5.4	74.5	75.0	3.3	3.5	-9.5	-9.5	-10.7
GEW-2S	10/23/2017 10:25	57.5	39.4	0.1	3.0	69.6	69.7	14.2	5.4	-10.1	-10.0	-10.4
GEW-2S	10/30/2017 11:10	59.0	38.7	0.0	2.3	53.7	53.7	12.4	7.4	-7.7	-7.7	-8.5
GIW-01	10/2/2017 11:02	19.8	56.2	0.5	23.5	117.9	118.0	6.8	6.7	-18.0	-17.9	-18.9
GIW-01	10/9/2017 10:41	25.1	44.7	2.1	28.1	88.5	88.6	4.6	5.2	-17.7	-17.7	-18.2
GIW-01	10/9/2017 10:48	25.8	41.3	2.3	30.6	89.4	89.4	2.5	4.8	-17.3	-17.6	-17.9
GIW-01	10/16/2017 14:27	23.6	41.1	2.3	33.0	90.4	90.5	2.5	1.9	-19.7	-19.7	-20.7
GIW-01	10/23/2017 9:18	6.2	66.8	0.0	27.0	178.0	177.5	7.0	7.0	-4.2	-4.1	-20.7
GIW-01	10/23/2017 9:19	5.5	71.5	0.0	23.0	177.4	177.5	7.2	7.9	-4.1	-4.0	-20.4
GIW-01	10/30/2017 9:46	9.0	61.0	0.4	29.6	173.1	173.1	7.3	5.9	-6.2	-5.9	-21.7
GIW-01	10/30/2017 9:47	6.7	67.4	0.4	25.5	174.0	173.6	7.0	7.3	-5.9	-6.1	-22.1
GIW-02	10/2/2017 11:05	3.0	26.7	9.3	61.0	87.4	87.5	2.6	2.0	-0.1	-0.1	-18.8
GIW-02	10/2/2017 11:06	2.5	25.2	9.5	62.8	88.2	88.2	2.0	1.6	-0.1	-0.1	-18.4
GIW-02	10/9/2017 10:51	2.6	20.2	11.8	65.4	80.2	80.3	3.1	3.3	-0.2	-0.2	-17.7
GIW-02	10/9/2017 10:59	1.9	17.6	12.0	68.5	78.8	78.7	1.2	1.2	-0.2	-0.2	-18.5
GIW-02	10/16/2017 9:46	1.1	14.7	15.3	68.9	70.8	71.1	3.8	3.2	-0.2	-0.2	-19.5
GIW-02	10/16/2017 9:47	0.9	12.4	15.6	71.1	72.3	72.3	1.7	1.7	-0.2	-0.2	-18.9
GIW-02	10/23/2017 9:27	2.7	25.0	10.6	61.7	57.8	57.8	4.4	4.2	-0.1	-0.1	-20.1
GIW-02	10/23/2017 9:28	2.2	20.5	11.1	66.2	57.8	57.8	2.5	2.5	-0.1	-0.1	-20.0
GIW-02	10/30/2017 9:50	1.7	28.2	12.6	57.5	51.6	51.6	4.5	5.1	-0.1	-0.1	-20.6
GIW-02	10/30/2017 9:51	1.6	17.6	13.6	67.2	51.3	51.3	4.5	2.5	-0.1	-0.1	-20.6
GIW-03	10/2/2017 11:09	4.1	53.4	1.4	41.1	82.9	82.9	1.6	2.6	-5.8	-5.8	-18.3
GIW-03	10/9/2017 11:02	3.2	55.2	1.1	40.5	77.3	77.3	2.0	3.1	-5.2	-5.5	-18.2

October 2017 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 ₂ O		
GIW-03	10/9/2017 11:09	2.9	56.3	1.0	39.8	77.5	77.5	3.3	3.1	-5.2	-5.2	-18.1
GIW-03	10/16/2017 9:51	2.6	56.8	0.6	40.0	64.3	64.5	3.6	3.8	-4.7	-4.7	-16.6
GIW-03	10/23/2017 9:32	2.8	57.6	0.2	39.4	58.5	58.5	4.0	4.2	-4.9	-4.9	-17.9
GIW-03	10/30/2017 9:54	1.4	60.6	2.0	36.0	50.1	50.1	4.1	3.5	-3.5	-3.5	-21.2
GIW-04	10/2/2017 11:12	3.8	57.8	2.5	35.9	85.6	85.7	1.1	2.3	-8.5	-8.5	-16.3
GIW-04	10/9/2017 11:14	2.9	58.1	2.3	36.7	78.4	78.4	1.1	1.1	-8.4	-8.2	-17.2
GIW-04	10/9/2017 11:20	2.8	51.7	2.9	42.6	80.1	80.1	1.6	1.1	-7.5	-7.5	-16.6
GIW-04	10/16/2017 9:55	2.2	55.1	4.5	38.2	68.9	69.1	2.0	1.6	-7.0	-7.0	-15.5
GIW-04	10/23/2017 9:35	1.5	54.0	3.0	41.5	58.2	58.2	2.4	2.1	-6.1	-6.2	-18.4
GIW-04	10/30/2017 9:58	1.4	58.1	4.0	36.5	50.4	50.4	2.7	2.7	-7.6	-7.6	-20.6
GIW-05	10/2/2017 11:18	0.9	10.4	17.2	71.5	84.9	85.6	0.0	0.0	-1.3	-1.3	-17.3
GIW-05	10/2/2017 11:19	0.4	10.2	16.7	72.7	87.0	87.2	0.0	0.0	-1.4	-1.4	-16.4
GIW-05	10/9/2017 11:37	0.8	14.2	17.3	67.7	81.5	81.6	0.0	0.0	-1.2	-1.2	-16.6
GIW-05	10/9/2017 11:43	0.1	2.8	20.3	76.8	82.3	82.3	0.0	0.0	-1.3	-1.3	-16.6
GIW-05	10/16/2017 10:02	0.8	15.8	17.2	66.2	63.5	65.1	0.0	0.0	-1.7	-1.8	-16.0
GIW-05	10/16/2017 10:04	0.4	14.1	16.5	69.0	66.2	66.6	0.0	0.0	-1.8	-1.8	-15.5
GIW-05	10/23/2017 9:42	0.5	13.2	18.3	68.0	57.5	57.5	0.0	0.0	-1.8	-1.8	-17.6
GIW-05	10/23/2017 9:43	0.3	11.9	16.6	71.2	57.7	57.7	4.9	4.9	-2.0	-2.0	-18.4
GIW-05	10/30/2017 10:05	0.1	8.5	20.5	70.9	49.6	49.6	0.0	0.0	-2.4	-2.5	-21.2
GIW-05	10/30/2017 10:06	0.1	4.9	20.8	74.2	49.7	49.7	0.0	0.0	-2.5	-2.5	-21.0
GIW-06	10/2/2017 11:22	15.7	47.2	0.5	36.6	89.0	89.1	2.7	1.1	-14.9	-14.9	-17.6
GIW-06	10/9/2017 13:26	16.0	45.8	0.2	38.0	82.6	82.6	3.8	4.5	-15.5	-15.5	-18.2
GIW-06	10/9/2017 13:32	15.4	43.8	0.1	40.7	83.0	83.0	4.4	4.1	-15.1	-15.1	-16.9
GIW-06	10/16/2017 10:07	15.0	46.4	0.0	38.6	66.4	66.7	2.9	2.6	-13.2	-13.6	-16.2
GIW-06	10/23/2017 9:51	17.0	48.1	0.0	34.9	59.9	59.9	3.7	3.5	-14.8	-14.5	-17.7
GIW-06	10/30/2017 10:10	18.2	44.2	0.9	36.7	50.4	50.4	2.1	2.4	-17.3	-17.2	-20.9
GIW-07	10/2/2017 11:25	23.1	61.1	0.3	15.5	90.9	91.0	1.6	1.1	-14.9	-14.9	-16.3
GIW-07	10/9/2017 13:35	21.1	62.2	0.6	16.1	82.3	82.3	3.6	3.8	-7.8	-7.8	-16.3
GIW-07	10/9/2017 13:43	21.1	60.9	0.6	17.4	82.3	82.3	4.0	4.2	-8.2	-8.1	-18.2
GIW-07	10/16/2017 10:11	21.0	61.2	0.5	17.3	71.4	71.6	1.1	1.1	-7.3	-7.7	-15.9
GIW-07	10/23/2017 9:53	21.6	61.8	0.5	16.1	60.2	60.3	4.1	4.0	-8.4	-8.4	-17.2
GIW-07	10/30/2017 10:13	22.6	62.0	0.7	14.7	50.7	50.7	4.5	4.2	-9.9	-9.9	-20.6
GIW-08	10/2/2017 11:28	24.1	59.4	0.0	16.5	92.0	92.2	1.1	1.6	-3.6	-3.6	-17.3
GIW-08	10/9/2017 13:49	22.0	59.0	0.0	19.0	82.4	82.4	2.6	1.1	-3.4	-3.4	-16.9
GIW-08	10/9/2017 13:55	22.7	50.9	0.0	26.4	84.0	84.0	3.9	3.9	-3.6	-3.6	-18.2
GIW-08	10/16/2017 10:14	19.6	58.2	0.0	22.2	74.3	74.7	3.1	3.3	-3.6	-3.6	-15.5
GIW-08	10/23/2017 9:56	22.6	59.8	0.0	17.6	60.6	60.6	4.0	2.4	-4.0	-4.0	-19.2
GIW-08	10/30/2017 10:16	24.3	57.0	0.0	18.7	51.3	51.3	2.1	1.2	-4.5	-4.5	-21.3
GIW-09	10/2/2017 11:33	4.7	21.2	7.9	66.2	89.8	89.9	3.0	3.2	-2.2	-2.2	-16.3
GIW-09	10/2/2017 11:34	4.4	20.0	7.9	67.7	90.6	90.6	2.3	2.8	-2.2	-2.2	-17.6
GIW-09	10/9/2017 14:08	3.6	19.2	8.4	68.8	89.6	89.6	2.0	2.0	-2.2	-2.2	-17.9
GIW-09	10/9/2017 14:14	3.9	18.0	8.2	69.9	90.5	90.6	2.0	2.0	-2.1	-2.1	-16.9
GIW-09	10/16/2017 10:23	3.7	21.4	9.1	65.8	71.5	71.8	3.9	4.3	-2.4	-2.4	-16.2

October 2017 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 ₂ O		
GIW-09	10/16/2017 10:28	7.6	20.9	6.8	64.7	71.4	71.5	1.2	2.7	-3.6	-3.6	-16.2
GIW-09	10/23/2017 10:01	5.8	26.5	6.5	61.2	60.0	60.0	3.8	4.2	-2.5	-2.5	-17.6
GIW-09	10/23/2017 10:02	6.5	23.6	6.7	63.2	60.0	60.0	2.7	2.7	-2.5	-2.5	-17.7
GIW-09	10/30/2017 10:22	3.9	24.2	10.0	61.9	51.0	51.0	4.3	4.3	-2.8	-2.8	-20.6
GIW-09	10/30/2017 10:23	4.5	20.0	10.4	65.1	51.0	51.0	3.0	2.1	-2.8	-2.7	-20.9
GIW-10	10/2/2017 11:15	13.4	45.6	0.0	41.0	86.3	86.3	2.3	2.6	-4.8	-4.8	-17.2
GIW-10	10/9/2017 11:28	12.2	43.8	0.0	44.0	79.2	79.3	2.6	2.6	-4.8	-4.8	-17.1
GIW-10	10/9/2017 11:33	13.4	36.9	0.0	49.7	80.7	80.8	1.2	1.2	-4.7	-4.7	-16.0
GIW-10	10/16/2017 9:58	12.5	41.5	0.0	46.0	65.4	65.4	2.7	3.2	-4.9	-4.9	-16.0
GIW-10	10/23/2017 9:38	11.3	43.8	0.0	44.9	59.2	59.2	2.4	2.4	-4.7	-4.7	-16.9
GIW-10	10/30/2017 10:01	10.5	43.5	0.0	46.0	51.0	51.0	3.2	3.0	-5.8	-5.8	-21.1
GIW-11	10/2/2017 10:58	16.9	51.4	0.2	31.5	85.3	85.3	3.7	5.8	-1.6	-1.6	-17.9
GIW-11	10/9/2017 10:25	15.9	47.8	0.4	35.9	81.0	81.1	5.2	2.9	-1.7	-1.7	-15.0
GIW-11	10/9/2017 10:31	14.5	44.7	0.4	40.4	80.5	80.5	3.9	3.9	-1.7	-1.7	-16.7
GIW-11	10/16/2017 9:39	13.9	45.5	0.2	40.4	67.7	67.9	2.7	2.1	-1.9	-1.9	-19.1
GIW-11	10/23/2017 9:10	14.5	47.0	0.2	38.3	57.0	57.0	1.9	1.6	-1.7	-1.7	-18.4
GIW-11	10/30/2017 9:28	15.1	43.3	0.7	40.9	49.6	49.6	6.2	5.5	-2.0	-2.0	-19.8
GIW-12	10/2/2017 10:51	9.2	40.7	7.5	42.6	80.5	80.7	1.2	1.7	-0.1	-0.1	-17.0
GIW-12	10/2/2017 10:53	8.9	39.1	7.6	44.4	81.0	81.0	1.2	1.2	-0.2	-0.2	-17.3
GIW-12	10/9/2017 10:04	6.9	40.8	8.0	44.3	78.0	78.2	2.8	2.7	-0.2	-0.2	-16.9
GIW-12	10/9/2017 10:11	6.1	36.0	8.2	49.7	77.5	77.4	1.2	1.2	-0.2	-0.2	-16.9
GIW-12	10/16/2017 9:31	6.0	35.7	9.0	49.3	63.7	64.9	0.9	1.1	-0.2	-0.2	-18.3
GIW-12	10/16/2017 9:32	5.6	34.0	9.1	51.3	65.8	66.0	1.3	1.4	-0.2	-0.2	-17.9
GIW-12	10/23/2017 9:03	5.8	46.5	5.3	42.4	56.5	56.6	1.3	1.3	-0.1	-0.1	-18.3
GIW-12	10/23/2017 9:04	4.9	45.3	5.4	44.4	56.7	56.7	2.1	1.7	-0.1	-0.1	-18.4
GIW-12	10/30/2017 9:21	5.6	38.6	9.1	46.7	49.4	49.4	2.8	2.8	-0.2	-0.2	-20.1
GIW-12	10/30/2017 9:23	4.4	36.6	9.2	49.8	49.4	49.4	1.8	1.8	-0.2	-0.2	-19.9
GIW-13	10/2/2017 10:49	20.7	62.0	0.0	17.3	86.2	86.3	2.6	2.6	-1.4	-1.4	-12.6
GIW-13	10/9/2017 9:55	21.2	59.1	0.0	19.7	78.0	78.0	3.5	3.7	-1.6	-1.6	-12.3
GIW-13	10/9/2017 10:01	20.7	58.4	0.0	20.9	78.2	78.2	2.9	1.6	-1.6	-1.5	-12.4
GIW-13	10/16/2017 9:27	21.6	58.4	0.0	20.0	57.2	57.2	3.4	3.2	-1.6	-1.6	-14.5
GIW-13	10/23/2017 9:00	20.9	62.8	0.0	16.3	56.7	56.8	3.0	2.7	-1.5	-1.5	-13.6
GIW-13	10/30/2017 9:19	24.1	60.0	0.1	15.8	49.9	49.9	5.3	4.1	-1.9	-1.9	-14.4
LCS-1D	10/23/2017 11:28	15.2	9.4	16.2	59.2	87.5	87.7	7.4	7.9	-0.1	-0.2	-19.1
LCS-1D	10/23/2017 11:30	14.5	9.4	16.4	59.7	87.2	87.3	8.3	9.8	-0.1	-0.1	-19.0
LCS-5A	10/2/2017 9:55	54.2	40.7	0.4	4.7	92.0	92.0	NFD		-12.6	-12.6	-12.7
LCS-5A	10/12/2017 8:59	55.4	40.1	0.7	3.8	84.5	84.7	NFD		-14.5	-14.5	-14.8
LCS-5A	10/16/2017 9:08	55.0	40.2	0.4	4.4	84.7	84.9	NFD		-13.9	-13.9	-13.9
LCS-5A	10/23/2017 9:14	54.7	41.3	0.6	3.4	81.7	81.6	NFD		-14.1	-14.0	-14.2
LCS-5A	10/30/2017 9:33	54.4	41.4	0.5	3.7	77.7	77.6	NFD		-12.9	-13.1	-12.7
LCS-5B	10/2/2017 10:02	51.8	41.2	0.0	7.0	149.9	149.9	25.8	26.4	-12.4	-12.5	-12.3
LCS-5B	10/2/2017 10:03	51.9	41.7	0.0	6.4	150.3	150.3	27.5	27.5	-12.3	-12.4	-12.3
LCS-5B	10/12/2017 9:02	54.5	39.6	0.0	5.9	145.2	145.2	22.6	24.5	-14.4	-14.4	-14.8

October 2017 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 ₂ O		
LCS-5B	10/12/2017 9:03	52.6	41.4	0.0	6.0	146.0	146.0	26.8	26.4	-14.4	-14.4	-14.8
LCS-5B	10/16/2017 9:20	51.9	42.4	0.0	5.7	149.9	149.9	26.3	26.5	-13.5	-13.5	-13.7
LCS-5B	10/16/2017 9:21	52.1	41.9	0.0	6.0	149.9	150.1	25.9	26.1	-13.5	-13.5	-13.7
LCS-5B	10/23/2017 9:24	52.8	41.1	0.0	6.1	145.7	145.6	26.2	25.1	-13.8	-13.7	-14.0
LCS-5B	10/23/2017 9:25	52.5	42.1	0.0	5.4	145.9	145.9	25.2	23.9	-13.7	-13.7	-13.9
LCS-5B	10/30/2017 9:40	47.1	41.2	1.5	10.2	62.2	62.6	10.1	2.8	-12.6	-12.6	-12.4
LCS-6B	10/2/2017 8:55	55.3	40.1	0.0	4.6	108.5	108.5	24.2	24.0	-2.1	-2.1	-12.9
LCS-6B	10/2/2017 8:56	54.4	41.3	0.0	4.3	109.2	109.1	13.7	14.5	-2.9	-3.0	-12.9
LCS-6B	10/12/2017 8:35	53.2	42.4	0.0	4.4	113.0	113.0	22.2	21.7	-3.5	-3.5	-14.6
LCS-6B	10/16/2017 8:26	52.9	41.5	0.0	5.6	110.5	110.2	15.5	15.5	-3.5	-3.5	-14.1
LCS-6B	10/23/2017 8:30	54.9	41.1	0.1	3.9	112.0	112.0	10.6	10.3	-3.1	-3.1	-14.3
LCS-6B	10/30/2017 8:48	54.8	41.5	0.1	3.6	108.7	108.7	12.0	11.0	-2.9	-2.9	-12.6
PGW-60	10/2/2017 10:49	59.3	38.0	0.1	2.6	90.8	90.8	22.2	23.6	-9.0	-9.9	-9.6
PGW-60	10/12/2017 9:38	58.2	40.1	0.1	1.6	81.8	81.7	15.4	22.3	-10.4	-10.7	-11.1
PGW-60	10/16/2017 10:39	61.2	36.2	0.1	2.5	85.4	85.4	11.0	16.6	-9.6	-9.5	-10.8
PGW-60	10/30/2017 11:08	59.9	39.8	0.1	0.2	81.7	81.7	10.4	10.4	-7.2	-7.2	-8.4
SEW-002	10/19/2017 14:22	8.4	71.0	0.0	20.6	86.1	86.1	6.2	6.2	0.1	0.1	-15.7
SEW-002	10/19/2017 14:24	7.7	75.4	0.0	16.9	98.9	99.4	12.0	8.5	-0.4	-0.4	-15.7
T-56	10/2/2017 9:15	28.2	29.1	0.3	42.4	78.5	78.5	14.8	15.3	-0.1	-0.1	-12.4
T-56	10/12/2017 8:44	35.6	33.0	0.2	31.2	72.5	73.0	18.3	17.4	0.0	-0.1	-14.1
T-56	10/16/2017 8:46	29.5	30.3	0.1	40.1	67.3	67.5	13.2	16.3	-0.1	-0.1	-13.8
T-56	10/23/2017 8:49	44.8	34.6	0.0	20.6	69.3	69.3	17.5	12.8	0.0	0.0	-14.0
T-56	10/30/2017 9:04	42.4	34.0	0.0	23.6	63.0	63.0	17.1	17.6	0.0	-0.1	-12.6

ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	July 2017	August 2017	September 2017	October 2017		
GEW-001	--	--	--	--		
GEW-002	117.3	118.6	124.2	121.0		
GEW-003	117.1	116.6	115.8	114.7		
GEW-004	119.8	118.5	118.9	118.1		
GEW-005	93.9	94.1	94.2	91.5		
GEW-006	93.6	91.8	91.7	87.5		
GEW-007	100.6	97.7	97.2	93.6		
GEW-008	113.7	112.7	113.4	111.5		
GEW-009	123.4	123.1	124.5	121.5		
GEW-010	113.1	106.2	104.7	84.9		
GEW-011	--	--	--	--		
GEW-013A	138.3	132.9	130	129.7		
GEW-014A	--	--	--	--		
GEW-015	170	163.1	162.6	156.9		
GEW-016R	181.8	182.7	180.5	183.3		
GEW-018B	180.9	193.6	179.7	181.3		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	164.8	136.2	123.4	102.3		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	--	--	--	--		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	115.5	111.6	110	90.6		
GEW-039	120.7	119.9	120.5	113.7		
GEW-040	98	93.4	85.6	79.6		
GEW-041R	105.6	106.3	105.0	104.5		
GEW-042R	111.8	110.5	109.2	107.0		
GEW-043R	121.0	121.3	121.0	119.7		

Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	July 2017	August 2017	September 2017	October 2017		
GEW-044	98.7	97.9	97.0	95.0		
GEW-045R	97.0	115.8	98.6	96.3		
GEW-046R	101.8	102.1	103.3	99.4		
GEW-047R	119.5	111.8	91.7	80.0		
GEW-048	104.8	105.0	104.5	103.3		
GEW-049	111.5	113.1	110.1	108.7		
GEW-050	109.1	108	107.2	106.2		
GEW-051	126.8	127.5	125.8	123.9		
GEW-052	115.8	115.1	116.0	112.0		
GEW-053	134.1	136.8	136.4	134.6		
GEW-054	140.2	140.9	143.6	142.9		
GEW-055	135.9	139.6	135.9	132.0		
GEW-056R	132.1	136.8	129.4	111.0		
GEW-057B	104.5	93.4	107.1	74.1		
GEW-057R	112.1	107.2	--	85.6		
GEW-058	140.2	130.6	139.9	84.7		
GEW-058A	127.5	124.2	123.1	85.4		
GEW-059R	172.3	171.0	172.6	168.5		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	--	--	--	--		
GEW-066	--	--	--	--		
GEW-067A	85.6	168.1	150.2	169.5		
GEW-068A	--	--	192.9	183.3		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	175.7	129.4	120.0	--		
GEW-078R	170.8	171	167.1	169.0		
GEW-080	--	--	--	--		
GEW-081	105.0	100.8	90.3	87.5		
GEW-082R	187.6	181.5	182.7	183.3		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	105.5	114.5	106.9	99.4		

Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	July 2017	August 2017	September 2017	October 2017		
GEW-087	188.9	195.7	166.6	169.0		
GEW-088	189.6	193.6	181.5	197.2		
GEW-089	--	--	--	--		
GEW-090	173.1	183.3	163.8	170.1		
GEW-091	180.3	194.4	195.7	199.3		
GEW-100	--	--	--	91.9		
GEW-101	109.4	106	103.8	--		
GEW-102	105.5	91.9	110.0	85.6		
GEW-103	--	--	--	--		
GEW-104	104.4	92.9	172.6	173.6		
GEW-105	--	154.8	140.9	81.7		
GEW-106	117.5	102.2	108.0	76.2		
GEW-107	114.0	101.8	110.2	78.9		
GEW-108	116.6	90.5	164.3	146.3		
GEW-109	126.8	108.5	110.0	92.7		
GEW-110	113.0	103.1	128.0	89.6		
GEW-112	--	--	--	--		
GEW-113	155.6	158.1	158.5	159.4		
GEW-116	171.6	190.2	190.2	190.9		
GEW-117	124.7	134.4	144.9	139.9		
GEW-118	197.2	194.3	192.9	195.0		
GEW-120	158.7	164.3	167.1	158.1		
GEW-121	174.7	178	178	175.3		
GEW-122	174	168.2	159.4	158.5		
GEW-123	128.9	169.5	184.5	173.6		
GEW-124	89	91	91	86.3		
GEW-125	187.0	188.9	189.6	181.0		
GEW-126	115.7	103	101.6	96.5		
GEW-127	179.7	183.9	188.6	86.8		
GEW-128	181.5	185.1	183.3	181.5		
GEW-129	106.2	197.9	91.5	158.1		
GEW-130	195.7	185.7	188.8	188.9		
GEW-131	185.7	177.5	173.6	170.5		
GEW-132	153.6	175.8	162.9	162.0		
GEW-133	172.1	171	168.5	170.0		
GEW-134	127.8	152.1	142.8	143.2		
GEW-135	160	186	171	156.5		
GEW-136	115.3	130.3	127.5	111.4		
GEW-137	100.6	101.4	106.7	95.9		
GEW-138	156.0	149.9	148.4	130.0		
GEW-139	173.8	184.6	176.9	181.6		

Wellfield Temperature - Bridgeton Landfill

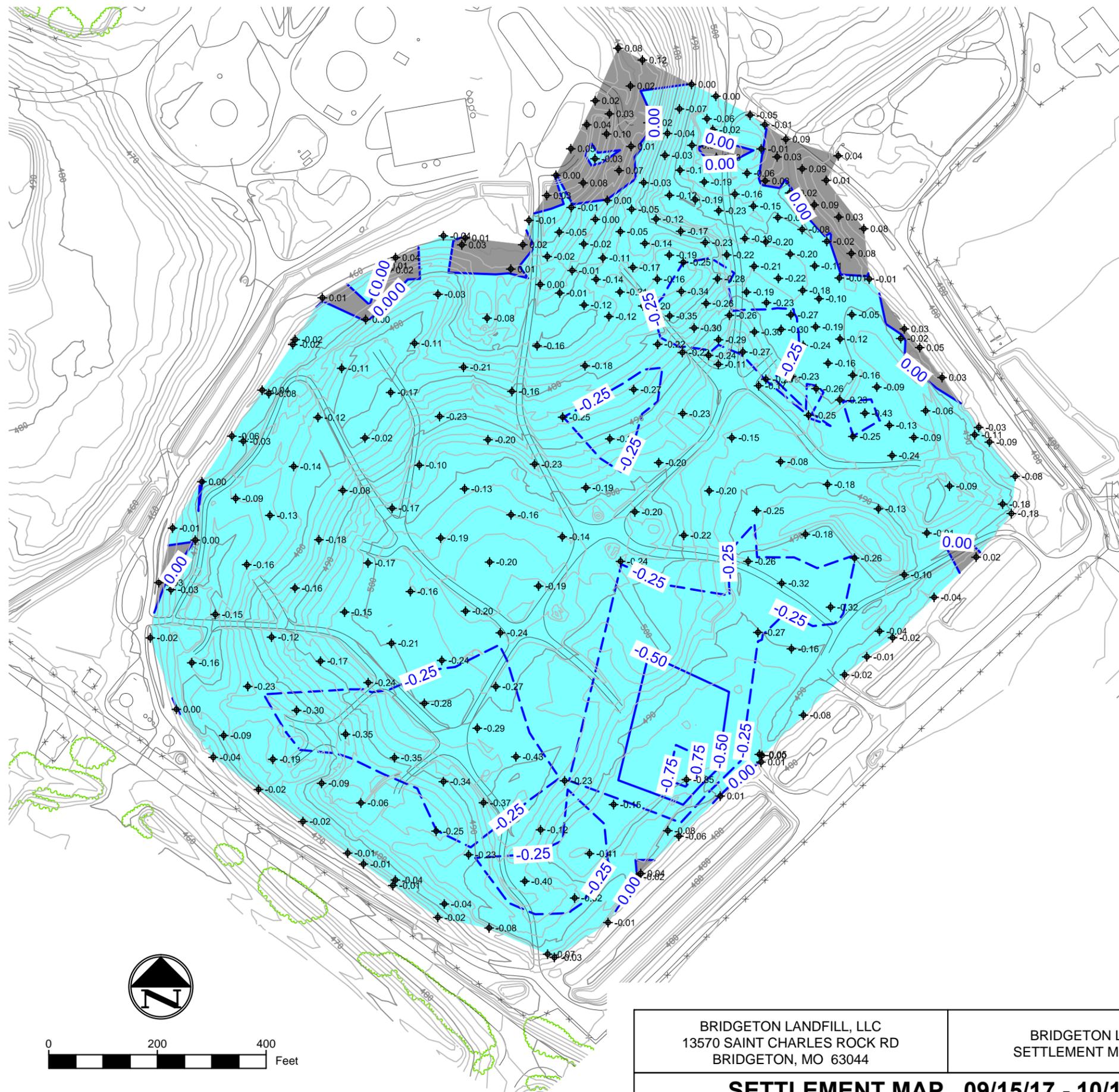
Well Name					Temp Trend ><30°F	Comments
	July 2017	August 2017	September 2017	October 2017		
GEW-140	123.1	119.9	106.0	93.4		
GEW-141	98	--	--	--		
GEW-142	101.1	--	83.5	--		
GEW-143	99.9	103.6	--	92.9		
GEW-144	102.3	102.5	92.9	--		
GEW-145	103.8	94.5	104.5	83.3		
GEW-146	105.2	106.0	103.0	101.6		
GEW-147	189	188.3	185.7	185.1		
GEW-148	140.3	154.4	148.8	158.9		
GEW-149	115.3	138.3	139.6	142.5		
GEW-150	137.1	128.9	156.5	140.9		
GEW-151	107.5	100.4	107	82.2		
GEW-152	100.6	142.2	146.7	127.4		
GEW-153	128.2	116.6	116.6	89.1		
GEW-154	149.9	185.3	126.1	104.3		
GEW-155	165	150	125	124.3		
GEW-156	115.1	120.2	118.9	102.4		
GEW-157	102.3	93.6	104.3	75.6		
GEW-158	117.8	107.5	125.0	107.8		
GEW-159	131.4	87.2	138.3	116.8		
GEW-160	107.2	110.0	155.2	156.0		
GEW-161	103.7	103.7	176.4	178.6		
GEW-162	113.0	96.5	137.2	113.2		
GEW-163	180.8	182.7	192.3	165.2		
GEW-164	167.1	174.1	176.2	173.6		
GEW-165	180.9	192.3	187.9	188.3		
GEW-166	200.1	197.2	196.4	196.4		
GEW-167	197.2	195.7	193.5	195.0		
GEW-168	195.0	188.3	189.6	187.0		
GEW-169	199.3	195.0	196.4	195.0		
GEW-170	160.9	188.9	176.4	164.3		
GEW-171	101.8	93.0	--	--		
GEW-172	114.0	103.0	--	--		
GEW-173	114.3	124.7	115.3	106.7		
GEW-174	160.2	176.9	144.5	--		
GEW-175	136.8	134.4	132.9	127.0		
GEW-176	104.0	104.8	109.5	87.9		
GEW-177	104.0	110.2	88.4	60.2		
GEW-1A	94.8	100.6	88.7	83.3		
GEW-2S	98.5	99.6	96.5	87.0		
GIW-01	111.4	119.4	182.5	178.0		

Wellfield Temperature - Bridgeton Landfill

Well Name					Temp Trend ><30°F	Comments
	July 2017	August 2017	September 2017	October 2017		
GIW-02	101.6	108.5	110.0	88.2		
GIW-03	111.7	112.3	101.0	82.9		
GIW-04	106.7	103.7	101.8	85.6		
GIW-05	100.6	101.8	102.1	87.0		
GIW-06	105.0	104.0	104.5	89.0		
GIW-07	101.3	101.0	105.2	90.9		
GIW-08	111.0	108.2	107.0	92.0		
GIW-09	108.2	103.0	108.0	90.6		
GIW-10	96.5	106.3	108	86.3		
GIW-11	97.9	106.4	104.8	85.3		
GIW-12	105.7	102.4	105.5	81.0		
GIW-13	108.8	101.1	106.2	86.2		
LCS-1D	119	96.7	92	87.5		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	96.8	92.4	96.5	92.0		
LCS-6B	119.2	112.5	130.1	113.0		
PGW-60	95	93	94	90.8		
SEW-002	105.7	--	--	98.9		
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	106	83	80	78.5		

-- = Indicates no data available.

ATTACHMENT F
SETTLEMENT FRONT MAP



Thickness Map				
Range	Minimum Depth	Maximum Depth	2D Area (Sq. Ft.)	Color
1	-5.00	-4.00	0.00	Dark Blue
2	-4.00	-3.00	0.00	Medium Blue
3	-3.00	-2.00	0.00	Light Blue
4	-2.00	-1.00	0.00	Very Light Blue
5	-1.00	0.00	1,455,861.77	Cyan
6	0.00	1.00	82,724.47	Grey

LEGEND

- 12-2-2016 TOPOGRAPHY (2' CONTOUR)
 - 500 12-2-2016 TOPOGRAPHY (10' CONTOUR)
 - .25 MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
 - .50 MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
 - 0.03 SPOT ELEVATION DIFFERENCE (TO 9-15-2017 TO 10-18-2017)
 - 9-15 *SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.485' PER 33 DAYS FOR CURRENT PERIOD OF DAYS (AREA REPRESENTS 1.26' OVER 28 DAYS BASED ON CONVERSION)
- *NONE FOR OCTOBER 2017

NOTES:

1. EXISTING CONTOURS DEVELOPED FROM SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS CO. ON DECEMBER 2, 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 9-15-17 FROM SPOT ELEVATIONS SURVEYED ON 10-18-17.
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.

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

BRIDGETON LANDFILL
SETTLEMENT MONITORING

SETTLEMENT MAP 09/15/17 - 10/18/17

PROJECT NUMBER: BT-145 | FILE PATH: C:\Users\jpl\Dropbox (Feezor Engineering)\BT-145 Agreed Order Reporting\Monthly Reports\10-2017 Report\Settlement\3_deliverables\Settlement And Fill 10-18-17.dwg



OCTOBER 2017	
DESIGNED BY: PML	
APPROVED BY: DRF	
REVISION	DATE

DRAWING NO.:
001

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

October 1, 2017 – October 31, 2017 / MDNR ODOR COMPLAINTS

Name: M. Beckermann

Message: Odor logged October 10, 2017, at 7:45 pm strength of 9

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

Name: N/A

Message: Odor logged October 14, 2017, at 7:45 am strength of 8

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

Name: N/A

Message: Odor logged October 14, 2017, at 8:10 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. The location cited in this concern is in close proximity to another known odor source. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged October 14, 2017, at 11:30 am strength of 10

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

Name: Margaret Beckermann

Message: Odor logged October 14, 2017, at 9:00 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 2 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southern origin placing this location upwind of the Bridgeton Landfill. 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: Mel Leib

Message: Odor logged October 16, 2017, at 10:07 am strength of 10

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

Name: Sharon Bishop

Message: Odor logged October 30, 2017, at 7:25 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. 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 2017

Liquid Characterization Data

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

Hauled Disposal to MSD – Bissell Point

Date	Waste	Source	Transporter	Quantity
10/1/2017				0
10/2/2017				0
10/3/2017				0
10/4/2017				0
10/5/2017				0
10/6/2017				0
10/7/2017				0
10/8/2017				0
10/9/2017				0
10/10/2017				0
10/11/2017				0
10/12/2017				0
10/13/2017				0
10/14/2017				0
10/15/2017				0
10/16/2017	LPTP Activated Sludge/ Permeate	Tank 1 (T1)	MBI	0
10/17/2017				0
10/18/2017				0
10/19/2017				0
10/20/2017				0
10/21/2017				0
10/22/2017				0
10/23/2017				0
10/24/2017				0
10/25/2017				0
10/26/2017				0
10/27/2017				0
10/28/2017				0
10/29/2017				0
10/30/2017				0
10/31/2017				0
Total				0

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
10/1/2017			171,920
10/2/2017			200,388
10/3/2017			199,352
10/4/2017			192,720
10/5/2017			149,568
10/6/2017			96,752
10/7/2017			95,068
10/8/2017			92,804
10/9/2017			111,548
10/10/2017			110,304
10/11/2017			109,248
10/12/2017			106,868
10/13/2017			104,848
10/14/2017			145,616
10/15/2017			203,336
10/16/2017	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	202,180
10/17/2017			159,500
10/18/2017			103,020
10/19/2017			99,436
10/20/2017			95,112
10/21/2017			121,080
10/22/2017			113,968
10/23/2017			230,284
10/24/2017			214,596
10/25/2017			137,984
10/26/2017			107,488
10/27/2017			109,552
10/28/2017			107,092
10/29/2017			104,888
10/30/2017			106,052
10/31/2017			108,340
Total			4,210,912

ATTACHMENT I

LOW FILL PROJECT AREA

ATTACHMENT I-1
LOW FILL AREA BOUNDARY



LEGEND

- BOUNDARY OF FILL AREA FOR 9-15-17 THROUGH 10-18-2017
- BOUNDARY OF STOCKPILE AREA FOR 9-15-17 THROUGH 10-18-2017

NOTES:

1. SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS CO. ON DECEMBER 2, 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. SURVEY POINTS WERE PERFORMED USING GPS METHODS.



0 350 700 Feet

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BRIDGETON, MO 63044

BRIDGETON LANDFILL
SETTLEMENT MONITORING

LOW FILL AREA BOUNDARY 9/15/2017 - 10/18/2017

PROJECT NUMBER: BT-145 | FILE PATH: C:\Users\plns\Dropbox (Feezor Engineering)\BT-145 Agreed Order Reporting\Monthly Reports\10-2017 Report\Settlement3_deliverables\Settlement And Fill 10-18-17.dwg



OCTOBER 2017

DESIGNED BY: PML

APPROVED BY: DRF

REVISION

DATE

DRAWING NO.:

002