Bridgeton Landfill, LLC

Monthly Data Submittals

November 2017

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

Contents:

Provided Separately:

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

December 20, 2017

Commentary on Data

December 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 194 SCFM from the North Quarry and 1,124 SCFM from the South Quarry, for a total site flow of 1,318 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 36 GEW wells that are experiencing low or restricted flows, and five (5) GIW wells that have low gas flow due to the cooling loops that are installed within these wells. By the end of the month, 30 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. Three (3) 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 (56 ppm), GEW-054 (30 ppm), and GEW-055 (32 ppm).

Settlement

- The South Quarry exhibited monthly maximum settlement up to 0.71 feet over 28 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 potentially hazardous wildlife near airports. Birds noted on-site are dispersed using pyrotechnics, a cap gun, vehicles, or on foot. Logs of bird population observations are provided to the Airport and the USDA APHIS Wildlife Services on a weekly basis.

<u>Low Fill Project Area</u>

- 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 November.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in November 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).

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.

Work Planned for December 2017

Gas Collection and Control System (GCCS)

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

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 entrance.

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
November 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***	
11/1/2017	0	0	1,182	167	1,349
11/2/2017	0	0	1,156	194	1,350
11/3/2017	0	0	1,158	191	1,349
11/4/2017	0	0	1,169	191	1,361
11/5/2017	0	0	1,157	189	1,346
11/6/2017	0	0	1,128	178	1,306
11/7/2017	0	0	1,139	129	1,268
11/8/2017	0	0	1,174	191	1,366
11/9/2017	0	0	1,154	194	1,348
11/10/2017	0	0	1,189	191	1,380
11/11/2017	0	0	1,148	193	1,341
11/12/2017	0	0	1,123	191	1,314
11/13/2017	0	0	1,131	194	1,325
11/14/2017	0	0	1,142	191	1,333
11/15/2017	0	0	1,083	187	1,271
11/16/2017	0	367	645	190	1,202
11/17/2017	399	662	0	197	1,257
11/18/2017	836	201	0	205	1,243
11/19/2017	0	1,033	0	201	1,235
11/20/2017	219	846	0	210	1,275
11/21/2017	0	1,074	0	201	1,275
11/22/2017	0	1,171	0	202	1,373
11/23/2017	0	1,178	0	205	1,382
11/24/2017	0	1,174	0	206	1,380
11/25/2017	0	1,163	0	200	1,363
11/26/2017	0	1,184	0	201	1,386
11/27/2017	0	1,170	0	203	1,374
11/28/2017	0	1,132	0	203	1,335
11/29/2017	0	1,073	0	205	1,278
11/30/2017	0	983	0	207	1,190
AVERAGE	48	480	596	194	**1,318**

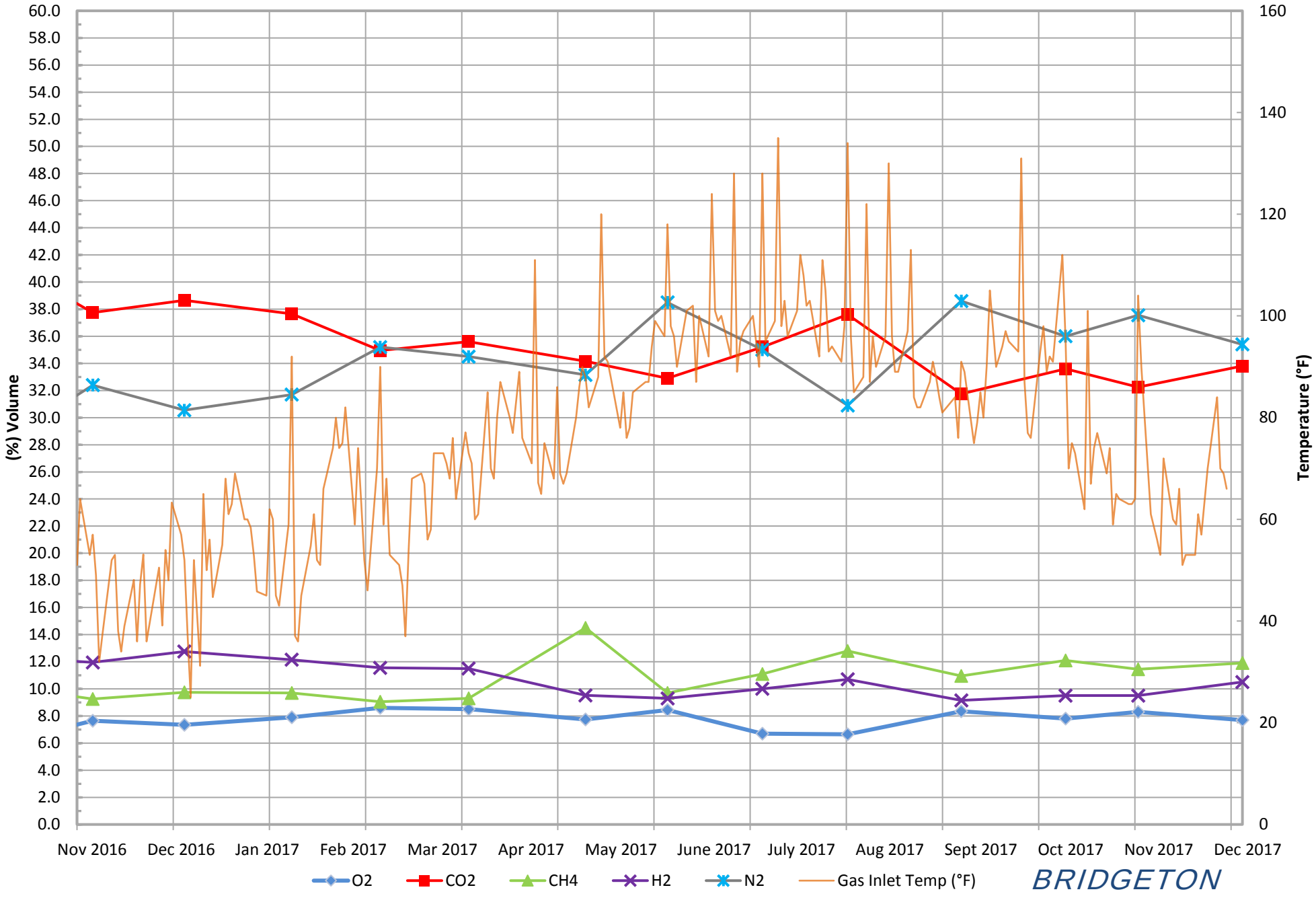
* Flows normalized to **Blower Outlet Flowmeter - EPA Method 2 measurement verified

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

ATTACHMENT B-2

FLOW DATA GRAPHS

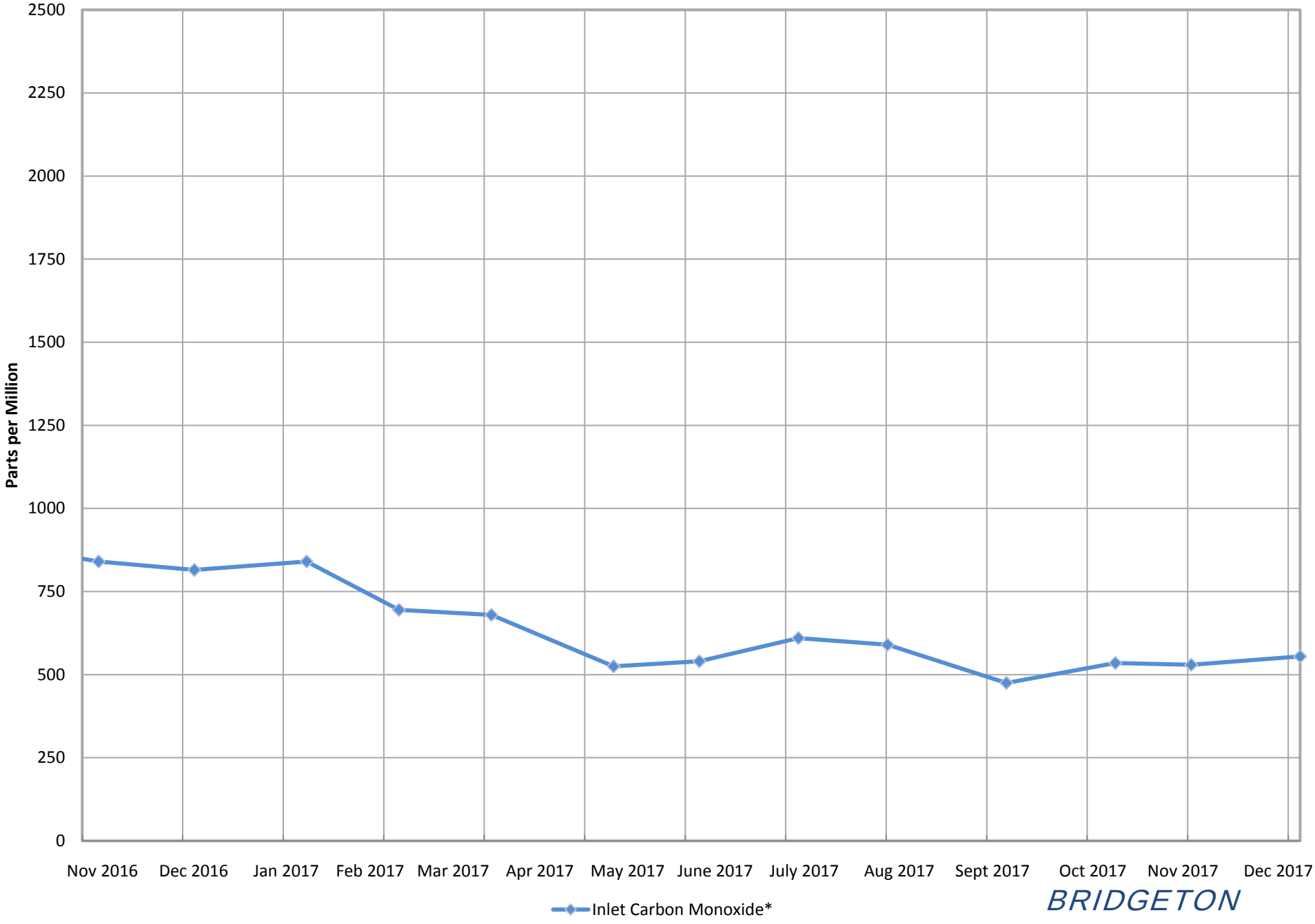
South Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

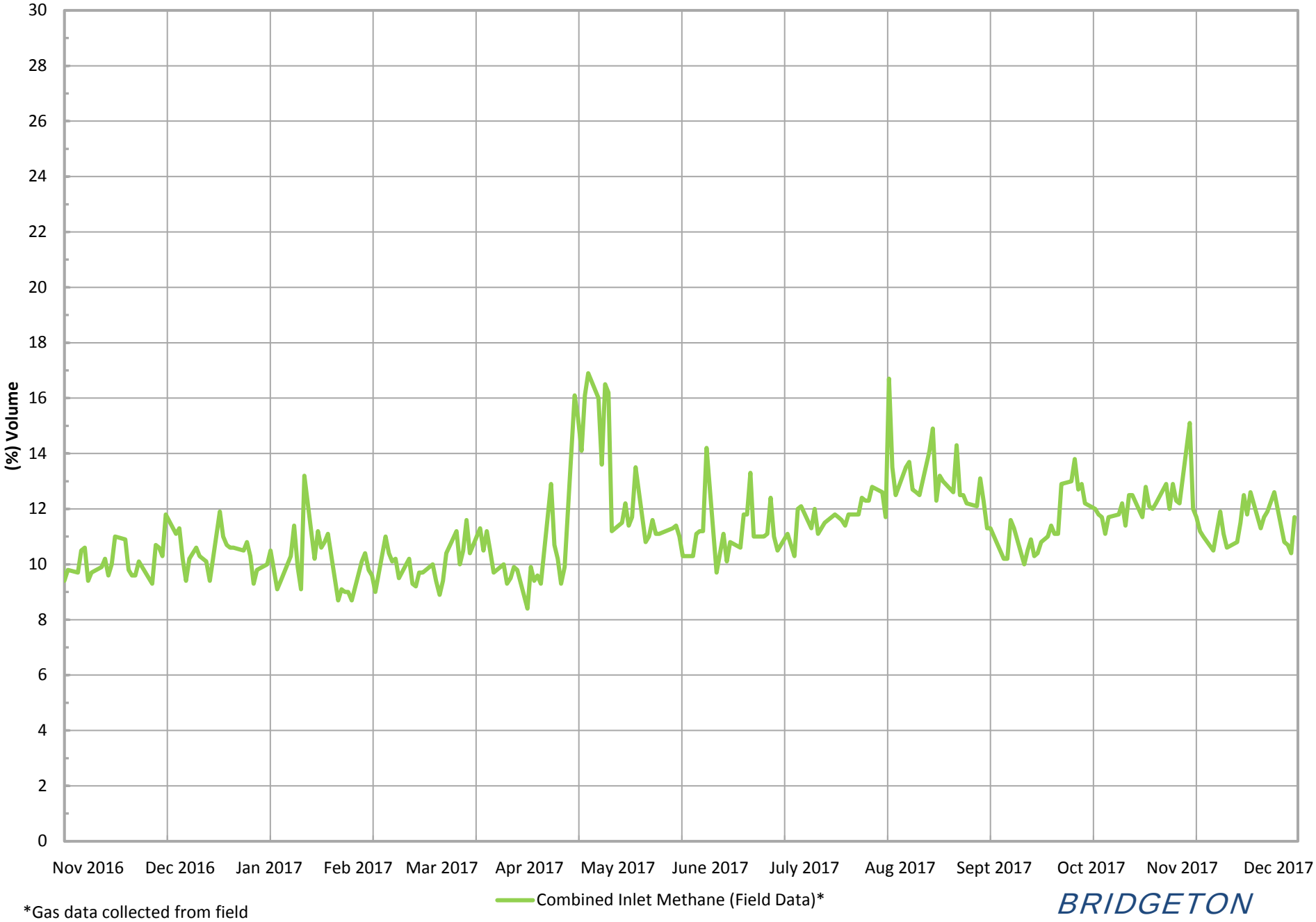
South Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the South Quarry.

BRIDGETON LANDFILL

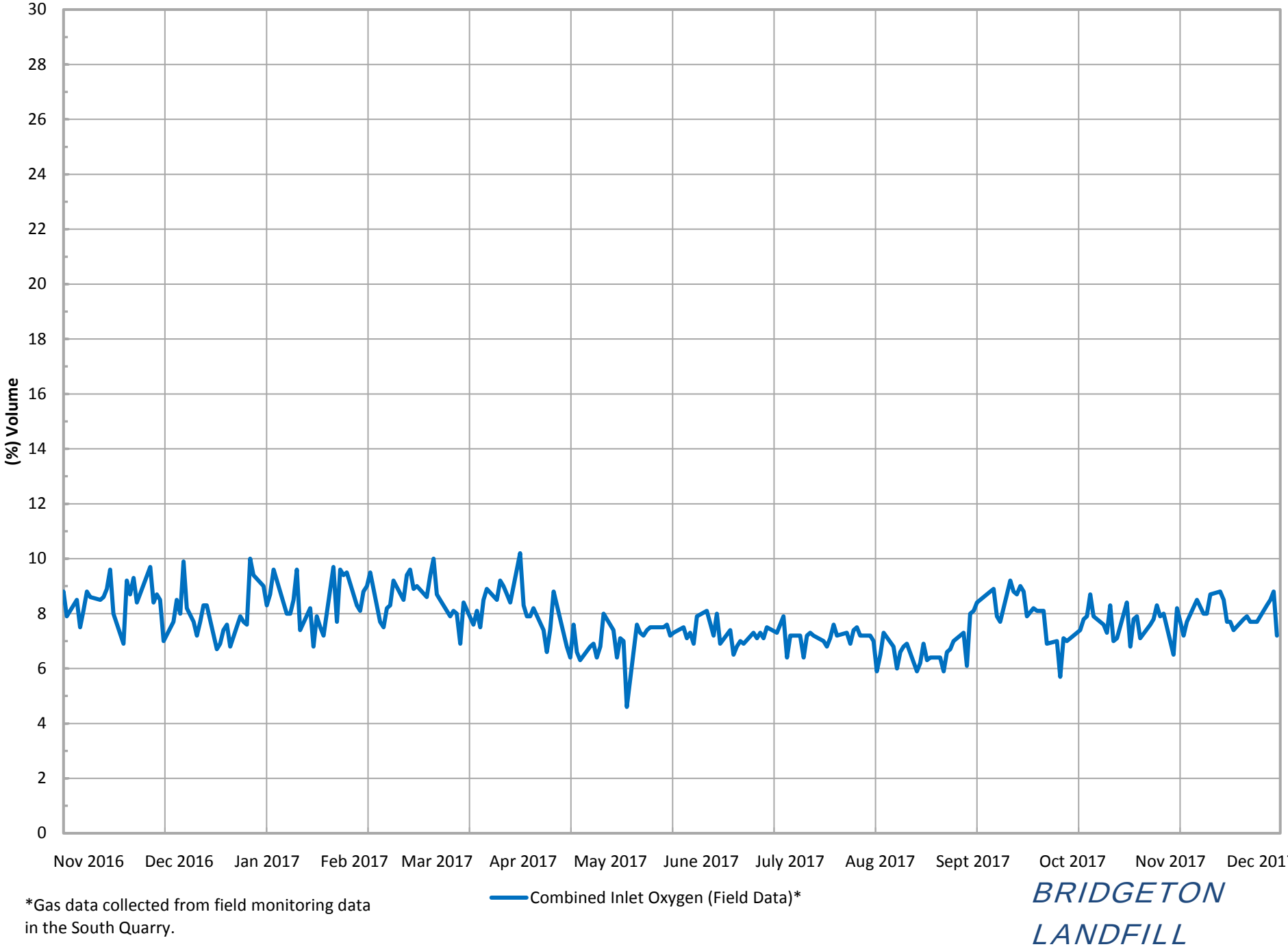
South Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

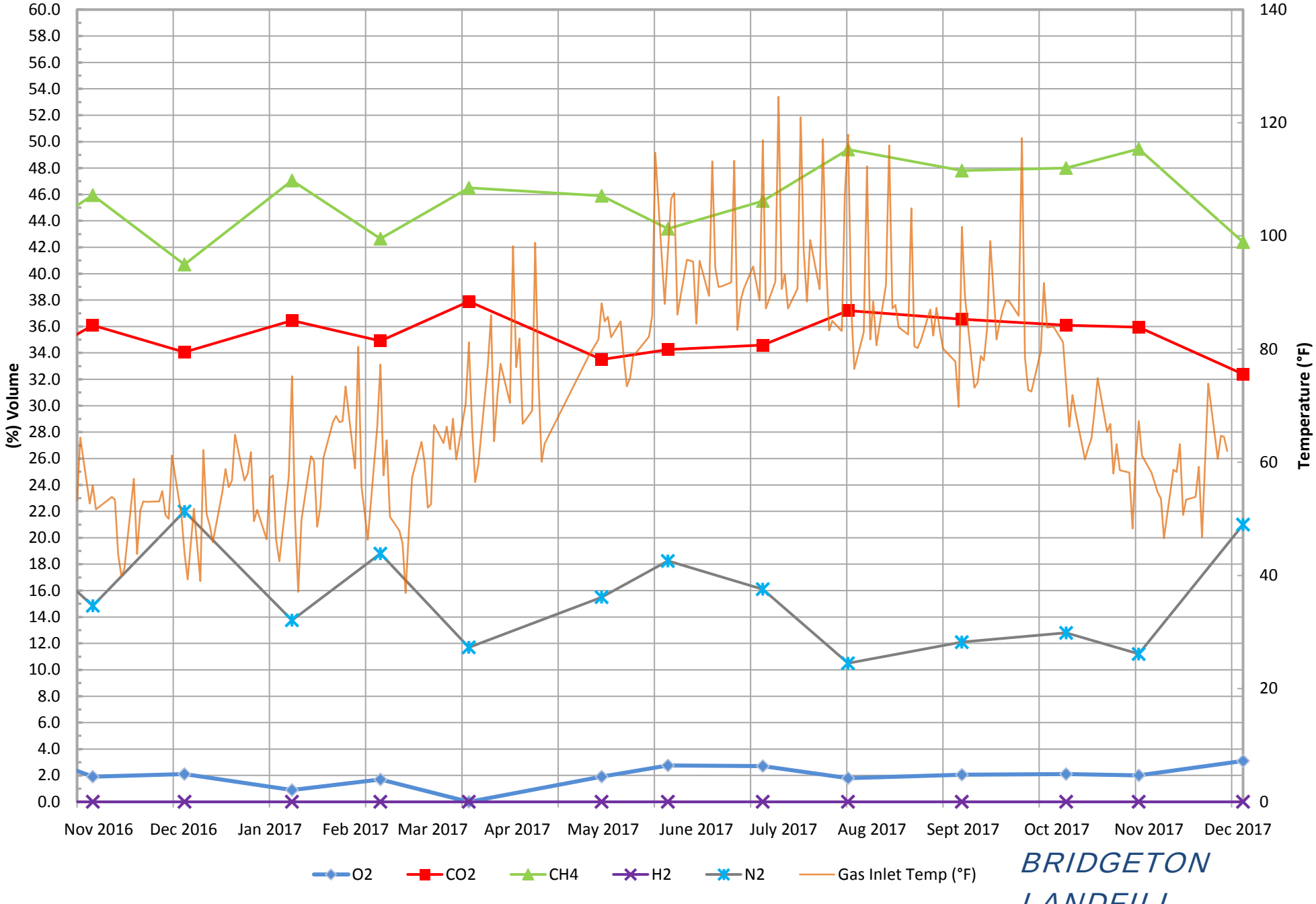
South Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

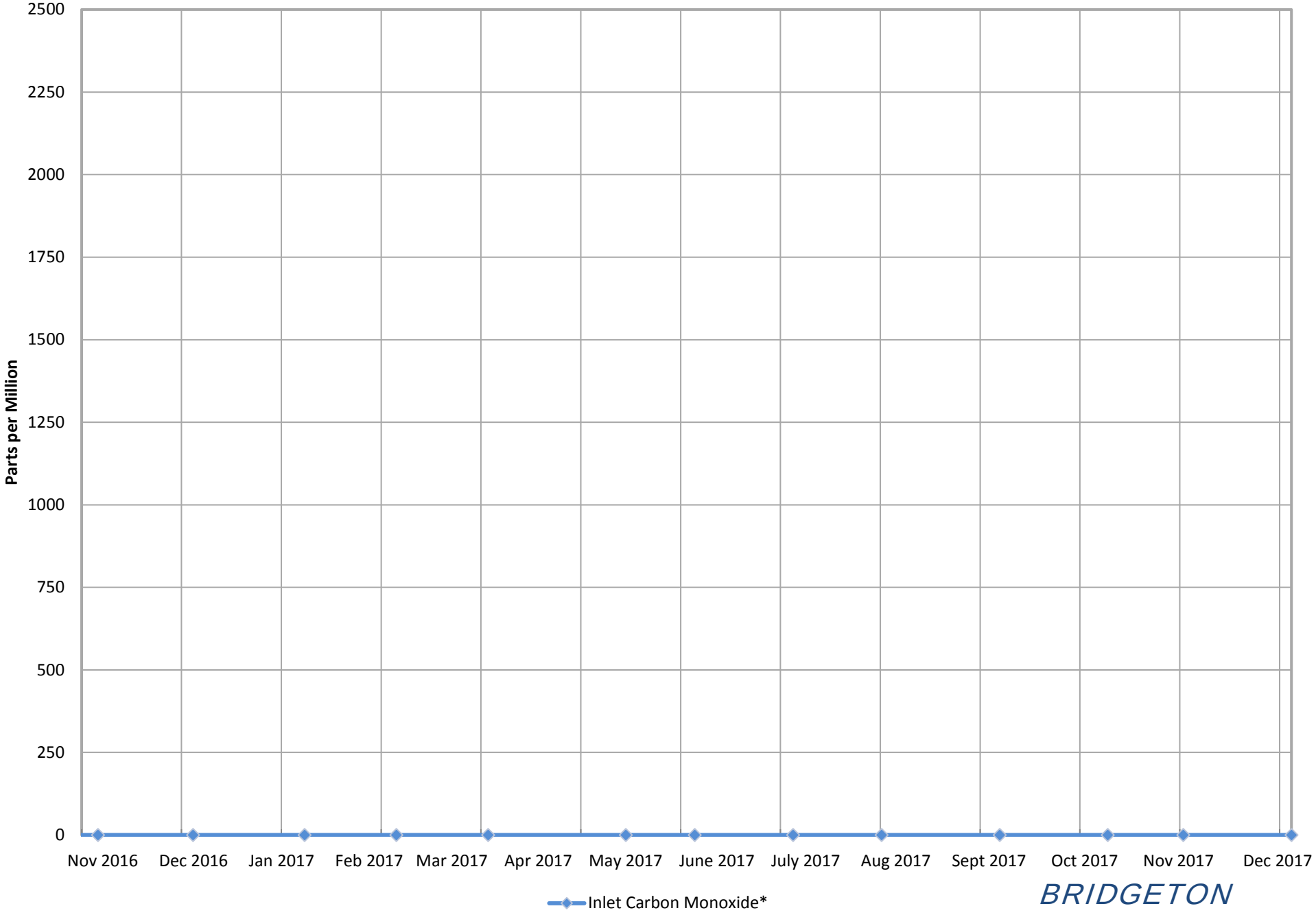
North Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

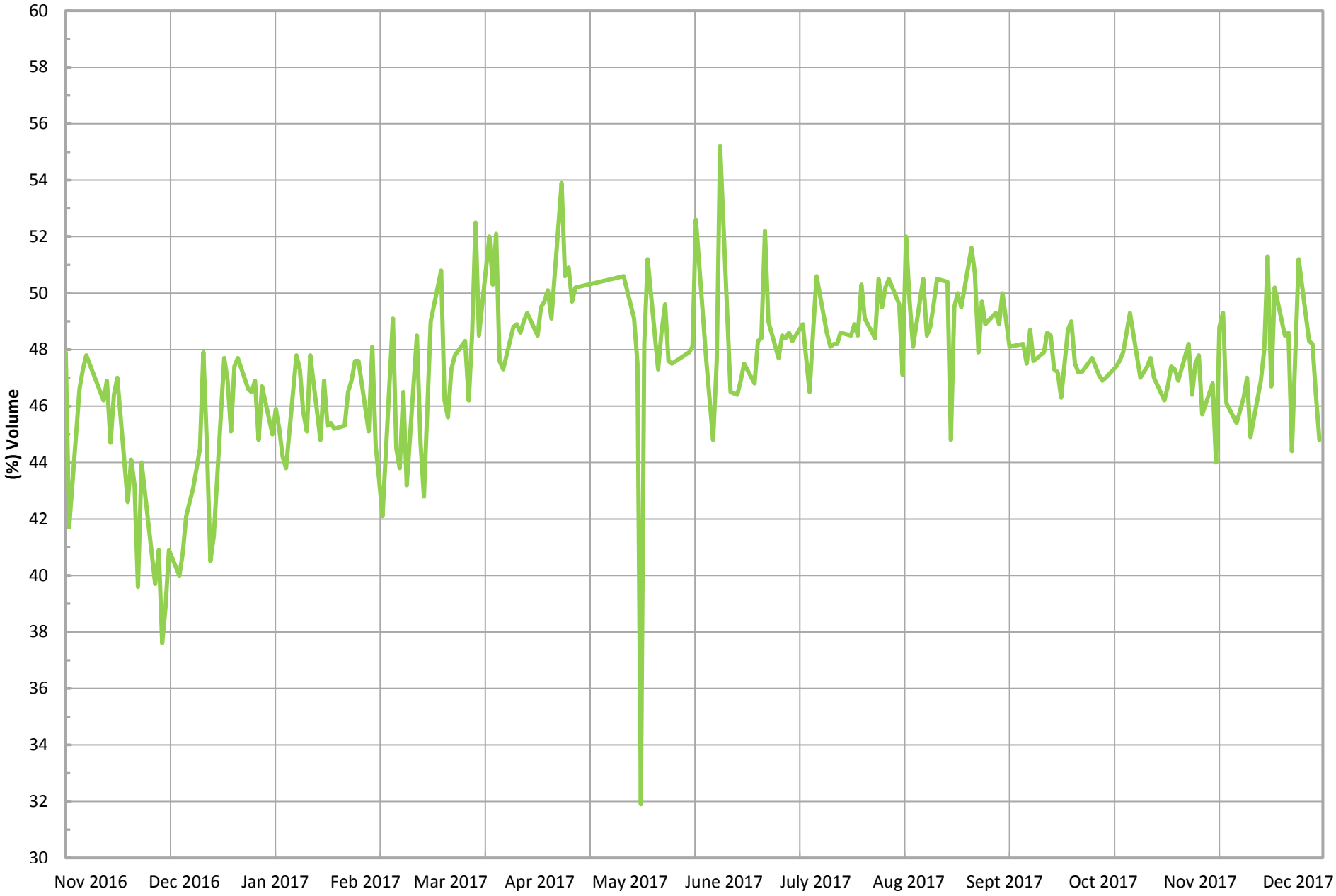
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

BRIDGETON LANDFILL

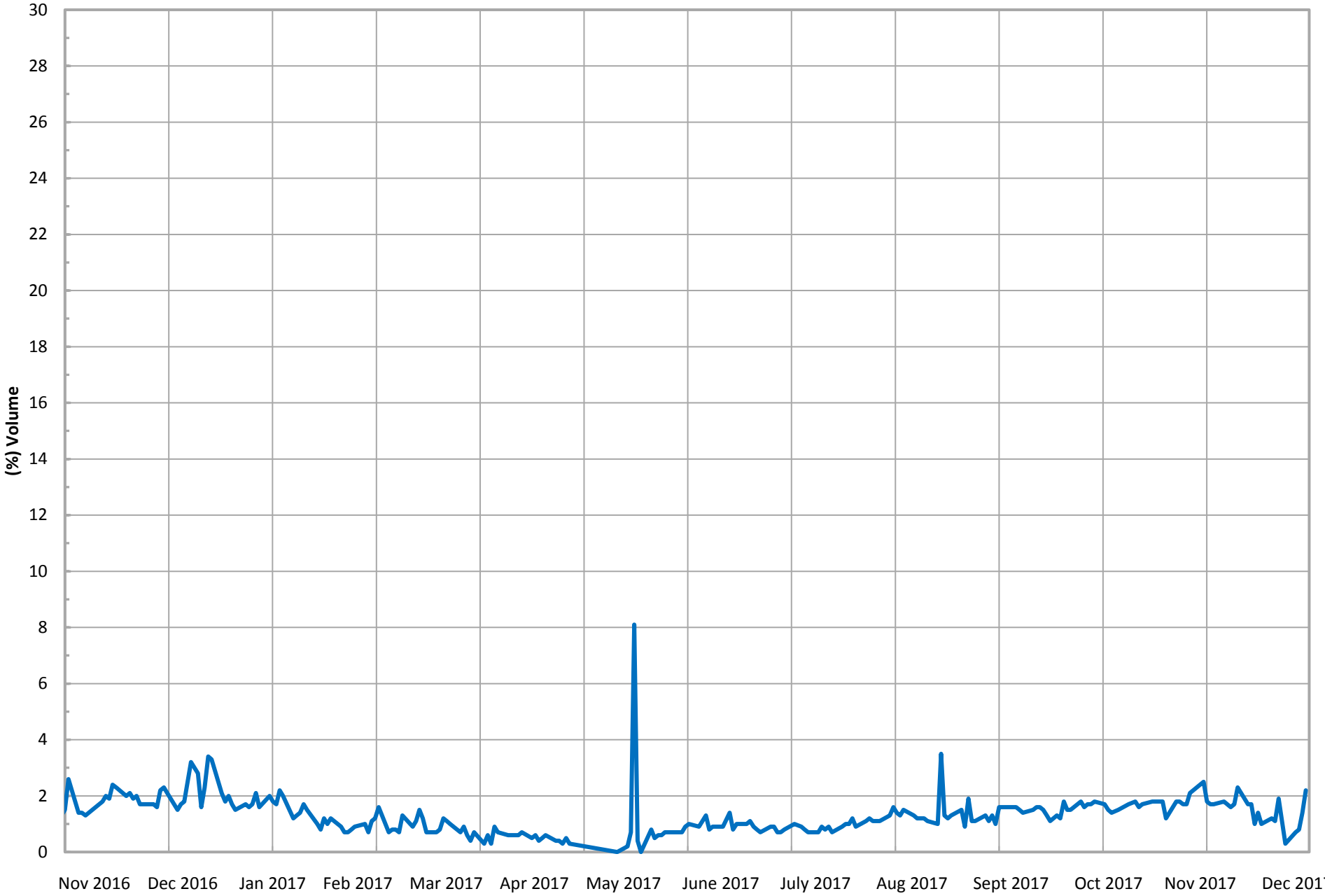
North Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

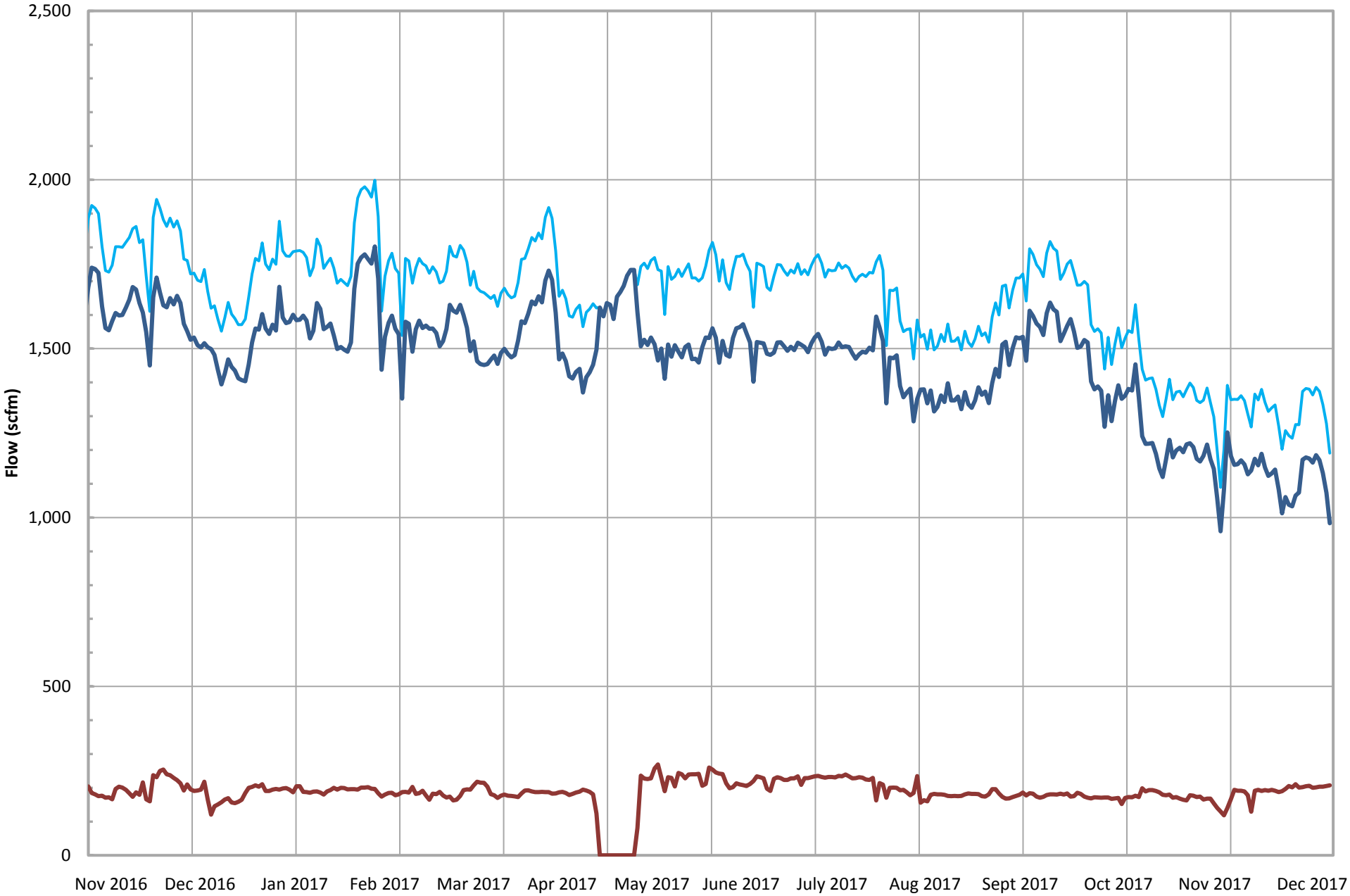
North Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

Total Combined Flow (scfm)*

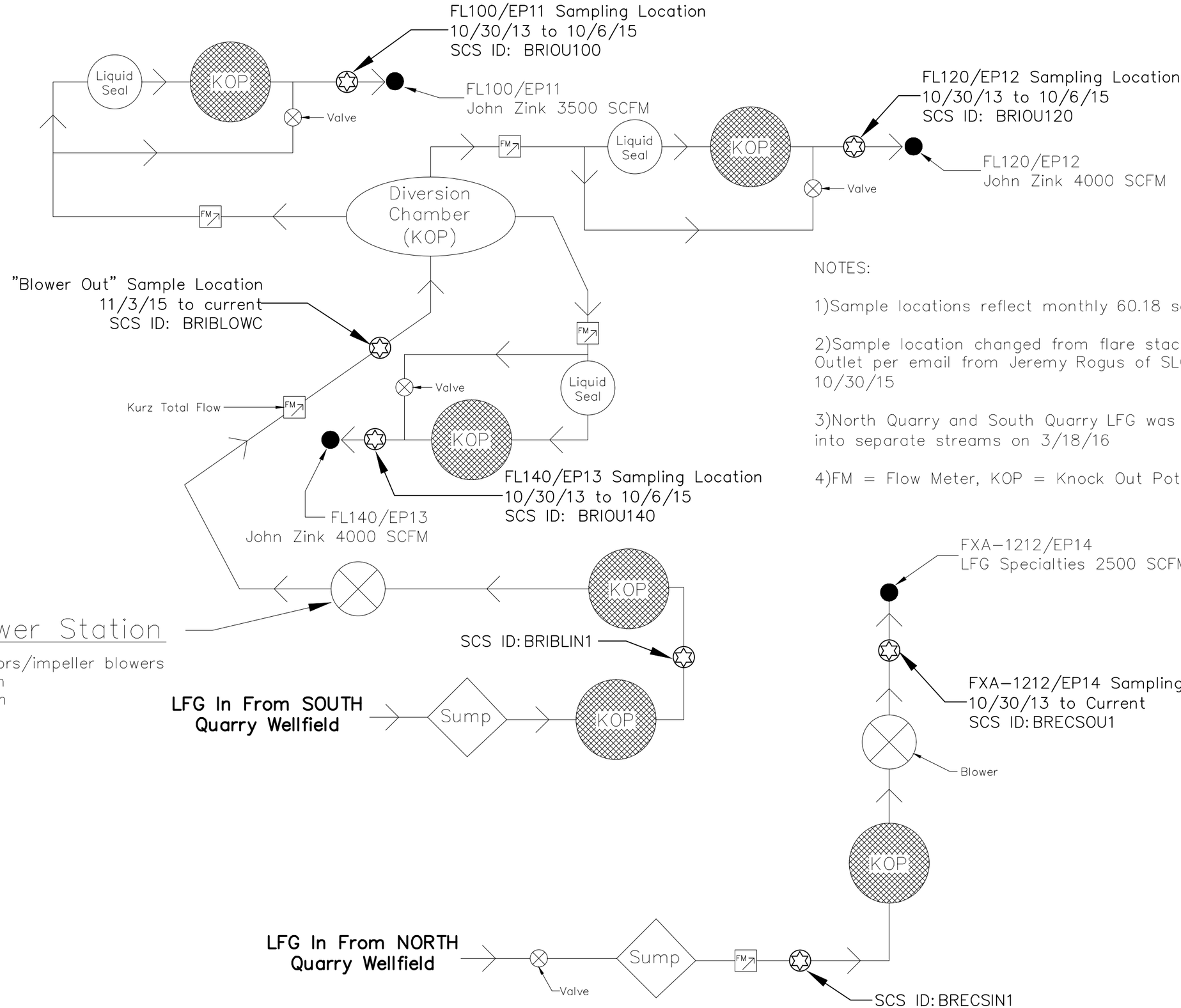


*Combined flow is based on tabulated flow data collected daily from FL-100, FL-120, FL-140, and the Auxillary Candlestick Flare.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



Motor Blower Station

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

NOTES:

1)Sample locations reflect monthly 60.18 sampling points

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

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

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

PREPARED FOR: BRIDGETON LANDFILL, LLC

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

No.	DATE	REVISION DESCRIPTION
1	9/19/2016	EP-08B Removed. Shown only to represent SQ LFG flow

Weaver Consultants Group
WEAVER CONSULTANTS GROUP
6301 EAST HWY AB
COLUMBIA, MISSOURI 65201
(636)-431-3399
www.wcgrp.com

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

SHEET 1 OF 1

TABLE 1 **Bridgeton Landfill, LLC.**

Summary of Key LFG Tested Parameters **November 02, 2017 to December 05, 2017**

Flare Compound: Blower Outlet

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
[1]144-49	12/5/2017	13.56	1146	1500
				1600
[2]143-48	11/28/2017	13.57	1099	1300
				1400
[2]142-47	11/21/2017	13.88	1124	1400
				1300
[2]141-46	11/14/2017	13.72	1111	1100
				1200
[2]140-45	11/7/2017	13.06	1058	1100
				1200
[1]139-44	11/2/2017	15.42	1226	1500
				1500

Notes:

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

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

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 144-49
12/05/2017

	PARAMETER	Blower Out
SOUTH QUARRY LFG - BLOWER OUTLET (FL120/EP-12 Only)		
Date	Test Date	12/5/17
Start	Run Start Time	10:58
	Run Finish Time	12:28
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.68
% H_2O	Moisture Content of LFG, %	0.87
% RH	Relative Humidity, %	57.00
M_{fd}	Dry Mole Fraction	0.991
%CH_4	Methane, %	11.90
%CO_2	Carbon Dioxide, %	33.80
%O_2	Oxygen, %	7.70
%Balance	Assumed as Nitrogen, %	35.95
%H_2	Hydrogen, %	10.50
%CO	Carbon Monoxide, %	0.06
M_d	Dry Molecular Weight, lb/lb-Mole	29.55
M_s	Wet Molecular weight, lb/lb-Mole	29.45
P_g	Flue Gas Static Pressure, inches of H_2O	14.82
P_s	Absolute Flue Gas Pressure, inches of Mercury	30.77
t_s	Average Stack Gas Temperature, °F	57
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.045
v_s	Average LFG Velocity, feet/second	13.56
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,146
Q_s	Standard Volumetric Flow Rate, scfm	1,156
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	1,101
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	5,274
NHV	Net Heating Value, Btu/scf	154.9
LFG_{CH4}	Methane, lb/hr	340.9
	Methane, grains/dscf	34.69
LFG_{CO2}	Carbon Dioxide, lb/hr	2,656.1
	Carbon Dioxide, grains/dscf	270.33
LFG_{O2}	Oxygen, lb/hr	440.0
	Oxygen, grains/dscf	44.78
LFG_{N2}	Balance gas as Nitrogen, lb/hr	1,798.3
	Balance gas as Nitrogen, grains/dscf	183.02
LFG_{H2}	Hydrogen, lb/hr	37.8
	Hydrogen, grains/dscf	3.85
LFG_{CO}	Carbon Monoxide, lb/hr	2.8
	Carbon Monoxide, grains/dscf	0.28

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	13	27
	Hydrogen Sulfide Rate, lb/hr	0.08	0.16
	Hydrogen Sulfide Rate, grains/dscf	0.008	0.017
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	210	220
	Methyl Mercaptan Rate, lb/hr	1.80	1.89
	Methyl Mercaptan Rate, grains/dscf	0.184	0.192
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.1	2.2
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100	1,200
	Dimethyl Sulfide Rate, lb/hr	12.20	13.31
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.355
CS_2	Carbon Disulfide Concentration, ppmd	0.73	0.80
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	70	71
	Dimethyl Disulfide Rate, lb/hr	1.18	0.97
	Dimethyl Disulfide Rate, grains/dscf	0.120	0.098

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,500	1,600
	TRS-->SO2 Emission Rate, lb/hr	17.16	18.30
	TRS-->SO2 Emission Rate, grains/dscf	1.746	1.863

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

Tuesday, December 05, 2017

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**10:58**	**1,156**	**965**	**1,037**	**16.5%**	**10.3%**	**6.9%**

**Note: Fleetzoom data derived from EP-12/FL120 TSI Flow Meter*

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 90-49
12/05/2017

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	12/5/17
Start	Run Start Time	9:00
	Run Finish Time	10:30
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.75
% H_2O	Moisture Content of LFG, %	2.88
% RH	Relative Humidity, %	51.95
M_{fd}	Dry Mole Fraction	0.971
%CH_4	Methane, %	42.40
%CO_2	Carbon Dioxide, %	32.40
%O_2	Oxygen, %	3.10
%Balance	Assumed as Nitrogen, %	21.00
%H_2	Hydrogen, % (** reported at the laboratory detection limit*)	2.70
%CO	Carbon Monoxide, % (** reported at the laboratory detection limit*)	0.00270
M_d	Dry Molecular Weight, lb/lb-Mole	27.99
M_s	Wet Molecular weight, lb/lb-Mole	27.70
P_g	Flue Gas Static Pressure, inches of H_2O	0.98
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.82
t_s	Average Stack Gas Temperature, °F	94
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.023
v_s	Average LFG Velocity, feet/second	10.51
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	298
Q_s	Standard Volumetric Flow Rate, scfm	307
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	324
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,301
NHV	Net Heating Value, Btu/scf	385.7
LFG_{CH4}	Methane, lb/hr	316.2
	Methane, grains/dscf	123.62
LFG_{CO2}	Carbon Dioxide, lb/hr	663.0
	Carbon Dioxide, grains/dscf	259.14
LFG_{O2}	Oxygen, lb/hr	46.1
	Oxygen, grains/dscf	18.03
LFG_{N2}	Balance gas as Nitrogen, lb/hr	273.5
	Balance gas as Nitrogen, grains/dscf	106.91
LFG_{H4}	Hydrogen, lb/hr	2.5
	Hydrogen, grains/dscf	0.99
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.01

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	48	43
	Hydrogen Sulfide Rate, lb/hr	0.08	0.07
	Hydrogen Sulfide Rate, grains/dscf	0.030	0.027
COS	Carbonyl Sulfide Concentration, ppmd	0.55	0.55
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	4.9	4.7
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.55	0.55
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	17	16
	Dimethyl Sulfide Rate, lb/hr	0.05	0.05
	Dimethyl Sulfide Rate, grains/dscf	0.019	0.018
CS_2	Carbon Disulfide Concentration, ppmd	0.55	0.55
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.55	0.55
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	70	65
	TRS-->SO2 Emission Rate, lb/hr	0.21	0.19
	TRS-->SO2 Emission Rate, grains/dscf	0.081	0.076

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

Air TECHNOLOGY Laboratories, Inc.

December 13, 2017

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

Republic Services
ATTN: Mike Lambrich
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I120603-01/04

Enclosed are results for sample(s) received 12/06/17 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:

- Dimethyl exhibited a low recovery in the laboratory control sample (LCS) and LCS duplicate which may indicate a low bias.
- 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 Mike Lambrich and Erin Fanning; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group; and Jan Feezor, Feezor Engineering on 12/13/17.

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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☑
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 1 OF 1

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

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Mike Lambrich
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: Mike Lambrich
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA Method 15/16 + TRS JK 12/4/17	ASTM 1946 + H2 + CO & Btu/SCF		ASTM 1946 + H2 + CO & Btu/SCF (by CH4 only)		
I120603-01	5988	-21.23	-3.47	-2.5	NQ EP14 A	12/5/2017	9:29	C-6L	LFG	He	X			X		
-02	1289	-21.26	-3.47	-2.5	NQ EP14 B	12/5/2017	10:01	C-6L	LFG	He	X			X		
-03	5964	-21.24	-3.48	-3	Blower Outlet A	12/5/2017	11:24	C-6L	LFG	He	X	X				
-04	1302	-21.43	-3.45	-3	Blower Outlet B	12/5/2017	11:57	C-6L	LFG	He	X	X				

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

SAMPLED BY: AK/RB
COMPANY: Weaver Consultants Group
DATE/TIME 11/2/2017 0700-1500

RELINQUISHED BY	DATE/	RECEIVED BY	DATE/TIME
FedEx		J. Kiang	12/6/17 14:10

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

COMMENTS

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

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

Client: Republic Services
Attn: Mike Lambrich
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/06/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I120603-01		I120603-02		I120603-03		I120603-04	
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B		Blower Outlet A		Blower Outlet B	
Date/Time Sampled:	12/5/17 9:29		12/5/17 10:01		12/5/17 11:24		12/5/17 11:57	
Date/Time Analyzed:	12/11/17 10:54		12/11/17 11:06		12/11/17 11:19		12/11/17 11:31	
QC Batch No.:	171211GC3A1		171211GC3A1		171211GC3A1		171211GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.7		2.7		2.8		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	48 d	5.5	43 d	5.5	13	0.56	27	0.56
Carbonyl Sulfide	ND	0.55	ND	0.55	ND	0.56	ND	0.56
Methyl Mercaptan	4.9	0.55	4.7	0.55	210 d	56	220 d	56
Ethyl Mercaptan	ND	0.55	ND	0.55	2.1	0.56	2.2	0.56
Dimethyl Sulfide	17	0.55	16	0.55	1,100 d	56	1,200 d	56
Carbon Disulfide	ND	0.55	ND	0.55	0.73	0.56	0.80	0.56
Dimethyl Disulfide	ND	0.55	ND	0.55	70 d	56	71 d	56
Total Reduced Sulfur	70	0.55	65	0.55	1,500	0.56	1,600	0.56

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

Reviewed/Approved By: _____ Date 12/13/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 171211GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS			LCSD				
Date/Time Analyzed:	12/11/17 10:41		12/11/17 10:16			12/11/17 10:29				
Analyst Initials:	AS		AS			AS				
Datafile:	11dec006		11dec004			11dec005				
Dilution Factor:	1.0		1.0			1.0				
ANALYTE	Results	RL	% Rec.		Criteria	% Rec.		Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	106		70-130%	106		70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	108		70-130%	110		70-130%	2.3	<30
Methyl Mercaptan	ND	0.20	117		70-130%	117		70-130%	0.4	<30
Ethyl Mercaptan	ND	0.20	109		70-130%	109		70-130%	0.3	<30
Dimethyl Sulfide	ND	0.20	91		70-130%	90		70-130%	1.1	<30
Carbon Disulfide	ND	0.20	97		70-130%	97		70-130%	0.2	<30
Dimethyl Disulfide	ND	0.20	68	*	70-130%	69	*	70-130%	1.7	<30

ND = Not Detected (Below RL)
RL = Reporting Limit
* = Outside QC Criteria

Reviewed/Approved By: _____ Date: 12/13/17
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Mike Lambrich
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/06/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I120603-01		I120603-02					
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B					
Date/Time Sampled:	12/5/17 9:29		12/5/17 10:01					
Date/Time Analyzed:	12/11/17 10:06		12/11/17 10:20					
QC Batch No.:	171211GC8A1		171211GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.7		2.7					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	2.7	ND	2.7				
Carbon Dioxide	31.9	0.027	32.9	0.027				
Oxygen/Argon	3.4	1.4	2.8	1.4				
Nitrogen	21.9	2.7	20.1	2.7				
Methane	41.7	0.0027	43.1	0.0027				
Carbon Monoxide	ND	0.0027	ND	0.0027				
Net Heating Value (BTU/ft3) methane only	379.2	2.7	392.2	2.7				
Gross Heating Value (BTU/ft3) methane only	421.1	2.7	435.6	2.7				

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

Reviewed/Approved By: _____ Date 12/13/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Mike Lambrich
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 12/06/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I120603-03		I120603-04					
Client Sample I.D.:	Blower Outlet A		Blower Outlet B					
Date/Time Sampled:	12/5/17 11:24		12/5/17 11:57					
Date/Time Analyzed:	12/11/17 10:35		12/11/17 10:49					
QC Batch No.:	171211GC8A1		171211GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	2.8		2.8					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	10.4	2.8	10.6	2.8				
Carbon Dioxide	33.5	0.028	34.0	0.028				
Oxygen/Argon	7.8	1.4	7.6	1.4				
Nitrogen	35.7	2.8	35.0	2.8				
Methane	11.8	0.0028	12.0	0.0028				
Carbon Monoxide	0.055	0.0028	0.056	0.0028				
Net Heating Value (BTU/ft3)	152.7	2.8	157.1	2.8				
Gross Heating Value (BTU/ft3)	173.1	2.8	178.1	2.8				

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

Reviewed/Approved By: _____ Date 12/13/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No: 171211GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	12/11/17 9:51			12/11/17 9:07		12/11/17 9:22					
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	5.76	115	5.84	117	1.3	70	130	30
Carbon Dioxide	ND	0.010	10	9.28	93	9.42	94	1.5	70	130	30
Oxygen/Argon	ND	0.50	15	15.6	105	15.9	107	1.9	70	130	30
Nitrogen	ND	1.0	70	70.0	100	71.4	102	2.0	70	130	30
Methane	ND	0.0010	0.10	0.109	109	0.108	108	0.7	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.107	107	0.107	107	0.6	70	130	30

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

Reviewed/Approved By: _____ Date 12/13/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 143-48
11/28/2017

Kurz FM =	**1,157**	scfm
Fleetzoom Total =	**1,245**	scfm

$\Delta =$ **7.1%**

	PARAMETER	Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL120)			
Date	Test Date	11/28/17	11/28/17
Time	Start	14:29	14:44
***%CH_4**	Methane, %	11.6	11.4
***%CO_2**	Carbon Dioxide, %	33.5	33.2
***'%O_2**	Oxygen, %	7.9	8.1
***%Balance**	Assumed as Nitrogen, %	47.0	47.3
P_g	Flue Gas Static Pressure, inches of H_2O	16.7	17.2
t_s	Blower Outlet LFG Temperature, °F	99.0	99.0
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,099	
Q_s	Kurz Blower Outlet, Standard Volumetric Flow Rate, scfm	1,157	
LFG_{CH4}	Methane, lb/hr	318.5	313.1
	Methane, grains/dscf	33.82	33.24
LFG_{CO2}	Carbon Dioxide, lb/hr	2,523.7	2,501.1
	Carbon Dioxide, grains/dscf	267.93	265.53
LFG_{O2}	Oxygen, lb/hr	432.7	443.7
	Oxygen, grains/dscf	45.94	47.10
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,253.7	2,268.1
	Balance gas as Nitrogen, grains/dscf	239.28	240.80

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

		Blower Outlet A	Blower Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	8.9	10
	Hydrogen Sulfide Rate, lb/hr	0.05	0.06
	Hydrogen Sulfide Rate, grains/dscf	0.006	0.006
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	150	140
	Methyl Mercaptan Rate, lb/hr	1.24	1.15
	Methyl Mercaptan Rate, grains/dscf	0.131	0.122
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.6	1.6
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	970	1,100
	Dimethyl Sulfide Rate, lb/hr	10.32	11.70
	Dimethyl Sulfide Rate, grains/dscf	1.095	1.242
CS_2	Carbon Disulfide Concentration, ppmd	0.64	0.65
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	62	62
	Dimethyl Disulfide Rate, lb/hr	1.00	1.00
	Dimethyl Disulfide Rate, grains/dscf	0.106	0.106
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,300	1,400
	TRS-->SO2 Emission Rate, lb/hr	14.26	15.35
	TRS-->SO2 Emission Rate, grains/dscf	1.514	1.630
	TPY =	62.44	67.24

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 89-48
11/28/2017

Fleetzoom Total = **214** scfm

	PARAMETER	EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	11/28/17	11/28/17
Time	Start	13:38	13:51
***%CH_4**	Methane, %	47.8	47.5
***%CO_2**	Carbon Dioxide, %	37.2	37.3
***'%O_2**	Oxygen, %	0.9	0.9
***%Balance**	Assumed as Nitrogen, %	14.1	14.3
P_g	Flue Gas Static Pressure, inches of H_2O	1.02	0.92
t_s	Blower Outlet LFG Temperature, °F	90.5	91.0
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	203	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	214	
LFG_{CH4}	Methane, lb/hr	242.3	240.8
	Methane, grains/dscf	139.36	138.48
LFG_{CO2}	Carbon Dioxide, lb/hr	517.4	518.8
	Carbon Dioxide, grains/dscf	297.53	298.33
LFG_{O2}	Oxygen, lb/hr	9.1	9.1
	Oxygen, grains/dscf	5.23	5.23
LFG_{N2}	Balance gas as Nitrogen, lb/hr	124.8	126.6
	Balance gas as Nitrogen, grains/dscf	71.78	72.80

** 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_2S	Hydrogen Sulfide Concentration, ppmd	44	43
	Hydrogen Sulfide Rate, lb/hr	0.05	0.05
	Hydrogen Sulfide Rate, grains/dscf	0.027	0.027
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	4.3	4.0
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.003
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	15	14
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.017	0.016
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.59
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.59	0.59
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	63	61
	TRS-->SO2 Emission Rate, lb/hr	0.13	0.12
	TRS-->SO2 Emission Rate, grains/dscf	0.073	0.071
	TPY =	0.56	0.54

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

Air TECHNOLOGY Laboratories, Inc.

December 8, 2017

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

Republic Services
ATTN: Mike Lambrich
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I112902-01/04

Enclosed are results for sample(s) received 11/29/17 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 Mike Lambrich; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group; and Jan Feezor, Feezor Engineering on 12/06/17.

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.

CHAIN OF CUSTODY RECORD

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

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

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

BILLING

P.O. No.:	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/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA Method 15/16 + TRS
	Canister ID	Sample Start	Sample End	Lab Receive							
I112902-01	R2209	-19.1	-3.48	-4	EP-14 NQ A	11/28/2017	13:38	C -1L	LFG	He	X
-02	R2207	-19.57	-3.48	-4	EP-14 NQ B	11/28/2017	13:51	C -1L	LFG	He	X
-03	R2201	-19.59	-3.49	-4	Blower Outlet A	11/28/2017	14:29	C -1L	LFG	He	X
-04	R2202	-19.43	-3.46	-4	Blower Outlet B	11/28/2017	14:44	C -1L	LFG	He	X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:	COMMENTS
SAMPLED BY: Anthony Kimutis		COMPANY: Republic Services	DATE/TIME 11-28-17	
RELINQUISHED BY	11-28-17	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY FEDEX		DATE/ RECEIVED BY	DATE/TIME 11/29/17 1129	
RELINQUISHED BY		DATE/ RECEIVED BY	DATE/TIME 1019	

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: 11/29/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I112902-01		I112902-02		I112902-03		I112902-04	
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B		Blower Outlet A		Blower Outlet B	
Date/Time Sampled:	11/28/17 13:38		11/28/17 13:51		11/28/17 14:29		11/28/17 14:44	
Date/Time Analyzed:	11/29/17 16:15		11/29/17 16:28		11/29/17 16:40		11/29/17 16:53	
QC Batch No.:	171129GC3A1		171129GC3A1		171129GC3A1		171129GC3A1	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	44 d	5.9	43 d	5.9	8.9	0.59	10	0.59
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.59	ND	0.59
Methyl Mercaptan	4.3	0.59	4.0	0.59	150 d	5.9	140 d	5.9
Ethyl Mercaptan	ND	0.59	ND	0.59	1.6	0.59	1.6	0.59
Dimethyl Sulfide	15	0.59	14	0.59	970 d	59	1,100 d	59
Carbon Disulfide	ND	0.59	ND	0.59	0.64	0.59	0.65	0.59
Dimethyl Disulfide	ND	0.59	ND	0.59	62 d	5.9	62 d	5.9
Total Reduced Sulfur	63	0.59	61	0.59	1,300	0.59	1,400	0.59

ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 171130GC3A1

Reviewed/Approved By: _____ Date 12/6/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/29/17 8:54		11/29/17 8:29		11/29/17 8:41			
Analyst Initials:	AS		AS		AS			
Datafile:	29nov003		29nov001		29nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	102	70-130%	102	70-130%	0.5	<30
Carbonyl Sulfide	ND	0.20	106	70-130%	106	70-130%	0.4	<30
Methyl Mercaptan	ND	0.20	113	70-130%	114	70-130%	0.4	<30
Ethyl Mercaptan	ND	0.20	106	70-130%	105	70-130%	0.1	<30
Dimethyl Sulfide	ND	0.20	95	70-130%	94	70-130%	0.5	<30
Carbon Disulfide	ND	0.20	94	70-130%	93	70-130%	0.6	<30
Dimethyl Disulfide	ND	0.20	82	70-130%	81	70-130%	0.6	<30

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

Reviewed/Approved By: _____ Date: 12/6/17
Mark J. Johnson
Operations Manager

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

QC Batch No.: 171130GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/30/17 9:55		11/30/17 9:43		11/30/17 9:30			
Analyst Initials:	MJ		MJ		MJ			
Datafile:	30nov004		30nov003		30nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	92	70-130%	93	70-130%	1.4	<30
Carbonyl Sulfide	ND	0.20	104	70-130%	105	70-130%	0.9	<30
Methyl Mercaptan	ND	0.20	105	70-130%	106	70-130%	1.2	<30
Ethyl Mercaptan	ND	0.20	99	70-130%	101	70-130%	1.8	<30
Dimethyl Sulfide	ND	0.20	101	70-130%	94	70-130%	7.1	<30
Carbon Disulfide	ND	0.20	88	70-130%	88	70-130%	0.8	<30
Dimethyl Disulfide	ND	0.20	76	70-130%	77	70-130%	1.2	<30

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

Reviewed/Approved By: _____ Date: 12/20/17
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 142-47
11/21/2017

Kurz FM =	**1,183**	**scfm**
Fleetzoom Total =	**1,262**	**scfm**

$\Delta =$ **6.2%**

	PARAMETER	Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL120)			
Date	Test Date	11/21/17	11/21/17
Time	Start	10:07	10:40
***%CH_4**	Methane, %	12.2	12.5
***%CO_2**	Carbon Dioxide, %	35.8	35.9
***'%O_2**	Oxygen, %	7.6	7.5
***%Balance**	Assumed as Nitrogen, %	44.4	44.1
P_g	Flue Gas Static Pressure, inches of H_2O	14.3	16.2
t_s	Blower Outlet LFG Temperature, °F	65.5	71.0
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,124	
Q_s	Kurz Blower Outlet, Standard Volumetric Flow Rate, scfm	1,183	
LFG_{CH4}	Methane, lb/hr	342.8	351.2
	Methane, grains/dscf	35.57	36.44
LFG_{CO2}	Carbon Dioxide, lb/hr	2,759.2	2,766.9
	Carbon Dioxide, grains/dscf	286.33	287.13
LFG_{O2}	Oxygen, lb/hr	425.9	420.3
	Oxygen, grains/dscf	44.20	43.61
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,178.2	2,163.5
	Balance gas as Nitrogen, grains/dscf	226.04	224.51

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

		Blower Outlet A	Blower Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	18	16
	Hydrogen Sulfide Rate, lb/hr	0.11	0.10
	Hydrogen Sulfide Rate, grains/dscf	0.011	0.010
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	190	190
	Methyl Mercaptan Rate, lb/hr	1.60	1.60
	Methyl Mercaptan Rate, grains/dscf	0.166	0.166
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.9	2.1
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,000	1,000
	Dimethyl Sulfide Rate, lb/hr	10.88	10.88
	Dimethyl Sulfide Rate, grains/dscf	1.129	1.129
CS_2	Carbon Disulfide Concentration, ppmd	0.57	0.59
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	68	63
	Dimethyl Disulfide Rate, lb/hr	1.12	1.04
	Dimethyl Disulfide Rate, grains/dscf	0.116	0.108
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,400	1,300
	TRS-->SO2 Emission Rate, lb/hr	15.71	14.59
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.514
	TPY =	68.80	63.88

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 88-47
11/21/2017

Fleetzoom Total = 207 scfm

	PARAMETER	EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	11/21/17	11/21/17
Time	Start	9:15	9:29
***%CH_4**	Methane, %	47.6	47.6
***%CO_2**	Carbon Dioxide, %	37.3	37.4
***'%O_2**	Oxygen, %	0.6	0.5
***%Balance**	Assumed as Nitrogen, %	14.5	14.5
P_g	Flue Gas Static Pressure, inches of H_2O	0.90	0.85
t_s	Blower Outlet LFG Temperature, °F	64.4	68.1
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	196	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	207	
LFG_{CH4}	Methane, lb/hr	233.5	233.5
	Methane, grains/dscf	138.78	138.78
LFG_{CO2}	Carbon Dioxide, lb/hr	502.0	503.4
	Carbon Dioxide, grains/dscf	298.33	299.13
LFG_{O2}	Oxygen, lb/hr	5.9	4.9
	Oxygen, grains/dscf	3.49	2.91
LFG_{N2}	Balance gas as Nitrogen, lb/hr	124.2	124.2
	Balance gas as Nitrogen, grains/dscf	73.82	73.82

** 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_2S	Hydrogen Sulfide Concentration, ppmd	34	35
	Hydrogen Sulfide Rate, lb/hr	0.04	0.04
	Hydrogen Sulfide Rate, grains/dscf	0.021	0.022
COS	Carbonyl Sulfide Concentration, ppmd	0.55	0.55
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	4.4	4.6
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.55	0.55
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	16	16
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.018	0.018
CS_2	Carbon Disulfide Concentration, ppmd	0.55	0.55
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.55	0.55
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	55	55
	TRS-->SO2 Emission Rate, lb/hr	0.11	0.11
	TRS-->SO2 Emission Rate, grains/dscf	0.064	0.064
	TPY =	0.47	0.47

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

Air TECHNOLOGY Laboratories, Inc.

December 6, 2017

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I112202-01/04

Enclosed are results for sample(s) received 11/22/17 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 11/30/17.

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.

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

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

BILLING

P.O. No.:	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					
	Canister ID	Sample Start	Sample End	Lab Receive												
I112202-01	1618	-19.87	-3.47	-2.5	EP-14 NQ A	11/21/2017	9:15	C -1L	LFG	He	X					
-02	1619	-19.69	-3.52	-2.5	EP-14 NQ B	11/21/2017	9:29	C -1L	LFG	He	X					
-03	R1350	-19.63	-3.49	-3.0	Blower Outlet A	11/21/2017	10:07	C -1L	LFG	He	X					
-04	R2205	-19.76	-3.51	-3.0	Blower Outlet B	11/21/2017	10:40	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 11-21-17
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY FedEx	DATE/TIME 11/22/17	RECEIVED BY	DATE/TIME 11/22/17 1134
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/22/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I112202-01		I112202-02		I112202-03		I112202-04	
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B		Blower Outlet A		Blower Outlet B	
Date/Time Sampled:	11/21/17 9:15		11/21/17 9:29		11/21/17 10:07		11/21/17 10:40	
Date/Time Analyzed:	11/24/17 9:37		11/24/17 10:01		11/24/17 10:13		11/24/17 10:26	
QC Batch No.:	171124GC3A1		171124GC3A1		171124GC3A1		171124GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.7		2.7		2.8		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	34 d	5.5	35 d	5.5	18	0.56	16	0.56
Carbonyl Sulfide	ND	0.55	ND	0.55	ND	0.56	ND	0.56
Methyl Mercaptan	4.4	0.55	4.6	0.55	190 d	56	190 d	56
Ethyl Mercaptan	ND	0.55	ND	0.55	1.9	0.56	2.1	0.56
Dimethyl Sulfide	16	0.55	16	0.55	1,000 d	56	1,000 d	56
Carbon Disulfide	ND	0.55	ND	0.55	0.57	0.56	0.59	0.56
Dimethyl Disulfide	ND	0.55	ND	0.55	68 d	56	63 d	56
Total Reduced Sulfur	55	0.55	55	0.55	1,400	0.56	1,300	0.56

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

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/24/17 8:58		11/24/17 11:58		11/24/17 12:11			
Analyst Initials:	AS		AS		AS			
Datafile:	24nov004		24nov018		24nov019			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	106	70-130%	105	70-130%	0.6	<30
Carbonyl Sulfide	ND	0.20	104	70-130%	103	70-130%	1.0	<30
Methyl Mercaptan	ND	0.20	120	70-130%	120	70-130%	0.1	<30
Ethyl Mercaptan	ND	0.20	112	70-130%	112	70-130%	0.5	<30
Dimethyl Sulfide	ND	0.20	101	70-130%	93	70-130%	7.5	<30
Carbon Disulfide	ND	0.20	96	70-130%	95	70-130%	0.4	<30
Dimethyl Disulfide	ND	0.20	81	70-130%	81	70-130%	0.2	<30

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

Reviewed/Approved By: _____ Date: 11/30/17
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 141-46
11/14/2017

Kurz FM =	**1,170**	**scfm**
Fleetzoom Total =	**1,217**	**scfm**

Δ = 3.8%

	PARAMETER	Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date	11/14/17	11/14/17
Time	Start	14:33	14:47
***%CH_4**	Methane, %	11.0	11.5
***%CO_2**	Carbon Dioxide, %	32.9	37.1
***'%O_2**	Oxygen, %	8.2	7.6
***%Balance**	Assumed as Nitrogen, %	47.9	43.8
P_g	Flue Gas Static Pressure, inches of H_2O	14.29	14.16
t_s	Blower Outlet LFG Temperature, °F	75.0	75.0
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,111	
Q_s	Kurz Blower Outlet, Standard Volumetric Flow Rate, scfm	1,170	
LFG_{CH4}	Methane, lb/hr	305.5	319.4
	Methane, grains/dscf	32.07	33.53
LFG_{CO2}	Carbon Dioxide, lb/hr	2,506.6	2,826.6
	Carbon Dioxide, grains/dscf	263.13	296.73
LFG_{O2}	Oxygen, lb/hr	454.2	421.0
	Oxygen, grains/dscf	47.69	44.20
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,322.9	2,124.1
	Balance gas as Nitrogen, grains/dscf	243.86	222.99

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

		Blower Outlet A	Blower Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.56	0.61
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	45	120
	Methyl Mercaptan Rate, lb/hr	0.37	1.00
	Methyl Mercaptan Rate, grains/dscf	0.039	0.105
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	1.1
	Ethyl Mercaptan Rate, lb/hr	0.01	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	920	960
	Dimethyl Sulfide Rate, lb/hr	9.90	10.33
	Dimethyl Sulfide Rate, grains/dscf	1.039	1.084
CS_2	Carbon Disulfide Concentration, ppmd	0.60	0.64
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	88	77
	Dimethyl Disulfide Rate, lb/hr	1.44	1.26
	Dimethyl Disulfide Rate, grains/dscf	0.151	0.132
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,100	1,200
	TRS-->SO2 Emission Rate, lb/hr	12.20	13.31
	TRS-->SO2 Emission Rate, grains/dscf	1.281	1.397
	TPY =	53.43	58.29

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 87-46
11/14/2017

Fleetzoom Total = **193** scfm

	PARAMETER	EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	11/14/17	11/14/17
Time	Start	13:45	13:58
***%CH_4**	Methane, %	52.5	49.9
***%CO_2**	Carbon Dioxide, %	35.2	38.8
***'%O_2**	Oxygen, %	0.8	0.6
***%Balance**	Assumed as Nitrogen, %	11.5	10.7
P_g	Flue Gas Static Pressure, inches of H_2O	0.75	0.80
t_s	Blower Outlet LFG Temperature, °F	70.0	70.1
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	184	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	193	
LFG_{CH4}	Methane, lb/hr	240.9	229.0
	Methane, grains/dscf	153.06	145.48
LFG_{CO2}	Carbon Dioxide, lb/hr	443.1	488.4
	Carbon Dioxide, grains/dscf	281.53	310.32
LFG_{O2}	Oxygen, lb/hr	7.3	5.5
	Oxygen, grains/dscf	4.65	3.49
LFG_{N2}	Balance gas as Nitrogen, lb/hr	92.1	85.7
	Balance gas as Nitrogen, grains/dscf	58.55	54.47

** 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_2S	Hydrogen Sulfide Concentration, ppmd	34	27
	Hydrogen Sulfide Rate, lb/hr	0.03	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.021	0.017
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	4.3	4.2
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	0.56
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	16	16
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	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
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	54	48
	TRS-->SO2 Emission Rate, lb/hr	0.10	0.09
	TRS-->SO2 Emission Rate, grains/dscf	0.063	0.056
	TPY =	0.43	0.39

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

November 22, 2017

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I111503-01/04

Enclosed are results for sample(s) received 11/15/17 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 11/22/17.

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.

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.

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

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

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

BILLING

P.O. No.:	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/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA Method 15/16 + TRS					
	Canister ID	Sample Start	Sample End	Lab Receive												
I111503-01	1614	-19.94	-3.47	-3	EP-14 NQ A	11/14/2017	13:45	C -1L	LFG	He	X					
-02	1616	-20.04	-3.48	-3	EP-14 NQ B	11/14/2017	13:58	C -1L	LFG	He	X					
-03	1535	-19.28	-3.5	-3	Blower Outlet A	11/14/2017	14:33	C -1L	LFG	He	X					
-04	1538	-19.83	-3.5	-3	Blower Outlet B	11/14/2017	14:47	C -1L	LFG	He	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	COMMENTS
SAMPLED BY: Anthony Kimutis	COMPANY: Republic Services	DATE/TIME 11-14-17	
RELINQUISHED BY	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY FedEx 11-14-17	DATE/ RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE/ RECEIVED BY 11/15/17 1400	DATE/TIME	

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I111503-01		I111503-02		I111503-03		I111503-04	
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B		Blower Outlet A		Blower Outlet B	
Date/Time Sampled:	11/14/17 13:45		11/14/17 13:58		11/14/17 14:33		11/14/17 14:47	
Date/Time Analyzed:	11/16/17 10:00		11/16/17 10:13		11/16/17 10:26		11/16/17 10:38	
QC Batch No.:	171116GC3A1		171116GC3A1		171116GC3A1		171116GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.8		2.8		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	34 d	5.6	27	0.56	ND	0.56	0.61	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.56	ND	0.56
Methyl Mercaptan	4.3	0.56	4.2	0.56	45 d	5.6	120 d	56
Ethyl Mercaptan	ND	0.56	ND	0.56	ND	0.56	1.1	0.56
Dimethyl Sulfide	16	0.56	16	0.56	920 d	56	960 d	56
Carbon Disulfide	ND	0.56	ND	0.56	0.60	0.56	0.64	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56	88 d	5.6	77 d	56
Total Reduced Sulfur	54	0.56	48	0.56	1,100	0.56	1,200	0.56

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

Reviewed/Approved By: _____ Date 11/22/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/16/17 9:48		11/16/17 9:22		11/16/17 9:35			
Analyst Initials:	AS		AS		AS			
Datafile:	16nov003		16nov001		16nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	103	70-130%	102	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	104	70-130%	103	70-130%	1.1	<30
Methyl Mercaptan	ND	0.20	115	70-130%	115	70-130%	0.5	<30
Ethyl Mercaptan	ND	0.20	110	70-130%	108	70-130%	1.8	<30
Dimethyl Sulfide	ND	0.20	95	70-130%	93	70-130%	2.0	<30
Carbon Disulfide	ND	0.20	96	70-130%	95	70-130%	0.9	<30
Dimethyl Disulfide	ND	0.20	82	70-130%	82	70-130%	0.3	<30

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

Reviewed/Approved By: _____ Date: 11/22/17
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 140-45
11/7/2017

Kurz FM =	**1,114**	**scfm**
Fleetzoom Total =	**1,138**	**scfm**

$\Delta =$ **2.2%**

	PARAMETER	Blower Outlet A	Blower Outlet B
SOUTH QUARRY LFG - MAIN FLARE COMPOUND BLOWER OUTLET (FL140)			
Date	Test Date	11/7/17	11/7/17
Time	Start	14:23	14:35
***%CH_4**	Methane, %	11.7	11.7
***%CO_2**	Carbon Dioxide, %	34.7	34.1
***'%O_2**	Oxygen, %	7.7	7.7
***%Balance**	Assumed as Nitrogen, %	45.9	46.5
P_g	Flue Gas Static Pressure, inches of H_2O	13.66	13.66
t_s	Blower Outlet LFG Temperature, °F	68.6	68.7
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	1,058	
Q_s	Kurz Blower Outlet, Standard Volumetric Flow Rate, scfm	1,114	
LFG_{CH4}	Methane, lb/hr	309.4	309.4
	Methane, grains/dscf	34.11	34.11
LFG_{CO2}	Carbon Dioxide, lb/hr	2,517.0	2,473.5
	Carbon Dioxide, grains/dscf	277.53	272.73
LFG_{O2}	Oxygen, lb/hr	406.1	406.1
	Oxygen, grains/dscf	44.78	44.78
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,119.3	2,147.0
	Balance gas as Nitrogen, grains/dscf	233.68	236.73

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

		Blower Outlet A	Blower Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.55	15
	Hydrogen Sulfide Rate, lb/hr	0.00	0.08
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.009
COS	Carbonyl Sulfide Concentration, ppmd	0.55	0.56
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	130	170
	Methyl Mercaptan Rate, lb/hr	1.03	1.35
	Methyl Mercaptan Rate, grains/dscf	0.114	0.149
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.3	1.9
	Ethyl Mercaptan Rate, lb/hr	0.01	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	900	940
	Dimethyl Sulfide Rate, lb/hr	9.22	9.63
	Dimethyl Sulfide Rate, grains/dscf	1.016	1.061
CS_2	Carbon Disulfide Concentration, ppmd	0.68	0.72
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	58	54
	Dimethyl Disulfide Rate, lb/hr	0.90	0.84
	Dimethyl Disulfide Rate, grains/dscf	0.099	0.092
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,100	1,200
	TRS-->SO2 Emission Rate, lb/hr	11.61	12.67
	TRS-->SO2 Emission Rate, grains/dscf	1.281	1.397
	TPY =	50.87	55.50

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 86-45
11/07/2017

Fleetzoom Total = **159** **scfm**

	PARAMETER	EP14 NQ A	EP14 NQ B
EP14 NORTH QUARRY FLARE (OPERATING SOLO, NQ LFG Only)			
Date	Test Date	11/7/17	11/7/17
Time	Start	13:33	13:47
***%CH_4**	Methane, %	47.5	46.2
***%CO_2**	Carbon Dioxide, %	35.1	36.7
***'%O_2**	Oxygen, %	1.5	1.3
***%Balance**	Assumed as Nitrogen, %	15.9	15.8
P_g	Flue Gas Static Pressure, inches of H_2O	0.62	0.60
t_s	Blower Outlet LFG Temperature, °F	67.7	67.8
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	151	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	159	
LFG_{CH4}	Methane, lb/hr	178.7	173.9
	Methane, grains/dscf	138.48	134.69
LFG_{CO2}	Carbon Dioxide, lb/hr	362.3	378.9
	Carbon Dioxide, grains/dscf	280.73	293.53
LFG_{O2}	Oxygen, lb/hr	11.3	9.8
	Oxygen, grains/dscf	8.72	7.56
LFG_{N2}	Balance gas as Nitrogen, lb/hr	104.5	103.8
	Balance gas as Nitrogen, grains/dscf	80.95	80.44

** 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_2S	Hydrogen Sulfide Concentration, ppmd	33	37
	Hydrogen Sulfide Rate, lb/hr	0.03	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.020	0.023
COS	Carbonyl Sulfide Concentration, ppmd	0.56	0.56
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	4.7	5.0
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.004	0.004
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	0.56
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	18	18
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.020	0.020
CS_2	Carbon Disulfide Concentration, ppmd	0.56	0.56
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.56	0.56
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	56	61
	TRS-->SO2 Emission Rate, lb/hr	0.08	0.09
	TRS-->SO2 Emission Rate, grains/dscf	0.065	0.071
	TPY =	0.37	0.40

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

November 15, 2017

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I110803-01/04

Enclosed are results for sample(s) received 11/08/17 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 11/15/17.

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.

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.

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

PAGE: 1 OF 1

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

Project No.:	
Project Name:	Bridgeton 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/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA Method 15/16 + TRS
	Canister ID	Sample Start	Sample End	Lab Receive							
I110803-01	1615	-20.35	-3.49	-3	EP-14 NQ A	11/7/2017	13:33	C -1L	LFG	He	X
-02	R1366	-20.46	-3.46	-3	EP-14 NQ B	11/7/2017	13:47	C -1L	LFG	He	X
-03	1532	-19.32	-3.47	-2.5	Blower Outlet A	11/7/2017	14:23	C -1L	LFG	He	X
-04	R1158	-20.31	-3.49	-3	Blower Outlet B	11/7/2017	14:35	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 11-7-17
RELINQUISHED BY	DATE 11-7-17	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE/TIME
RELINQUISHED BY FedEx	DATE	RECEIVED BY	DATE/TIME 11/8/17 1242

COMMENTS

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

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

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

Rev. 03 - 5 7 09

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/08/17
Matrix: Air
Reporting Units: ppmv

EPA Methods 15/16

Lab No.:	I110803-01		I110803-02		I110803-03		I110803-04	
Client Sample I.D.:	EP-14 NQ A		EP-14 NQ B		Blower Outlet A		Blower Outlet B	
Date/Time Sampled:	11/7/17 13:33		11/7/17 13:47		11/7/17 14:23		11/7/17 14:35	
Date/Time Analyzed:	11/9/17 9:50		11/9/17 10:03		11/9/17 10:15		11/9/17 10:28	
QC Batch No.:	171109GC3A1		171109GC3A1		171109GC3A1		171109GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		2.8		2.7		2.8	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	33 d	5.6	37 d	5.6	ND	0.55	15	0.56
Carbonyl Sulfide	ND	0.56	ND	0.56	ND	0.55	ND	0.56
Methyl Mercaptan	4.7	0.56	5.0	0.56	130 d	55	170 d	56
Ethyl Mercaptan	ND	0.56	ND	0.56	1.3	0.55	1.9	0.56
Dimethyl Sulfide	18	0.56	18	0.56	900 d	55	940 d	56
Carbon Disulfide	ND	0.56	ND	0.56	0.68	0.55	0.72	0.56
Dimethyl Disulfide	ND	0.56	ND	0.56	58 d	55	54 d	5.6
Total Reduced Sulfur	56	0.56	61	0.56	1,100	0.55	1,200	0.56

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

Reviewed/Approved By: _____ Date 11/15/17

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 171109GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	11/9/17 8:47		11/9/17 8:22		11/9/17 8:35			
Analyst Initials:	AS		AS		AS			
Datafile:	09nov003		09nov001		09nov002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	102	70-130%	101	70-130%	1.0	<30
Carbonyl Sulfide	ND	0.20	109	70-130%	108	70-130%	0.6	<30
Methyl Mercaptan	ND	0.20	115	70-130%	114	70-130%	0.8	<30
Ethyl Mercaptan	ND	0.20	110	70-130%	108	70-130%	1.6	<30
Dimethyl Sulfide	ND	0.20	100	70-130%	99	70-130%	0.9	<30
Carbon Disulfide	ND	0.20	97	70-130%	96	70-130%	1.7	<30
Dimethyl Disulfide	ND	0.20	88	70-130%	88	70-130%	0.3	<30

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

Reviewed/Approved By: _____ Date: 11/15/17
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 139-44
11/02/2017

	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)
Θ	Net Run Time, minutes	1:33:20
C_p	Pitot Tube Coeficient	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 Crossectional 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
H_2S	Hydrogen Sulfide Concentration, ppmd	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, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	190	91
	Methyl Mercaptan Rate, lb/hr	1.75	0.84
	Methyl Mercaptan Rate, grains/dscf	0.166	0.080
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.8	1.3
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.002	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100	1,100
	Dimethyl Sulfide Rate, lb/hr	13.06	13.06
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.242
CS_2	Carbon Disulfide Concentration, ppmd	0.76	0.79
	Carbon Disulfide Rate, lb/hr	0.01	0.01
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	82	120
	Dimethyl Disulfide Rate, lb/hr	1.48	1.75
	Dimethyl Disulfide Rate, grains/dscf	0.140	0.166

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,500	1,500
	TRS-->SO2 Emission Rate, lb/hr	18.36	18.36
	TRS-->SO2 Emission Rate, grains/dscf	1.746	1.746

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

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 85-44
11/02/2017

	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)
Θ	Net Run Time, minutes	1:29:55
C_p	Pitot Tube Coeficient	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_2O	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_2O	0.009
v_s	Average LFG Velocity, feet/second	6.64
A_s	Stack Crossectional 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
H_2S	Hydrogen Sulfide Concentration, ppmd	28	27
	Hydrogen Sulfide Rate, lb/hr	0.03	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.017	0.017
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.63
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	5.3	5.7
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.005	0.005
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	0.63
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	19	21
	Dimethyl Sulfide Rate, lb/hr	0.03	0.04
	Dimethyl Sulfide Rate, grains/dscf	0.021	0.024
CS_2	Carbon Disulfide Concentration, ppmd	0.63	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.63	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001

❶ **$E_{TRS-SO2}$**	TRS-->SO2 Emission Concentration, ppmd	53	54
	TRS-->SO2 Emission Rate, lb/hr	0.10	0.10
	TRS-->SO2 Emission Rate, grains/dscf	0.062	0.063

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

AIR TECHNOLOGY Laboratories, Inc.

November 10, 2017

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: 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.

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☑
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 1 OF 1

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

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

BILLING

P.O. No.:	6605567
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA Method 15/16	ASTM 1946 + H2 + CO & Btu/SCF		ASTM 1946 + H2 + CO & Btu/SCF (by CH4 only)		
I110303-01	1287	-19.72	-3.53		NQ EP14 A	11/2/2017	14:03	C-6L	LFG	He	X			X		
-02	5950	-19.71	-3.52		NQ EP14 B	11/2/2017	14:31	C-6L	LFG	He	X			X		
-03	1297	-20.09	-3.47		Blower Outlet A	11/2/2017	9:06	C-6L	LFG	He	X	X				
-04	6010	-20.21	-3.5		Blower Outlet B	11/2/2017	9:36	C-6L	LFG	He	X	X				

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services	DATE/TIME:
SAMPLED BY: AK/RB		COMPANY: Weaver Consultants Group	DATE/TIME 11/2/2017 0700-1500
RELINQUISHED BY: Ronald V Baker Jr	DATE: 11/2/2017	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE:	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FedEx	DATE:	RECEIVED BY: J. Garg	DATE/TIME: 11/3/17 11:38

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

COMMENTS

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/03/17
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: _____ Date 11-10-17

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	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: _____ Date: 11-10-17
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 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: _____ Date 11-10-17

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/03/17
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: _____ Date 11-10-17

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No: 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

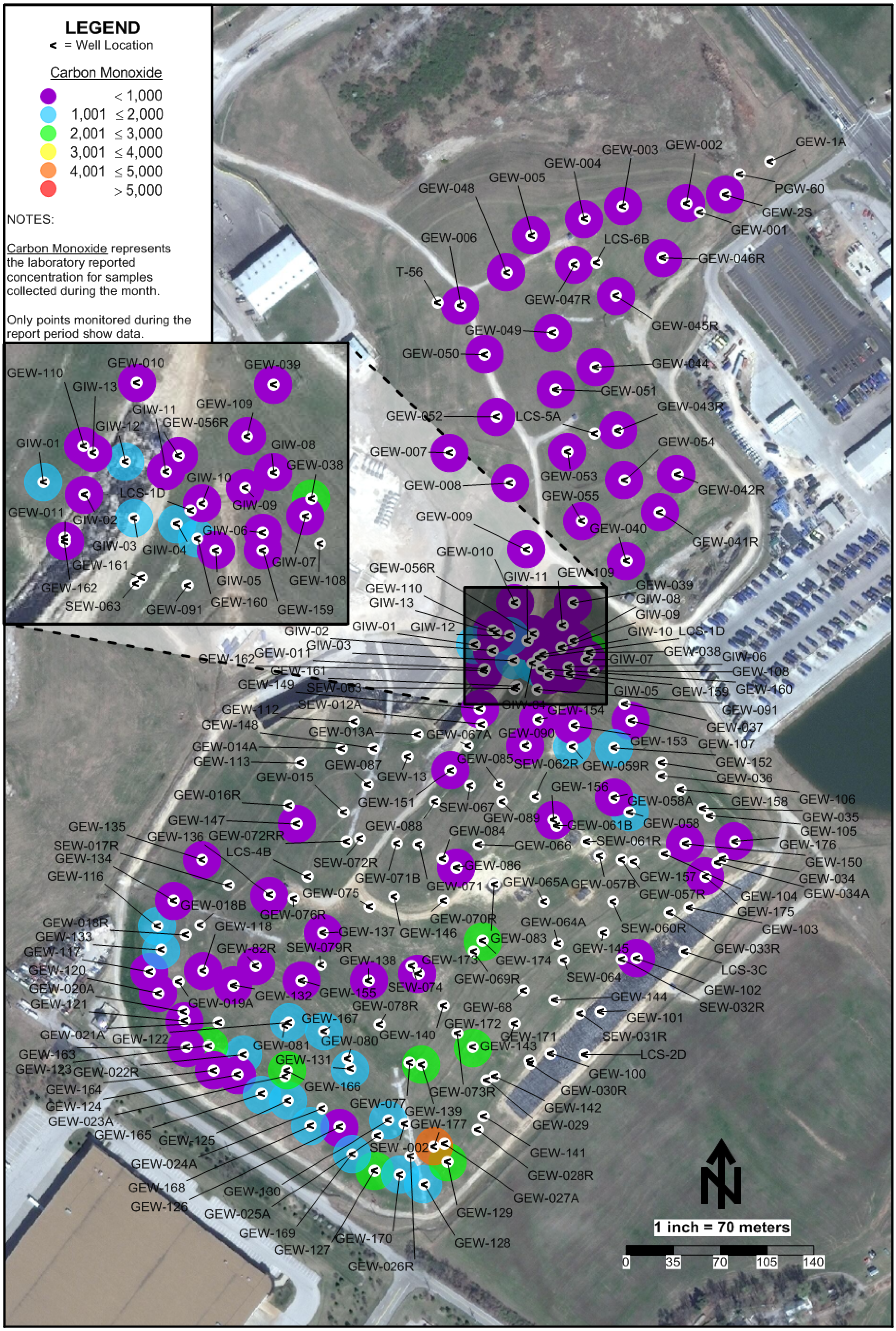
Reviewed/Approved By: _____ Date 11-10-17

Mark Johnson
Operations Manager

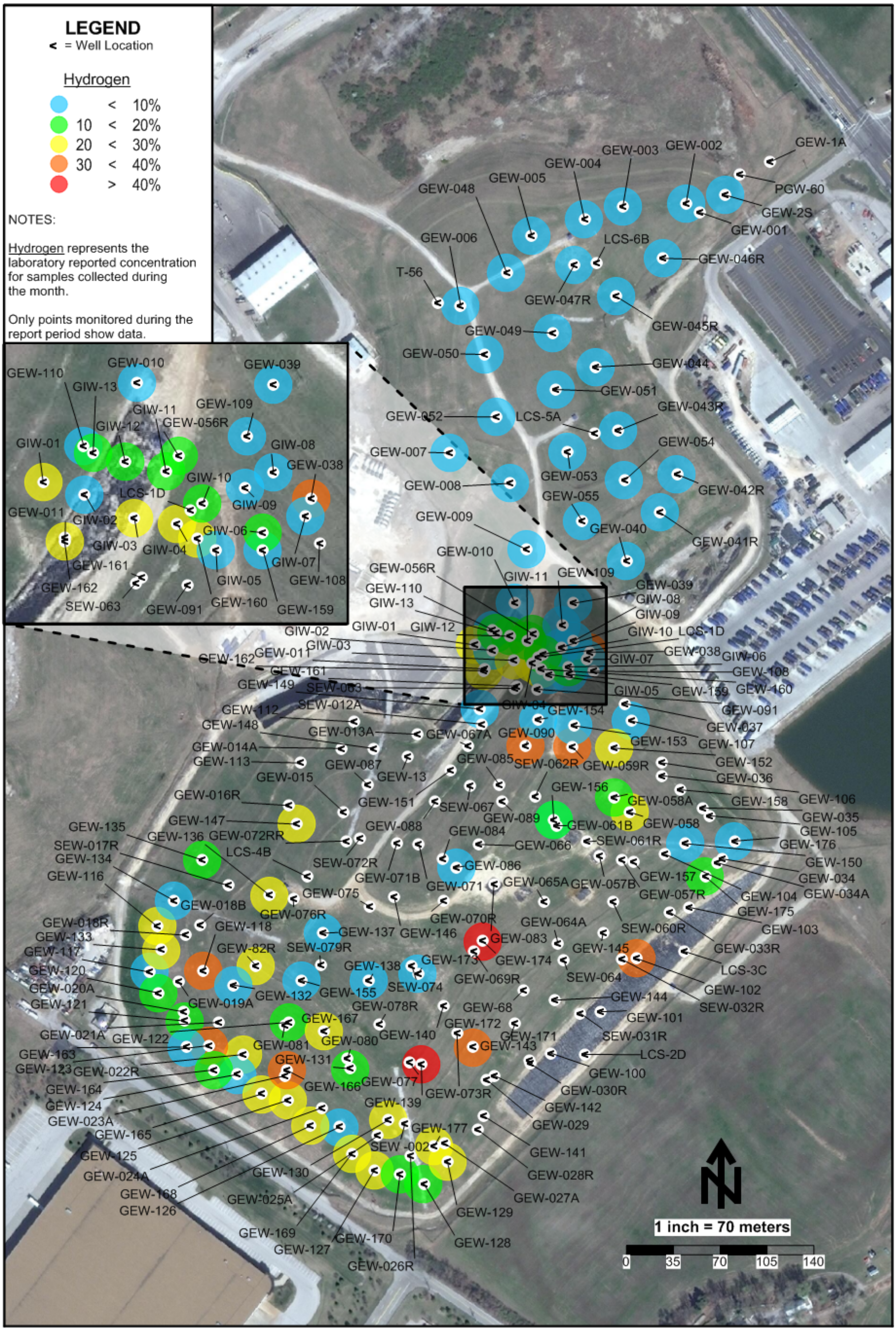
The cover letter is an integral part of this analytical report

ATTACHMENT C

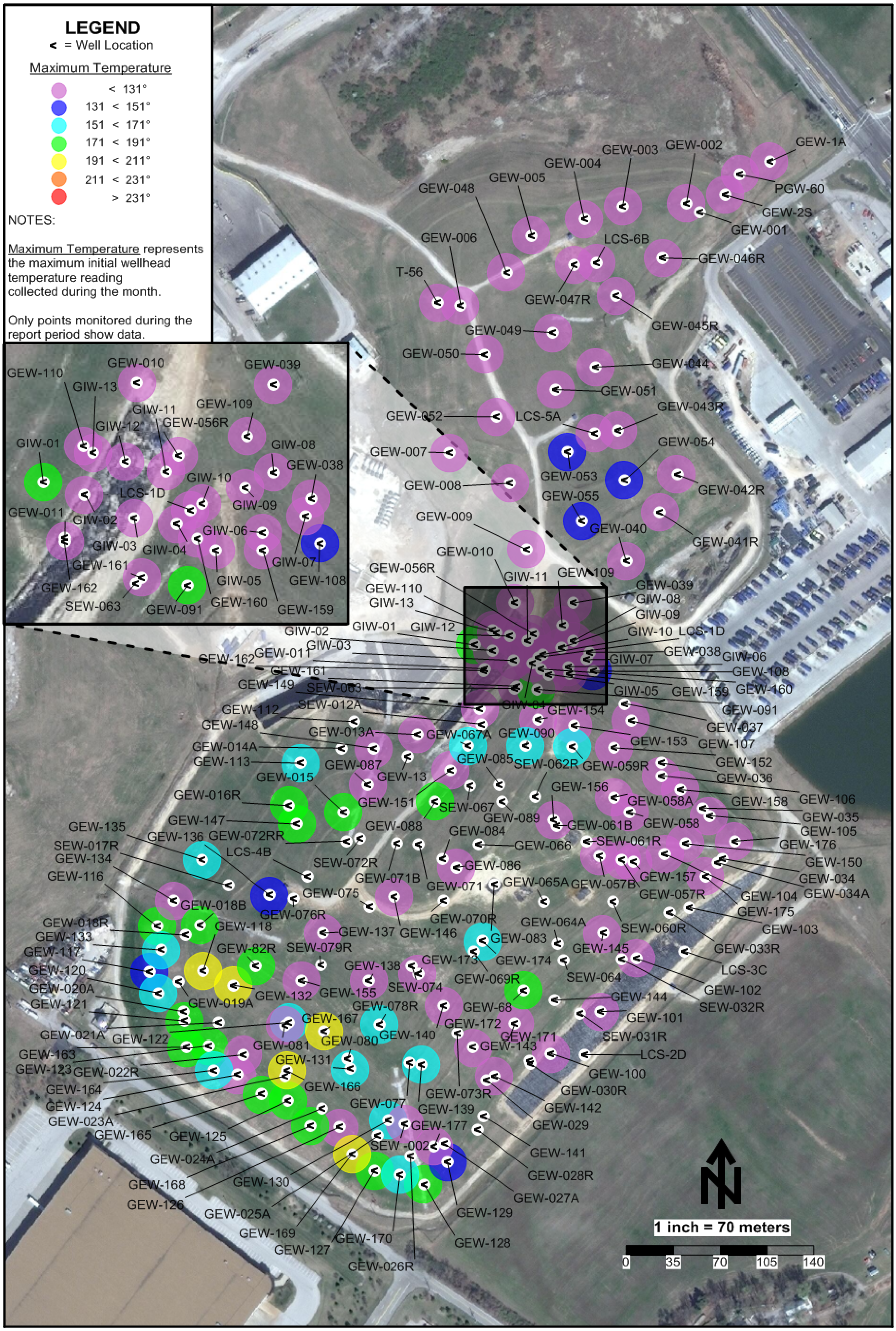
GAS WELL ANALYSIS MAPS



Carbon Monoxide Data Map - November 2017 - Bridgeton Landfill



Hydrogen Data Map - November 2017 - Bridgeton Landfill



Initial Temperature Maximums - November 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	Comments
		(%)					(ppm)	
North Quarry								
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-002	11/6/2017	55	40	ND	3.8	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-02S	11/9/2017	53	37	2.2	7.7	ND	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-003	11/6/2017	50	37	ND	12.0	0.08	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-004	11/6/2017	56	39	ND	4.1	0.08	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-005	11/6/2017	57	36	ND	6.2	0.04	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-006	11/6/2017	59	37	ND	3.2	ND	ND	
GEW-007	7/10/2017	58	40	ND	ND	ND	ND	
GEW-007	9/12/2017	56	40	ND	ND	ND	ND	
GEW-007	11/7/2017	54	36	2.1	7.4	ND	ND	See Note 3
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-008	11/7/2017	54	43	ND	ND	1.2	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-009	11/7/2017	51	39	ND	9	0.6	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-040	11/9/2017	58	39	ND	ND	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-041R	11/9/2017	59	38	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-042R	11/9/2017	55	39	ND	4.5	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-043R	11/9/2017	47	34	4.1	15	0.19	ND	See Note 3

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-044	7/10/2017	57	39	ND	ND	ND	ND	
GEW-044	9/12/2017	55	39	ND	4.4	ND	ND	
GEW-044	11/9/2017	59	39	ND	ND	ND	ND	
GEW-045R	7/12/2017	58	36	ND	4.8	ND	ND	
GEW-045R	8/8/2017	56	41	ND	ND	ND	ND	
GEW-045R	9/12/2017	56	41	ND	ND	ND	ND	
GEW-045R	10/11/2017	57	41	ND	ND	ND	ND	
GEW-045R	11/6/2017	55	41	ND	ND	ND	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-046R	11/6/2017	55	40	ND	4	0.06	ND	
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-047R	11/6/2017	56	41	ND	ND	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-048	11/6/2017	58	39	ND	ND	ND	ND	
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-049	11/6/2017	57	39	ND	3.4	0.06	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-050	11/6/2017	55	36	1.7	7	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-051	11/6/2017	56	40	ND	ND	1.0	ND	
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-052	11/7/2017	52	37	ND	11	0.04	ND	
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-053	11/9/2017	49	42	ND	ND	6.7	56	
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-054	11/9/2017	54	41	ND	ND	2.7	30	
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	
GEW-055	11/9/2017	53	41	ND	3.2	2.4	32	
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

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
Flare Station[2]	12/5/2017	42.4	32.4	3.1	21.0	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	Comments
		(%)					(ppm)	
South Quarry								
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	0.06	ND	
GEW-010	11/6/2017	57	39	ND	ND	0.12	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-022R	11/9/2017	2	44	6.3	22	25	1,700	See Note 3
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-038	11/6/2017	0.77	51	2.1	7.3	38	2,300	
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-039	11/6/2017	46	49	ND	3.2	0.14	ND	
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-056R	11/6/2017	30	42	1.8	10	15	510	
GEW-057R	7/7/2017	16	42	2.8	38	1.3	190	
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-058	11/8/2017	2.4	36	4.1	29	28	1,100	
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-058A	11/8/2017	12	25	7.3	41	15	620	See Note 4
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-059R	11/7/2017	14	43	ND	4.6	37	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-082R	11/13/2017	11	37	ND	25	26	960	
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-086	11/9/2017	19	37	2.7	36	5.1	140	
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-090	11/9/2017	19	43	ND	5.6	31	1,000	
GEW-102	9/8/2017	7.8	42	4.8	17	28	440	
GEW-102	11/9/2017	5.7	46	2.2	7.4	38	640	
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-107	11/7/2017	42	39	2.9	10	6	290	
GEW-108	9/6/2017	29	44	1.7	5.7	18	640	
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-109	11/6/2017	33	38	1.9	19	7.9	190	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-110	11/6/2017	8	17	14	53	8.4	290	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-116	11/13/2017	7.7	58	ND	4.1	28	1,200	
GEW-117	7/10/2017	13	63	ND	4.6	17	970	
GEW-117	9/14/2017	34	51	ND	5.2	7.5	310	
GEW-117	11/9/2017	44	51	ND	ND	0.42	140	
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-118	11/9/2017	1.9	52	2.3	8.5	34	750	
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-120	11/9/2017	17	53	ND	18	11	510	
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-121	11/9/2017	11	48	ND	20	19	910	
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-122	11/9/2017	12	34	ND	36	16	1,500	
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-123	11/9/2017	7.7	58	ND	ND	31	2,300	
GEW-124	9/18/2017	48	49	ND	ND	0.07	ND	
GEW-124	11/9/2017	53	44	ND	ND	0.06	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-125	11/9/2017	3.4	45	2.1	20	28	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-126	11/9/2017	20	46	2.5	24	6.9	530	
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-127	11/9/2017	4.1	54	2.3	14	24	2,600	
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-128	11/9/2017	14	60	ND	6.8	17	1,800	
GEW-129	9/14/2017	0.69	60	ND	ND	35	3,500	
GEW-129	11/9/2017	6.3	45	5.5	19	23	2,500	See Note 3
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-130	11/9/2017	5.9	39	5.9	27	22	1,600	See Note 4
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-131	11/9/2017	20	39	ND	21	19	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-132	11/9/2017	1.8	18	10	61	9.2	500	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-133	11/13/2017	11	49	ND	15	23	1,100	
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	

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Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-134	11/13/2017	10	38	2.3	40	9.6	450	
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-135	11/13/2017	7.3	35	4.4	36	18	890	
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-136	11/13/2017	5.7	26	7.7	40	20	540	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-137	11/13/2017	29	34	1.8	35	0.16	33	
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-138	11/13/2017	6.5	21	8.9	56	7	390	See Note 4
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-139	11/9/2017	1.8	51	ND	ND	43	3,000	
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-147	11/13/2017	11	42	ND	22	23	880	
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-149	11/9/2017	14	32	4.3	43	6.4	310	
GEW-150	7/7/2017	18	56	ND	6.5	17	600	
GEW-150	9/6/2017	9.2	41	6.4	28	15	580	See Note 4
GEW-150	11/8/2017	12	29	7.7	44	6.7	260	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-151	11/13/2017	1.4	43	ND	ND	52	1000	
GEW-152	9/6/2017	24	45	ND	3.8	26	1300	
GEW-152	11/7/2017	24	42	2.2	7.5	23	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-153	11/7/2017	43	37	ND	17	2	77	
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-154	11/9/2017	2.2	10	16	64	7.2	340	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-155	11/13/2017	1.1	13	11	75	ND	79	See Note 3
GEW-156	7/7/2017	25	39	4.2	21	11	210	
GEW-156	11/8/2017	16	23	12	43	6	140	See Note 4
GEW-158	9/6/2017	34	48	ND	ND	15	470	
GEW-158	11/8/2017	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-159	11/7/2017	25	40	3	29	2.9	150	

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Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
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-160	11/13/2017	13	43	ND	20	23	1,100	
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-162	11/9/2017	11	56	2	11	20	950	
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-163	11/7/2017	10	36	6.8	38	8.7	400	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-164	11/7/2017	18	51	3.6	17	11	690	
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-165	11/7/2017	7.8	54	3.7	13	20	1,100	
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-166	11/7/2017	0.81	53	1.7	6.6	38	2,500	
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-167	11/7/2017	0.56	35	7.8	28	28	1,700	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-168	11/7/2017	10	55	1.6	6.5	26	1,700	
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-169	11/7/2017	2.6	46	5.6	22	23	1,700	See Note 4
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-170	11/9/2017	8.3	41	7.1	28	15	1,300	See Note 4
GEW-172	7/7/2017	0.3	52	ND	ND	43	3,200	
GEW-172	11/9/2017	0.33	46	4.3	15	34	2,700	
GEW-173	9/14/2017	28	44	3.2	23	1.8	210	
GEW-173	11/9/2017	8.7	17	12	61	0.21	33	See Note 4
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-174	11/9/2017	5.5	50	ND	ND	42	2,700	
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-175	11/8/2017	17	45	3.5	21	13	550	
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-176	11/8/2017	21	39	5.5	28	6.8	250	See Note 4
GEW-177	7/12/2017	0.29	60	ND	4.4	33	4,700	
GEW-177	11/9/2017	0.32	63	2	6.8	27	4,600	
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-01	11/6/2017	6	61	ND	7.5	23	1,300	
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-02	11/6/2017	1.9	12	14	69	2.8	240	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-03	7/12/2017	0.99	48	4.1	14	32	1,600	
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-03	11/6/2017	2.9	47	2.1	25	23	1,300	
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-04	11/6/2017	1.5	48	4.5	18	27	1,500	
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-05	11/6/2017	0.21	4.1	20	73	2.3	68	See Note 4
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-06	11/6/2017	17	43	1.6	25	14	320	
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-07	11/6/2017	21	62	1.9	11	4.3	250	
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-08	11/6/2017	22	52	1.8	24	0.48	67	
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-09	11/6/2017	4	15	12	67	2.4	150	See Note 4
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-10	11/6/2017	11	31	ND	41	15	470	
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-11	11/6/2017	13	38	1.7	33	14	620	
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-12	11/6/2017	4.9	32	8.3	37	17	1100	See Note 4
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	
GIW-13	11/6/2017	24	56	ND	3.9	15	540	
Flare Station[2]	7/6/2017	11.1	35.2	7.5	35.0	10.0	610	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]	8/2/2017	12.8	37.6	6.7	30.9	10.7	590	See Note 6
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
Flare Station[2]	11/2/2017	11.5	32.3	8.3	37.6	9.5	530	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

November 30, 2017

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: I111506-01/103

Enclosed are results for sample(s) received 11/15/17 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 11/30/17.

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.

CHAIN OF CUSTODY RECORD

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

PAGE: 1 OF 11

TURNAROUND TIME

Standard	☒	48 hours	☐
Same Day	☐	72 hours	☐
24 hours	☐	96 hours	☐
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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg) Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506-01	A7803	-20.1	-5	GEW 46R	11/6/2017	1046	C	LFG	NA	X					-4
-02	A7646	-20.7	-5	GEW 2	11/6/2017	1057	C	LFG	NA	X					-4
-03	A7751	-20.7	-5	GEW 3	11/6/2017	1108	C	LFG	NA	X					-4
-04	4656	-20.9	-5	GEW 4	11/6/2017	1118	C	LFG	NA	X					-4
-05	5309	-20.5	-5	GEW 45R	11/6/2017	1130	C	LFG	NA	X					-4.5
-06	6158	-20.9	-5	GEW 47R	11/6/2017	1142	C	LFG	NA	X					-4.5
-07	A8063	-20.7	-5	GEW 5	11/6/2017	1337	C	LFG	NA	X					-4
-08	5308	-20.5	-5	GEW 48	11/6/2017	1348	C	LFG	NA	X					-4
-09	6144	-20.5	-5	GEW 49	11/6/2017	1414	C	LFG	NA	X					-4
-10	5269	-21.2	-5	GEW 6	11/6/2017	1427	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Ronald Baker COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ronald V Baker	11/14/17		
FedEx		J. King	11/15/17 16:00

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

COMMENTS

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

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

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Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard ☒ 48 hours ☐
Same Day ☐ 72 hours ☐
24 hours ☐ 96 hours ☐
Other:

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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister ID	Cannister Pressure ("hg) Sample Start	Cannister Pressure ("hg) Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506 -11	A8086	-20.4	-5	GEW 50	11/6/2017	1438	C	LFG	NA	X					-4
-12	A8064	-20.5	-5	GEW 51	11/6/2017	1449	C	LFG	NA	X					-4
-13	5813	-21.1	-5	GEW 52	11/7/2017	1419	C	LFG	NA	X					-4
-14	4644	-20.8	-5	GEW 7	11/7/2017	1430	C	LFG	NA	X					-4
-15	3837	-20.5	-5	GEW 8	11/7/2017	1445	C	LFG	NA	X					-4
-16	5306	-20.9	-5	GEW 9	11/7/2017	1457	C	LFG	NA	X					-4
-17	A8072	-20.5	-5	GEW 54	11/9/2017	829	C	LFG	NA	X					-3
-18	3128	-20.7	-5	GEW 55	11/9/2017	902	C	LFG	NA	X					-4
-19	4657	-21	-5	GEW 53	11/9/2017	914	C	LFG	NA	X					-4
-20	A7798	-20.8	-5	GEW 42R	11/9/2017	928	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Ronald Baker COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ronald W Baker Jr	11/14/17		
FedEX		J. Liang	11/15/17 14:00

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

COMMENTS

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PAGE: 3 **OF** 11

TURNAROUND TIME				DELIVERABLES		Condition upon receipt:	
Standard	☒	48 hours	☐	EDD	☐	Sealed Yes ☐	No ☐
Same Day	☐	72 hours	☐	EDF	☐	Intact Yes ☐	No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Chilled _____	deg C
Other:				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
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e-mail:	Nbauer@republicservices.com

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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg)			SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
	Cannister ID	Sample Start	Sample End												
I111506-21	5302	-20.4	-5	GEW 41R	11/9/2017	945	C	LFG	NA	X					-4
-22	6135	-20.2	-5	GEW 40	11/9/2017	956	C	LFG	NA	X					-4.5
-23	3440	-20.2	-5	GEW 43R	11/9/2017	1014	C	LFG	NA	X					-4
-24	6155	-20.7	-5	GEW 44	11/9/2017	1025	C	LFG	NA	X					-4.5
-25	5817	-20.3	-5	GEW 2S	11/9/2017	1101	C	LFG	NA	X					-4.5
-26	5829	-20.4	-5	GEW 162	11/9/2017	1437	C	LFG	NA	X					-4.5
-27	A7793	-19.9	-5	GEW 149	11/9/2017	1447	C	LFG	NA	X					-4.5
-28	5318	-20.4	-5	GEW 154	11/9/2017	1458	C	LFG	NA	X					-4.5
-29	5934	-20.4	-5	GEW 90	11/9/2017	1509	C	LFG	NA	X					-5
-30	A8098	-20.5	-5	GEW 86	11/9/2017	1525	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: **Dave Penoyer** COMPANY: **Republic Services**

SAMPLED BY: **Ronald Baker** COMPANY: **Republic Services** DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ronald Baker	11/14/17		
FedEx		J. Ching	11/15/17 14:00

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

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CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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Same Day [ ] 72 hours [ ]
24 hours [ ] 96 hours [ ]
Other:

DELIVERABLES

EDD [ ]
EDF [ ]
Level 3 [ ]
Level 4 [ ]

PAGE: 4 OF 11

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

Project No.:	
Project Name:	Bridgeton Landfill
Report To:	Nick Bauer
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg) Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
1111506-31	A8088	-21.2	-5	GEW 160	11/13/2017	856	C	LFG	NA	X					-4
-32	A8068	-20.4	-5	GEW 151	11/13/2017	1003	C	LFG	NA	X					-4
-33	5835	-20.7	-5	GEW 138	11/13/2017	1027	C	LFG	NA	X					-4
-34	4648	-21.2	-5	GEW 137	11/13/2017	1046	C	LFG	NA	X					-4
-35	3826	-21.1	-5	GEW 147	11/13/2017	1100	C	LFG	NA	X					-4
							C	LFG	NA	X					
							C	LFG	NA	X					
							C	LFG	NA	X					
							C	LFG	NA	X					
							C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Ronald Baker COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ronald W Baker	11/14/17		
FedEx		J. Pang	11/15/17 1610

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

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CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard [x] 48 hours [ ]
Same Day [ ] 72 hours [ ]
24 hours [ ] 96 hours [ ]
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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg)			SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PASS
	Cannister ID	Sample Start	Sample End												
I111506-36	5819	-20.6	-5	GEW 10	11/6/2017	914	C	LFG	NA	X					-4
-37	A7770	-20.8	-5	GEW 110	11/6/2017	925	C	LFG	NA	X					-4
-38	A7670	-20.7	-5	GIW 13	11/6/2017	935	C	LFG	NA	X					-4
-39	5840	-20.8	-5	GIW 12	11/6/2017	945	C	LFG	NA	X					-4
-40	3827	-20.5	-5	GEW 56R	11/6/2017	955	C	LFG	NA	X					-4
-41	A7814	-20.6	-5	GIW 11	11/6/2017	1034	C	LFG	NA	X					-4
-42	A8096	-20.1	-5	GIW 1	11/6/2017	1046	C	LFG	NA	X					-4.5
-43	3834	-20.4	-5	GIW 2	11/6/2017	1055	C	LFG	NA	X					-4.5
-44	5319	-20.9	-5	GIW 3	11/6/2017	1106	C	LFG	NA	X					-4.5
-45	5313	-20.9	-5	GIW 4	11/6/2017	1116	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	11/14/17		
Fed Ex		[signature]	11/15/17 14:00

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

COMMENTS

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

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

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City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard [X] 48 hours [ ]
Same Day [ ] 72 hours [ ]
24 hours [ ] 96 hours [ ]
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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg) Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506 -46	A8059	-20.7	-5	GIW 10	11/6/2017	1128	C	LFG	NA	X					-4
-47	A7816	-20.6	-5	GIW 5	11/6/2017	1140	C	LFG	NA	X					-4
-48	5927	-20.8	-5	GIW 6	11/6/2017	1409	C	LFG	NA	X					-4
-49	5910	-20.6	-5	GIW 7	11/6/2017	1419	C	LFG	NA	X					-4
-50	6152	-20.7	-5	GIW 8	11/6/2017	1429	C	LFG	NA	X					-4
-51	5320	-20.3	-5	GEW 38	11/6/2017	1438	C	LFG	NA	X					-4
-52	A7764	-20.2	-5	GIW 9	11/6/2017	1448	C	LFG	NA	X					-4
-53	A7819	-20.2	-5	GEW 109	11/6/2017	1458	C	LFG	NA	X					-4
-54	A7648	-20.7	-5	GEW 39	11/6/2017	1508	C	LFG	NA	X					-4
✓ -55	3126	-20.9	-5	GEW 163	11/7/2017	905	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	11/14/17		
RELINQUISHED BY: Fed Ex	DATE/TIME	RECEIVED BY: [signature]	DATE/TIME 11/15/17 14:00
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard [x] 48 hours [ ]
Same Day [ ] 72 hours [ ]
24 hours [ ] 96 hours [ ]
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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg) Cannister ID	Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506-56	A7815	-20.5	-5	GEW 164	11/7/2017	914	C	LFG	NA	X					-4
-57	A7773	-20.9	-5	GEW 165	11/7/2017	924	C	LFG	NA	X					-4
-58	A7649	-20.9	-5	GEW 166	11/7/2017	941	C	LFG	NA	X					-4
-59	3130	-20.6	-5	GEW 167	11/7/2017	952	C	LFG	NA	X					-4
-60	3162	-20.5	-5	GEW 168	11/7/2017	1008	C	LFG	NA	X					-4
-61	A7794	-20.5	-5	GEW 169	11/7/2017	1018	C	LFG	NA	X					-4
-62	5305	-19.8	-5	GEW 159	11/7/2017	1054	C	LFG	NA	X					-4
-63	A7810	-20.5	-5	GEW 153	11/7/2017	1104	C	LFG	NA	X					-4
-64	6141	-20.9	-5	GEW 59R	11/7/2017	1114	C	LFG	NA	X					-4.5
-65	A7767	-20.6	-5	GEW 107	11/7/2017	1124	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	11/14/17		
FedEx		[signature]	11/15/17 1150

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

COMMENTS

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

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

Rev. 03 - 5/7/09

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

Standard	☒	48 hours	☐
Same Day	☐	72 hours	☐
24 hours	☐	96 hours	☐
Other:			

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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister Pressure ("hg)			SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
	Cannister ID	Sample Start	Sample End												
I111506-66	A7795	-20.5	-5	GEW 152	11/7/2017	1134	C	LFG	NA	X					-4.5
-67	5912	-20.6	-5	GEW 58A	11/8/2017	1049	C	LFG	NA	X					-4
-68	5922	-20.7	-5	GEW 58	11/8/2017	1114	C	LFG	NA	X					-3
-69	6151	-20.7	-5	GEW 158	11/8/2017	1131	C	LFG	NA	X					-4
-70	A8067	-20.9	-5	GEW 176	11/8/2017	1142	C	LFG	NA	X					-4.5
-71	5323	-20.5	-5	GEW 175	11/8/2017	1435	C	LFG	NA	X					-5
-72	5268	-20.3	-5	GEW 150	11/8/2017	1448	C	LFG	NA	X					-5
-73	6143	-20.6	-5	GEW 156	11/8/2017	1526	C	LFG	NA	X					-5
-74	5816	-21.1	-5	GEW 102	11/9/2017	907	C	LFG	NA	X					-4
-75	5905	-21.1	-5	GEW 174	11/9/2017	921	C	LFG	NA	X					-4

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services

SAMPLED BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME 11/14/17	RECEIVED BY	DATE/TIME
RELINQUISHED BY FedEx	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME: Standard ☒ | 48 hours ☐ | Same Day ☐ | 72 hours ☐ | 24 hours ☐ | 96 hours ☐ | Other:

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:	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	Canister ID	Canister Pressure ("hg) Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVA-TION	ANALYSIS REQUEST: D1946 + CO, H2					INITIAL PRESS
I111506-76	A7808	-20.7	-5	GEW 173	11/9/2017	935	C	LFG	NA	X					-4.5
-77	5832	-20.7	-5	GEW 172	11/9/2017	952	C	LFG	NA	X					-5
-78	A8090	-21	-5	GEW 139	11/9/2017	1037	C	LFG	NA	X					-4.5
-79	A7804	-20.8	-5	GEW 177	11/9/2017	1050	C	LFG	NA	X					-5
-80	A7747	-17.5	-5	GEW 129	11/9/2017	1100	C	LFG	NA	X					-5
-81	A7805	-20.3	-5	GEW 128	11/9/2017	1109	C	LFG	NA	X					-5
-82	5815	-19.5	-5	GEW 127	11/9/2017	1126	C	LFG	NA	X					-5
-83	A7643	-20.1	-5	GEW 170	11/9/2017	1135	C	LFG	NA	X					-5
-84	6130	-20.1	-5	GEW 130	11/9/2017	1326	C	LFG	NA	X					-5
-85	A7761	-20.4	-5	GEW 126	11/9/2017	1340	C	LFG	NA	X					-5

AUTHORIZATION TO PERFORM WORK: Dave Penoyer COMPANY: Republic Services
SAMPLED BY: Anthony Kimutis COMPANY: Republic Services DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	11/14/17		
FedEx		J. Gang	11/15/17 1600

COMMENTS

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

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

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

Rev. 03 - 5/7/09

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

PAGE: 10 of 11

TURNAROUND TIME: Standard [X] · Same Day [ ] · 24 hours [ ] · 48 hours [ ] · 72 hours [ ] · 96 hours [ ] · 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:	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

ANALYSIS REQUEST

LAB USE ONLY	Cannister ID	Cannister Pressure ("hg) Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506-86	A7781	-20.8	-5	GEW 125	11/9/2017	1351	C	LFG	NA	X					-5
-87	5304	-20.6	-5	GEW 131	11/9/2017	1400	C	LFG	NA	X					-5
-88	3131	-20.7	-5	GEW 122	11/9/2017	1413	C	LFG	NA	X					-5
-89	A8055	-20.9	-5	GEW 124	11/9/2017	1427	C	LFG	NA	X					-5
-90	A7665	-20.6	-5	GEW 121	11/9/2017	1438	C	LFG	NA	X					-5
-91	6146	-20.5	-5	GEW 123	11/9/2017	1447	C	LFG	NA	X					-5
-92	5906	-20.6	-5	GEW 22R	11/9/2017	1456	C	LFG	NA	X					-5
-93	5831	-21.1	-5	GEW 132	11/9/2017	1516	C	LFG	NA	X					-5
-94	5823	-20.8	-5	GEW 118	11/9/2017	1528	C	LFG	NA	X					-5
-95	A7663	-20.9	-5	GEW 120	11/9/2017	1542	C	LFG	NA	X					-5

AUTHORIZATION TO PERFORM WORK: **Dave Penoyer** COMPANY: **Republic Services**

SAMPLED BY: **Anthony Kimutis** COMPANY: **Republic Services** DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	11/14/17		
FedEX		[signature]	11/15/17 / 1100

COMMENTS

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

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

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

AirTECHNOLOGY *Laboratories, Inc.*

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME: Standard [X] | Same Day [ ] | 24 hours [ ] | 48 hours [ ] | 72 hours [ ] | 96 hours [ ] | Other:

DELIVERABLES: EDD [ ] | EDF [ ] | Level 3 [ ] | Level 4 [ ]

PAGE: 11 OF 11

Condition upon receipt: Sealed Yes [ ] No [ ] | Intact Yes [ ] No [ ] | Chilled ______ deg C

Project No.:
Project Name: Bridgeton Landfill
Report To: Nick Bauer
Company: Republic Services
Street: 13570 St. Charles Rock Rd.
City/State/Zip: Bridgeton , MO 63044
Phone& Fax: 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

ANALYSIS REQUEST

LAB USE ONLY	Cannister ID	Cannister Pressure ("hg) Sample Start	Sample End	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					INITIAL PRESS
I111506-96	A8097	-20.7	-5	GEW 117	11/9/2017	1554	C	LFG	NA	X					-5
-97	A7760	-20.8	-5	GEW 133	11/13/2017	944	C	LFG	NA	X					-4
-98	5821	-21.5	-5	GEW 116	11/13/2017	954	C	LFG	NA	X					-4
-99	A7766	-20.9	-5	GEW 134	11/13/2017	1005	C	LFG	NA	X					-4
-100	A7778	-21.5	-5	GEW 82R	11/13/2017	1018	C	LFG	NA	X					-4
-101	A8071	-21.2	-5	GEW 155	11/13/2017	1029	C	LFG	NA	X					-4
-102	6131	-21.2	-5	GEW 135	11/13/2017	1043	C	LFG	NA	X					-4
-103	5907	-20.5	-5	GEW 136	11/13/2017	1055	C	LFG	NA	X					-4
							C	LFG	NA	X					
							C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: **Dave Penoyer** COMPANY: **Republic Services**

SAMPLED BY: **Anthony Kimutis** COMPANY: **Republic Services** DATE/TIME

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Ronald W Baker Jr	11/14/17		
FedEx		J. Giang	11/15/17 1120

COMMENTS

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-01		I111506-02		I111506-03		I111506-04	
Client Sample I.D.:	GEW 46R		GEW 2		GEW 3		GEW 4	
Date/Time Sampled:	11/6/17 10:46		11/6/17 10:57		11/6/17 11:08		11/6/17 11:18	
Date/Time Analyzed:	11/17/17 15:06		11/17/17 15:21		11/17/17 15:35		11/17/17 15:50	
QC Batch No.:	171117GC8A2		171117GC8A2		171117GC8A2		171117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.061 d	0.030	ND d	0.030	0.082 d	0.030	0.081 d	0.030
Carbon Dioxide	40	0.030	40	0.030	37	0.030	39	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	4.0	3.0	3.8	3.0	12	3.0	4.1	3.0
Methane	55	0.0030	55	0.0030	50	0.0030	56	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-05		I111506-06		I111506-07		I111506-08	
Client Sample I.D.:	GEW 45R		GEW 47R		GEW 5		GEW 48	
Date/Time Sampled:	11/6/17 11:30		11/6/17 11:42		11/6/17 13:37		11/6/17 13:48	
Date/Time Analyzed:	11/17/17 16:04		11/17/17 16:19		11/17/17 16:34		11/17/17 16:48	
QC Batch No.:	171117GC8A2		171117GC8A2		171117GC8A2		171117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.1		3.1		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.031	ND d	0.031	0.035 d	0.030	ND d	0.030
Carbon Dioxide	41	0.031	41	0.031	36	0.030	39	0.030
Oxygen/Argon	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Nitrogen	ND	3.1	ND	3.1	6.2	3.0	ND	3.0
Methane	55	0.0031	56	0.0031	57	0.0030	58	0.0030
Carbon Monoxide	ND	0.0031	ND	0.0031	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-09		I111506-10		I111506-11		I111506-12	
Client Sample I.D.:	GEW 49		GEW 6		GEW 50		GEW 51	
Date/Time Sampled:	11/6/17 14:14		11/6/17 14:27		11/6/17 14:38		11/6/17 14:49	
Date/Time Analyzed:	11/17/17 17:03		11/17/17 17:17		11/17/17 17:32		11/17/17 17:47	
QC Batch No.:	171117GC8A2		171117GC8A2		171117GC8A2		171117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.061 d	0.030	ND d	0.030	0.054 d	0.030	1.0 d	0.030
Carbon Dioxide	39	0.030	37	0.030	36	0.030	40	0.030
Oxygen/Argon	ND	1.5	ND	1.5	1.7	1.5	ND	1.5
Nitrogen	3.4	3.0	3.2	3.0	7.0	3.0	ND	3.0
Methane	57	0.0030	59	0.0030	55	0.0030	56	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-13		I111506-14		I111506-15		I111506-16	
Client Sample I.D.:	GEW 52		GEW 7		GEW 8		GEW 9	
Date/Time Sampled:	11/7/17 14:19		11/7/17 14:30		11/7/17 14:45		11/7/17 14:57	
Date/Time Analyzed:	11/17/17 18:01		11/17/17 18:16		11/17/17 18:30		11/17/17 18:45	
QC Batch No.:	171117GC8A2		171117GC8A2		171117GC8A2		171117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.044 d	0.030	ND d	0.030	1.2 d	0.030	0.60 d	0.030
Carbon Dioxide	37	0.030	36	0.030	43	0.030	39	0.030
Oxygen/Argon	ND	1.5	2.1	1.5	ND	1.5	ND	1.5
Nitrogen	11	3.0	7.4	3.0	ND	3.0	9.0	3.0
Methane	52	0.0030	54	0.0030	54	0.0030	51	0.0030
Carbon Monoxide	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-17		I111506-18		I111506-19		I111506-20	
Client Sample I.D.:	GEW 54		GEW 55		GEW 53		GEW 42R	
Date/Time Sampled:	11/9/17 8:29		11/9/17 9:02		11/9/17 9:14		11/9/17 9:28	
Date/Time Analyzed:	11/17/17 19:00		11/17/17 19:14		11/17/17 19:29		11/17/17 19:43	
QC Batch No.:	171117GC8A2		171117GC8A2		171117GC8A2		171117GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	2.8		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	2.7 d	0.028	2.4 d	0.030	6.7	3.0	ND d	0.030
Carbon Dioxide	41	0.028	41	0.030	42	0.030	39	0.030
Oxygen/Argon	ND	1.4	ND	1.5	ND	1.5	ND	1.5
Nitrogen	ND	2.8	3.2	3.0	ND	3.0	4.5	3.0
Methane	54	0.0028	53	0.0030	49	0.0030	55	0.0030
Carbon Monoxide	0.0030	0.0028	0.0032	0.0030	0.0056	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-21		I111506-22		I111506-23		I111506-24	
Client Sample I.D.:	GEW 41R		GEW 40		GEW 43R		GEW 44	
Date/Time Sampled:	11/9/17 9:45		11/9/17 9:56		11/9/17 10:14		11/9/17 10:25	
Date/Time Analyzed:	11/18/17 12:03		11/18/17 12:17		11/18/17 12:32		11/18/17 12:46	
QC Batch No.:	171118GC8A1		171118GC8A1		171118GC8A1		171118GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.1		3.0		3.1	
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**
Hydrogen	ND d	0.030	ND d	0.031	0.19 d	0.030	ND d	3.1
Carbon Dioxide	38	0.030	39	0.031	34	0.030	39	0.031
Oxygen/Argon	ND	1.5	ND	1.5	4.1	1.5	ND	1.5
Nitrogen	ND	3.0	ND	3.1	15	3.0	ND	3.1
Methane	59	0.0030	58	0.0031	47	0.0030	59	0.0031
Carbon Monoxide	ND	0.0030	ND	0.0031	ND	0.0030	ND	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171129GC8A3, 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-25		I111506-26		I111506-27		I111506-28	
Client Sample I.D.:	GEW 2S		GEW 162		GEW 149		GEW 154	
Date/Time Sampled:	11/9/17 11:01		11/9/17 14:37		11/9/17 14:47		11/9/17 14:58	
Date/Time Analyzed:	11/18/17 13:01		11/18/17 13:15		11/18/17 13:30		11/18/17 13:45	
QC Batch No.:	171118GC8A1		171118GC8A1		171118GC8A1		171118GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.1		3.1		3.1		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	ND d	0.031	20	3.1	6.4	3.1	7.2	3.1
Carbon Dioxide	37	0.031	56	0.031	32	0.031	10	0.031
Oxygen/Argon	2.2	1.5	2.0	1.5	4.3	1.5	16	1.5
Nitrogen	7.7	3.1	11	3.1	43	3.1	64	3.1
Methane	53	0.0031	11	0.0031	14	0.0031	2.2	0.0031
Carbon Monoxide	ND	0.0031	0.095	0.0031	0.031	0.0031	0.034	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-29		I111506-30		I111506-31		I111506-32	
Client Sample I.D.:	GEW 90		GEW 86		GEW 160		GEW 151	
Date/Time Sampled:	11/9/17 15:09		11/9/17 15:25		11/13/17 8:56		11/13/17 10:03	
Date/Time Analyzed:	11/18/17 13:59		11/18/17 14:14		11/18/17 14:28		11/18/17 14:43	
QC Batch No.:	171118GC8A1		171118GC8A1		171118GC8A1		171118GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.2		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	31	3.2	5.1	3.0	23	3.0	52	3.0
Carbon Dioxide	43	0.032	37	0.030	43	0.030	43	0.030
Oxygen/Argon	ND	1.6	2.7	1.5	ND	1.5	ND	1.5
Nitrogen	5.6	3.2	36	3.0	20	3.0	ND	3.0
Methane	19	0.0032	19	0.0030	13	0.0030	1.4	0.0030
Carbon Monoxide	0.10	0.0032	0.014	0.0030	0.11	0.0030	0.10	0.0030

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

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-33		I111506-34		I111506-35		I111506-36	
Client Sample I.D.:	GEW 138		GEW 137		GEW 147		GEW 10	
Date/Time Sampled:	11/13/17 10:27		11/13/17 10:46		11/13/17 11:00		11/6/17 9:14	
Date/Time Analyzed:	11/18/17 14:57		11/18/17 15:12		11/18/17 15:26		11/18/17 15:41	
QC Batch No.:	171118GC8A1		171118GC8A1		171118GC8A1		171118GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	7.0	3.0	0.16 d	0.030	23	3.0	0.12 d	0.030
Carbon Dioxide	21	0.030	34	0.030	42	0.030	39	0.030
Oxygen/Argon	8.9	1.5	1.8	1.5	ND	1.5	ND	1.5
Nitrogen	56	3.0	35	3.0	22	3.0	ND	3.0
Methane	6.5	0.0030	29	0.0030	11	0.0030	57	0.0030
Carbon Monoxide	0.039	0.0030	0.0033	0.0030	0.088	0.0030	ND	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-37		I111506-38		I111506-39		I111506-40	
Client Sample I.D.:	GEW 110		GIW 13		GIW 12		GEW 56R	
Date/Time Sampled:	11/6/17 9:25		11/6/17 9:35		11/6/17 9:45		11/6/17 9:55	
Date/Time Analyzed:	11/19/17 13:03		11/19/17 13:17		11/19/17 13:32		11/19/17 13:47	
QC Batch No.:	171119GC8A1		171119GC8A1		171119GC8A1		171119GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	8.4	3.0	15	3.0	17	3.0	15	3.0
Carbon Dioxide	17	0.059	56	0.059	32	0.059	42	0.059
Oxygen/Argon	14	1.5	ND	1.5	8.3	1.5	1.8	1.5
Nitrogen	53	3.0	3.9	3.0	37	3.0	10	3.0
Methane	8.0	0.0030	24	0.0030	4.9	0.0030	30	0.0030
Carbon Monoxide	0.029	0.0030	0.054	0.0030	0.11	0.0030	0.051	0.0030

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

Reviewed/Approved By: _____ Date 11/20/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-41		I111506-42		I111506-43		I111506-44	
Client Sample I.D.:	GIW 11		GIW 1		GIW 2		GIW 3	
Date/Time Sampled:	11/6/17 10:34		11/6/17 10:46		11/6/17 10:55		11/6/17 11:06	
Date/Time Analyzed:	11/19/17 14:01		11/19/17 14:16		11/19/17 14:30		11/19/17 14:45	
QC Batch No.:	171119GC8A1		171119GC8A1		171119GC8A1		171119GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.1		3.1		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	14	3.0	23	3.1	2.8 d	0.031	23	3.1
Carbon Dioxide	38	0.059	61	0.061	12	0.061	47	0.061
Oxygen/Argon	1.7	1.5	ND	1.5	14	1.5	2.1	1.5
Nitrogen	33	3.0	7.5	3.1	69	3.1	25	3.1
Methane	13	0.0030	6.0	0.0031	1.9	0.0031	2.9	0.0031
Carbon Monoxide	0.062	0.0030	0.13	0.0031	0.024	0.0031	0.13	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-45		I111506-46		I111506-47		I111506-48	
Client Sample I.D.:	GIW 4		GIW 10		GIW 5		GIW 6	
Date/Time Sampled:	11/6/17 11:16		11/6/17 11:28		11/6/17 11:40		11/6/17 14:09	
Date/Time Analyzed:	11/19/17 15:00		11/19/17 15:14		11/19/17 15:29		11/19/17 15:43	
QC Batch No.:	171119GC8A1		171119GC8A1		171119GC8A1		171119GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	27	3.0	15	3.0	2.3 d	0.030	14	3.0
Carbon Dioxide	48	0.059	31	0.059	4.1	0.059	43	0.059
Oxygen/Argon	4.5	1.5	ND	1.5	20	1.5	1.6	1.5
Nitrogen	18	3.0	41	3.0	73	3.0	25	3.0
Methane	1.5	0.0030	11	0.0030	0.21	0.0030	17	0.0030
Carbon Monoxide	0.15	0.0030	0.047	0.0030	0.0068	0.0030	0.032	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-49		I111506-50		I111506-51		I111506-52	
Client Sample I.D.:	GIW 7		GIW 8		GEW 38		GIW 9	
Date/Time Sampled:	11/6/17 14:19		11/6/17 14:29		11/6/17 14:38		11/6/17 14:48	
Date/Time Analyzed:	11/19/17 15:58		11/19/17 16:12		11/19/17 16:27		11/19/17 16:42	
QC Batch No.:	171119GC8A1		171119GC8A1		171119GC8A1		171119GC8A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	4.3	3.0	0.48 d	0.030	38	3.0	2.4 d	0.030
Carbon Dioxide	62	0.059	52	0.059	51	0.059	15	0.059
Oxygen/Argon	1.9	1.5	1.8	1.5	2.1	1.5	12	1.5
Nitrogen	11	3.0	24	3.0	7.3	3.0	67	3.0
Methane	21	0.0030	22	0.0030	0.77	0.0030	4.0	0.0030
Carbon Monoxide	0.025	0.0030	0.0067	0.0030	0.23	0.0030	0.015	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: MJ for
Mark Johnson
Operations Manager

Date 11/30/17

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-53		I111506-54		I111506-55		I111506-56	
Client Sample I.D.:	GEW 109		GEW 39		GEW 163		GEW 164	
Date/Time Sampled:	11/6/17 14:58		11/6/17 15:08		11/7/17 9:05		11/7/17 9:14	
Date/Time Analyzed:	11/19/17 16:56		11/19/17 17:11		11/28/17 16:34		11/28/17 16:49	
QC Batch No.:	171119GC8A1		171119GC8A1		171128GC8A1		171128GC8A1	
Analyst Initials:	VM		VM		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	7.9	3.0	0.14 d	0.030	8.7	3.0	11	3.0
Carbon Dioxide	38	0.059	49	0.059	36	0.030	51	0.030
Oxygen/Argon	1.9	1.5	ND	1.5	6.8	1.5	3.6	1.5
Nitrogen	19	3.0	3.2	3.0	38	3.0	17	3.0
Methane	33	0.0030	46	0.0030	10.0	0.0030	18	0.0030
Carbon Monoxide	0.019	0.0030	ND	0.0030	0.040	0.0030	0.069	0.0030

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ for
Mark Johnson
Operations Manager

Date 11/30/17

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-57		I111506-58		I111506-59		I111506-60	
Client Sample I.D.:	GEW 165		GEW 166		GEW 167		GEW 168	
Date/Time Sampled:	11/7/17 9:24		11/7/17 9:41		11/7/17 9:52		11/7/17 10:08	
Date/Time Analyzed:	11/28/17 17:03		11/28/17 17:18		11/28/17 17:32		11/28/17 17:47	
QC Batch No.:	171128GC8A1		171128GC8A1		171128GC8A1		171128GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	20	3.0	38	3.0	28	3.0	26	3.0
Carbon Dioxide	54	0.030	53	0.030	35	0.030	55	0.030
Oxygen/Argon	3.7	1.5	1.7	1.5	7.8	1.5	1.6	1.5
Nitrogen	13	3.0	6.6	3.0	28	3.0	6.5	3.0
Methane	7.8	0.0030	0.81	0.0030	0.56	0.0030	10	0.0030
Carbon Monoxide	0.11	0.0030	0.25	0.0030	0.17	0.0030	0.17	0.0030

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

Reviewed/Approved By: _____ for
Mark Johnson
Operations Manager

Date 11/30/17

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-61		I111506-62		I111506-63		I111506-64	
Client Sample I.D.:	GEW 169		GEW 159		GEW 153		GEW 59R	
Date/Time Sampled:	11/7/17 10:18		11/7/17 10:54		11/7/17 11:04		11/7/17 11:14	
Date/Time Analyzed:	11/28/17 18:02		11/28/17 19:48		11/28/17 20:02		11/28/17 20:17	
QC Batch No.:	171128GC8A1		171128GC8A1		171128GC8A1		171128GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	23	3.0	2.9 d	0.030	2.0 d	0.030	37	3.1
Carbon Dioxide	46	0.030	40	0.030	37	0.030	43	0.031
Oxygen/Argon	5.6	1.5	3.0	1.5	ND	1.5	ND	1.5
Nitrogen	22	3.0	29	3.0	17	3.0	4.6	3.1
Methane	2.6	0.0030	25	0.0030	43	0.0030	14	0.0031
Carbon Monoxide	0.17	0.0030	0.015	0.0030	0.0077	0.0030	0.13	0.0031

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-65		I111506-66		I111506-67		I111506-68	
Client Sample I.D.:	GEW 107		GEW 152		GEW 58A		GEW 58	
Date/Time Sampled:	11/7/17 11:24		11/7/17 11:34		11/8/17 10:49		11/8/17 11:14	
Date/Time Analyzed:	11/28/17 20:32		11/28/17 20:46		11/28/17 21:01		11/28/17 21:15	
QC Batch No.:	171128GC8A1		171128GC8A1		171128GC8A1		171128GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.0		2.8	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	6.0	3.0	23	3.1	15	3.0	28	2.8
Carbon Dioxide	39	0.030	42	0.031	25	0.030	36	0.028
Oxygen/Argon	2.9	1.5	2.2	1.5	7.3	1.5	4.1	1.4
Nitrogen	10	3.0	7.5	3.1	41	3.0	29	2.8
Methane	42	0.0030	24	0.0031	12	0.0030	2.4	0.0028
Carbon Monoxide	0.029	0.0030	0.13	0.0031	0.062	0.0030	0.11	0.0028

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
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Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-69		I111506-70		I111506-71		I111506-72	
Client Sample I.D.:	GEW 158		GEW 176		GEW 175		GEW 150	
Date/Time Sampled:	11/8/17 11:31		11/8/17 11:42		11/8/17 14:35		11/8/17 14:48	
Date/Time Analyzed:	11/28/17 21:30		11/28/17 21:44		11/29/17 6:22		11/29/17 6:37	
QC Batch No.:	171128GC8A1		171128GC8A1		171129GC8A1		171129GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.1		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	15	3.0	6.8	3.1	13	3.2	6.7	3.2
Carbon Dioxide	48	0.030	39	0.031	45	0.032	29	0.032
Oxygen/Argon	ND	1.5	5.5	1.5	3.5	1.6	7.7	1.6
Nitrogen	ND	3.0	28	3.1	21	3.2	44	3.2
Methane	34	0.0030	21	0.0031	17	0.0032	12	0.0032
Carbon Monoxide	0.047	0.0030	0.025	0.0031	0.055	0.0032	0.026	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
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Reviewed/Approved By: _____ Date 11/20/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-73		I111506-74		I111506-75		I111506-76	
Client Sample I.D.:	GEW 156		GEW 102		GEW 174		GEW 173	
Date/Time Sampled:	11/8/17 15:26		11/9/17 9:07		11/9/17 9:21		11/9/17 9:35	
Date/Time Analyzed:	11/29/17 6:51		11/29/17 7:06		11/29/17 7:20		11/29/17 7:35	
QC Batch No.:	171129GC8A1		171129GC8A1		171129GC8A1		171129GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.0		3.0		3.1	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	6.0	3.2	38	3.0	42	3.0	0.21 d	0.031
Carbon Dioxide	23	0.032	46	0.030	50	0.030	17	0.031
Oxygen/Argon	12	1.6	2.2	1.5	ND	1.5	12	1.5
Nitrogen	43	3.2	7.4	3.0	ND	3.0	61	3.1
Methane	16	0.0032	5.7	0.0030	5.5	0.0030	8.7	0.0031
Carbon Monoxide	0.014	0.0032	0.064	0.0030	0.27	0.0030	0.0033	0.0031

Results normalized including non-methane hydrocarbons
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d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-77		I111506-78		I111506-79		I111506-80	
Client Sample I.D.:	GEW 172		GEW 139		GEW 177		GEW 129	
Date/Time Sampled:	11/9/17 9:52		11/9/17 10:37		11/9/17 10:50		11/9/17 11:00	
Date/Time Analyzed:	11/29/17 7:49		11/29/17 8:04		11/29/17 8:18		11/29/17 8:33	
QC Batch No.:	171129GC8A1		171129GC8A1		171129GC8A1		171129GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.1		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	34	3.2	43	3.1	27	3.2	23	3.2
Carbon Dioxide	46	0.032	51	0.031	63	0.032	45	0.032
Oxygen/Argon	4.3	1.6	ND	1.5	2.0	1.6	5.5	1.6
Nitrogen	15	3.2	ND	3.1	6.8	3.2	19	3.2
Methane	0.33	0.0032	1.8	0.0031	0.32	0.0032	6.3	0.0032
Carbon Monoxide	0.27	0.0032	0.30	0.0031	0.46	0.0032	0.25	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
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Reviewed/Approved By: _____ Date 11/30/17
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Operations Manager

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-81		I111506-82		I111506-83		I111506-84	
Client Sample I.D.:	GEW 128		GEW 127		GEW 170		GEW 130	
Date/Time Sampled:	11/9/17 11:09		11/9/17 11:26		11/9/17 11:35		11/9/17 13:26	
Date/Time Analyzed:	11/29/17 8:47		11/29/17 9:02		11/29/17 9:16		11/29/17 9:31	
QC Batch No.:	171129GC8A1		171129GC8A1		171129GC8A1		171129GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	17	3.2	24	3.2	15	3.2	22	3.2
Carbon Dioxide	60	0.032	54	0.032	41	0.032	39	0.032
Oxygen/Argon	ND	1.6	2.3	1.6	7.1	1.6	5.9	1.6
Nitrogen	6.8	3.2	14	3.2	28	3.2	27	3.2
Methane	14	0.0032	4.1	0.0032	8.3	0.0032	5.9	0.0032
Carbon Monoxide	0.18	0.0032	0.26	0.0032	0.13	0.0032	0.16	0.0032

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Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-85		I111506-86		I111506-87		I111506-88	
Client Sample I.D.:	GEW 126		GEW 125		GEW 131		GEW 122	
Date/Time Sampled:	11/9/17 13:40		11/9/17 13:51		11/9/17 14:00		11/9/17 14:13	
Date/Time Analyzed:	11/29/17 9:45		11/29/17 10:00		11/29/17 10:15		11/29/17 10:29	
QC Batch No.:	171129GC8A1		171129GC8A1		171129GC8A1		171129GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	6.9	3.2	28	3.2	19	3.2	16	3.2
Carbon Dioxide	46	0.032	45	0.032	39	0.032	34	0.032
Oxygen/Argon	2.5	1.6	2.1	1.6	ND	1.6	ND	1.6
Nitrogen	24	3.2	20	3.2	21	3.2	36	3.2
Methane	20	0.0032	3.4	0.0032	20	0.0032	12	0.0032
Carbon Monoxide	0.053	0.0032	0.18	0.0032	0.14	0.0032	0.15	0.0032

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Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-89		I111506-90		I111506-91		I111506-92	
Client Sample I.D.:	GEW 124		GEW 121		GEW 123		GEW 22R	
Date/Time Sampled:	11/9/17 14:27		11/9/17 14:38		11/9/17 14:47		11/9/17 14:56	
Date/Time Analyzed:	11/29/17 10:44		11/29/17 10:58		11/29/17 13:12		11/29/17 13:27	
QC Batch No.:	171129GC8A1		171129GC8A1		171129GC8A2		171129GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	0.059 d	0.032	19	3.2	31	3.2	25	3.2
Carbon Dioxide	44	0.032	48	0.032	58	0.032	44	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	6.3	1.6
Nitrogen	ND	3.2	20	3.2	ND	3.2	22	3.2
Methane	53	0.0032	11	0.0032	7.7	0.0032	2.0	0.0032
Carbon Monoxide	ND	0.0032	0.091	0.0032	0.23	0.0032	0.17	0.0032

Results normalized including non-methane hydrocarbons
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d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-93		I111506-94		I111506-95		I111506-96	
Client Sample I.D.:	GEW 132		GEW 118		GEW 120		GEW 117	
Date/Time Sampled:	11/9/17 15:16		11/9/17 15:28		11/9/17 15:42		11/9/17 15:54	
Date/Time Analyzed:	11/29/17 13:41		11/29/17 13:56		11/29/17 14:10		11/29/17 14:25	
QC Batch No.:	171129GC8A2		171129GC8A2		171129GC8A2		171129GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		3.2		3.2		3.2	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	9.2	3.2	34	3.2	11	3.2	0.42 d	0.032
Carbon Dioxide	18	0.032	52	0.032	53	0.032	51	0.032
Oxygen/Argon	10	1.6	2.3	1.6	ND	1.6	ND	1.6
Nitrogen	61	3.2	8.5	3.2	18	3.2	ND	3.2
Methane	1.8	0.0032	1.9	0.0032	17	0.0032	44	0.0032
Carbon Monoxide	0.050	0.0032	0.075	0.0032	0.051	0.0032	0.014	0.0032

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d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
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Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-97		I111506-98		I111506-99		I111506-100	
Client Sample I.D.:	GEW 133		GEW 116		GEW 134		GEW 82R	
Date/Time Sampled:	11/13/17 9:44		11/13/17 9:54		11/13/17 10:05		11/13/17 10:18	
Date/Time Analyzed:	11/29/17 14:40		11/29/17 14:54		11/29/17 15:09		11/29/17 15:23	
QC Batch No.:	171129GC8A2		171129GC8A2		171129GC8A2		171129GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.0		3.0	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	23	3.0	28	3.0	9.6	3.0	26	3.0
Carbon Dioxide	49	0.030	58	0.030	38	0.030	37	0.030
Oxygen/Argon	ND	1.5	ND	1.5	2.3	1.5	ND	1.5
Nitrogen	15	3.0	4.1	3.0	40	3.0	25	3.0
Methane	11	0.0030	7.7	0.0030	10	0.0030	11	0.0030
Carbon Monoxide	0.11	0.0030	0.12	0.0030	0.045	0.0030	0.096	0.0030

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Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 11/15/17
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	I111506-101		I111506-102		I111506-103			
Client Sample I.D.:	GEW 155		GEW 135		GEW 136			
Date/Time Sampled:	11/13/17 10:29		11/13/17 10:43		11/13/17 10:55			
Date/Time Analyzed:	11/29/17 15:38		11/29/17 15:52		11/29/17 16:07			
QC Batch No.:	171129GC8A2		171129GC8A2		171129GC8A2			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	3.0		3.0		3.0			
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**		
Hydrogen	ND d	0.030	18	3.0	20	3.0		
Carbon Dioxide	13	0.030	35	0.030	26	0.030		
Oxygen/Argon	11	1.5	4.4	1.5	7.7	1.5		
Nitrogen	75	3.0	36	3.0	40	3.0		
Methane	1.1	0.0030	7.3	0.0030	5.7	0.0030		
Carbon Monoxide	0.0079	0.0030	0.089	0.0030	0.054	0.0030		

Results normalized including non-methane hydrocarbons
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RL = Reporting Limit
d = Reported from a secondary analysis. QC Batch: 171130GC8A1

Reviewed/Approved By: _____ Date 11/30/17
Mark Johnson
Operations Manager

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QC Batch No: 171117GC8A2
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/17/17 14:36			11/17/17 13:46		11/17/17 14:01					
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	4.14	83	3.97	79	4.0	70	130	30
Carbon Dioxide	ND	0.010	10	9.06	90	8.72	87	3.8	70	130	30
Oxygen/Argon	ND	0.50	15	15.8	107	15.3	103	3.1	70	130	30
Nitrogen	ND	1.0	70	70.9	101	68.6	98	3.2	70	130	30
Methane	ND	0.0010	0.10	0.102	102	0.102	102	0.4	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.102	102	0.101	101	0.4	70	130	30

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

Reviewed/Approved By: _____ Date 11/29/17
Mark Johnson
Operations Manager

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QC Batch No: 171118GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/18/17 11:47			11/18/17 10:59		11/18/17 11:16					
Analyst Initials:	VM			VM		VM					
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	3.89	78	3.95	79	1.7	70	130	30
Carbon Dioxide	ND	0.010	10	8.97	90	9.31	93	3.8	70	130	30
Oxygen/Argon	ND	0.50	15	16.1	109	16.3	110	1.3	70	130	30
Nitrogen	ND	1.0	70	71.9	103	72.8	104	1.3	70	130	30
Methane	ND	0.0010	0.10	0.119	119	0.118	118	0.9	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.1000	100	0.100	100	0.1	70	130	30

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

Reviewed/Approved By: _____ Date 11/29/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No: 171119GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/19/17 12:39			11/19/17 12:10		11/19/17 12:25					
Analyst Initials:	VM			VM		VM					
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	5.88	118	5.76	115	2.0	70	130	30
Carbon Dioxide	ND	0.020	10	10.1	101	9.69	97	4.2	70	130	30
Oxygen/Argon	ND	0.50	15	15.8	106	15.5	104	1.9	70	130	30
Nitrogen	ND	1.0	70	72.1	103	70.8	101	1.9	70	130	30
Methane	ND	0.0010	0.10	0.105	105	0.105	105	0.3	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.103	103	0.104	104	0.5	70	130	30

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

Reviewed/Approved By: _____ Date 11/22/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No: 171128GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/28/17 11:39			11/28/17 10:55		11/28/17 11:10					
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	5.77	115	5.45	109	5.7	70	130	30
Carbon Dioxide	ND	0.010	10	10.1	101	9.56	95	5.4	70	130	30
Oxygen/Argon	ND	0.50	15	15.9	107	15.1	102	4.9	70	130	30
Nitrogen	ND	1.0	70	72.0	103	68.5	98	4.9	70	130	30
Methane	ND	0.0010	0.10	0.109	109	0.108	108	1.1	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.107	107	0.106	106	0.9	70	130	30

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

Reviewed/Approved By: _____ Date 11/29/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No: 171129GC8A1
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/29/17 6:08			11/28/17 22:43		11/28/17 22:57					
Analyst Initials:	MJ			VM		VM					
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	4.93	99	4.94	99	0.2	70	130	30
Carbon Dioxide	ND	0.010	10	9.54	95	9.64	96	1.1	70	130	30
Oxygen/Argon	ND	0.50	15	16.1	108	16.1	108	0.0	70	130	30
Nitrogen	ND	1.0	70	71.6	102	71.6	102	0.0	70	130	30
Methane	ND	0.0010	0.10	0.105	105	0.105	105	0.1	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.104	104	0.104	104	0.4	70	130	30

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

Reviewed/Approved By: _____ Date 11/29/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No: 171129GC8A2
Matrix: Air
Reporting Units: % v/v

ASTM D1946
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date Analyzed:	11/29/17 12:57			11/29/17 12:14		11/29/17 12:28					
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	4.05	81	4.40	88	8.3	70	130	30
Carbon Dioxide	ND	0.010	10	7.89	79	8.92	89	12.2	70	130	30
Oxygen/Argon	ND	0.50	15	14.6	99	16.5	112	12.4	70	130	30
Nitrogen	ND	1.0	70	64.6	92	73.0	104	12.2	70	130	30
Methane	ND	0.0010	0.10	0.105	105	0.104	104	0.6	70	130	30
Carbon Monoxide	ND	0.0010	0.10	0.104	104	0.103	103	0.9	70	130	30

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

Reviewed/Approved By: _____ Date 11/29/17
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch # 171129GC8A3
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	11/29/2017 18:00		11/29/2017 17:51		11/29/2015 17:56			
Analyst Initials:	MJ		MJ		MJ			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.010	105	70-130	103	70-130	1.8	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 11/30/17

Mark Johnson
Operations Manager

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

QC Batch # 171130GC8A1
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	11/30/2017 8:22		11/30/2017 8:12		11/30/2017 8:17			
Analyst Initials:	MJ		MJ		MJ			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.010	97	70-130	96	70-130	1.5	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 11/30/17

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

November 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_2O		
GEW-002	11/6/2017 10:52	56.7	39.2	0.0	4.1	98.8	99.1	10.5	9.3	0.0	0.0	-12.8
GEW-002	11/6/2017 10:59	57.0	39.3	0.0	3.7	103.4	103.5	21.4	18.2	-0.1	-0.1	-12.4
GEW-002	11/15/2017 11:09	57.7	40.3	0.0	2.0	102.1	102.3	11.5	13.3	-0.3	-0.3	-14.0
GEW-002	11/20/2017 10:17	55.1	40.1	0.0	4.8	99.2	99.4	10.1	8.4	0.1	0.0	-13.7
GEW-002	11/20/2017 10:18	55.8	41.1	0.0	3.1	103.3	103.2	13.0	14.4	-0.2	-0.2	-14.0
GEW-002	11/28/2017 9:40	55.8	39.3	0.0	4.9	107.1	107.2	37.4	37.3	-0.3	-0.4	-13.3
GEW-003	11/6/2017 11:04	49.6	37.5	0.0	12.9	109.5	109.5	13.5	14.1	-0.1	-0.1	-11.9
GEW-003	11/6/2017 11:09	49.8	35.1	0.0	15.1	109.2	109.2	25.8	27.4	-0.2	-0.1	-12.3
GEW-003	11/15/2017 11:15	50.5	38.7	0.0	10.8	110.5	110.3	23.1	21.9	-0.3	-0.3	-13.9
GEW-003	11/20/2017 10:22	49.7	37.2	0.0	13.1	110.7	110.5	24.9	25.8	-0.1	-0.1	-13.7
GEW-003	11/28/2017 9:43	48.5	37.2	0.0	14.3	111.4	111.5	26.9	27.6	-0.3	-0.3	-13.4
GEW-004	11/6/2017 11:13	55.3	39.5	0.0	5.2	113.5	113.5	10.7	7.8	-0.1	-0.1	-12.2
GEW-004	11/6/2017 11:19	55.5	37.1	0.0	7.4	113.0	113.3	31.7	30.4	-0.1	-0.1	-11.9
GEW-004	11/15/2017 11:19	55.4	40.5	0.0	4.1	114.8	114.8	26.0	28.9	-0.3	-0.3	-14.0
GEW-004	11/20/2017 10:26	53.9	39.1	0.0	7.0	115.0	114.8	27.4	28.2	0.0	0.0	-13.7
GEW-004	11/20/2017 10:27	53.7	40.3	0.0	6.0	114.8	114.8	8.3	8.7	0.0	0.0	-13.7
GEW-004	11/28/2017 9:46	48.6	37.6	0.0	13.8	116.2	116.1	11.0	0.0	-0.3	-0.3	-13.3
GEW-005	11/6/2017 13:32	57.4	37.8	0.1	4.7	88.0	87.7	9.2	14.0	0.1	0.1	-12.3
GEW-005	11/6/2017 13:39	56.9	37.4	0.0	5.7	89.1	89.1	0.0	0.0	0.2	0.2	-12.1
GEW-005	11/15/2017 9:43	51.5	41.1	0.0	7.4	89.1	88.9	28.3	28.7	-0.2	-0.2	-13.9
GEW-005	11/20/2017 8:31	52.8	38.8	0.0	8.4	89.3	89.3	30.1	30.2	-0.1	-0.1	-14.1
GEW-005	11/20/2017 8:33	53.3	37.6	0.0	9.1	89.1	89.3	10.2	8.0	-0.1	-0.1	-14.1
GEW-005	11/28/2017 8:13	46.9	37.6	0.0	15.5	89.4	89.5	13.2	13.2	-0.3	-0.3	-14.1
GEW-006	11/6/2017 14:23	57.9	38.3	0.0	3.8	86.5	86.3	0.0	0.0	0.0	0.0	-12.1
GEW-006	11/6/2017 14:29	58.5	37.5	0.0	4.0	86.3	86.5	0.0	0.0	0.0	0.0	-12.1
GEW-006	11/15/2017 9:50	55.9	38.9	0.0	5.2	85.1	85.0	14.7	15.0	-0.3	-0.3	-14.1
GEW-006	11/20/2017 8:39	54.1	38.3	0.0	7.6	85.4	85.4	17.9	17.0	-0.1	-0.1	-14.1
GEW-006	11/28/2017 8:19	49.9	37.3	0.0	12.8	85.2	85.4	22.4	22.2	-0.3	-0.3	-13.8
GEW-007	11/2/2017 11:26	55.9	40.5	0.0	3.6	91.5	91.5	6.3	5.6	-0.6	-0.6	-12.6
GEW-007	11/7/2017 14:26	58.4	40.4	0.0	1.2	85.5	85.4	46.2	46.3	-0.4	-0.4	-9.6
GEW-007	11/7/2017 14:32	59.2	38.8	0.0	2.0	85.1	85.1	10.2	8.9	-0.4	-0.4	-13.9
GEW-007	11/16/2017 11:38	58.6	38.6	0.0	2.8	88.0	87.9	12.6	10.9	-0.9	-0.9	-14.0
GEW-007	11/20/2017 9:05	57.7	39.0	0.0	3.3	85.6	85.4	5.6	8.5	-0.8	-0.8	-14.0
GEW-007	11/28/2017 8:38	54.5	37.7	0.0	7.8	87.0	87.0	10.5	10.5	-1.1	-1.1	-13.8
GEW-008	11/2/2017 11:21	53.9	39.6	0.0	6.5	111.5	111.5	14.9	15.8	-0.5	-0.5	-12.3
GEW-008	11/7/2017 14:39	54.1	42.0	0.0	3.9	109.8	110.0	8.3	10.3	-0.5	-0.4	-12.1
GEW-008	11/7/2017 14:46	52.9	41.2	0.0	5.9	109.5	109.2	16.6	14.4	-0.4	-0.4	-8.6
GEW-008	11/16/2017 11:42	54.4	39.7	0.0	5.9	111.7	111.3	14.1	16.3	-0.5	-0.5	-13.9
GEW-008	11/20/2017 9:09	53.1	41.5	0.0	5.4	110.2	110.5	10.3	12.0	-0.6	-0.6	-14.0
GEW-008	11/28/2017 8:42	54.7	39.2	0.0	6.1	111.7	111.8	17.4	16.1	-0.7	-0.7	-13.7
GEW-009	11/2/2017 11:17	51.8	38.3	0.1	9.8	121.8	121.8	28.8	29.6	-0.5	-0.5	-17.7
GEW-009	11/7/2017 14:52	49.2	40.7	0.0	10.1	120.1	120.2	30.6	28.9	-0.3	-0.3	-10.0
GEW-009	11/7/2017 14:58	50.7	37.8	0.0	11.5	120.4	120.5	35.7	35.5	-0.3	-0.3	-12.3

November 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_2O		
GEW-009	11/16/2017 11:46	49.1	40.0	0.0	10.9	119.9	120.1	8.7	17.3	-0.4	-0.4	-18.5
GEW-009	11/20/2017 9:13	48.3	40.0	0.0	11.7	119.9	119.9	35.1	33.7	-0.4	-0.4	-18.5
GEW-009	11/28/2017 8:46	47.9	39.8	0.0	12.3	119.9	119.9	27.8	26.8	-0.4	-0.5	-19.8
GEW-010	11/6/2017 9:10	57.2	40.6	0.0	2.2	48.2	48.2	5.0	4.5	-0.7	-0.8	-19.1
GEW-010	11/6/2017 9:17	57.1	38.9	0.0	4.0	48.1	48.2	4.1	3.9	-0.8	-0.8	-19.1
GEW-010	11/13/2017 15:41	51.0	49.0	0.0	0.0	60.9	61.0	4.2	3.2	-0.3	-0.3	-18.9
GEW-010	11/20/2017 9:05	57.7	38.2	0.1	4.0	52.3	52.4	6.2	6.2	-0.4	-0.4	-19.6
GEW-010	11/27/2017 9:15	57.5	39.6	0.0	2.9	61.8	61.8	6.0	5.8	-0.5	-0.5	-21.5
GEW-013A	11/15/2017 14:37	11.5	31.3	7.2	50.0	119.7	119.4	117.9	118.7	-3.0	-3.1	-15.1
GEW-013A	11/15/2017 14:38	10.8	34.6	7.1	47.5	119.7	119.4	120.6	116.9	-2.9	-3.1	-15.6
GEW-013A	11/29/2017 15:13	8.9	39.7	6.2	45.2	115.1	115.0	120.8	122.2	-3.3	-3.2	-16.5
GEW-013A	11/29/2017 15:14	9.4	36.4	6.4	47.8	114.3	114.8	119.6	120.8	-3.1	-3.2	-15.6
GEW-015	11/1/2017 14:22	0.5	52.7	0.0	46.8	61.2	60.9	7.5	7.5	1.4	1.4	-17.8
GEW-015	11/1/2017 14:27	0.4	54.0	0.0	45.6	136.2	143.5	4.6	4.1	-0.2	-0.2	-17.8
GEW-015	11/22/2017 14:00	0.5	50.6	0.0	48.9	177.5	177.0	7.0	6.5	-0.2	-0.2	-21.0
GEW-015	11/22/2017 14:02	0.4	52.5	0.0	47.1	183.1	182.7	7.8	7.8	-0.8	-0.8	-19.1
GEW-016R	11/15/2017 10:32	4.6	49.5	0.3	45.6	182.8	183.3	NFD		-19.6	-19.6	-19.6
GEW-016R	11/15/2017 10:34	4.6	51.6	0.2	43.6	183.3	183.3	NFD		-18.7	-18.6	-18.8
GEW-016R	11/22/2017 14:22	4.8	45.1	0.3	49.8	181.5	181.5	NFD		-19.8	-19.8	-19.9
GEW-016R	11/22/2017 14:23	4.6	43.1	0.3	52.0	181.8	181.9	NFD		-20.0	-20.0	-20.1
GEW-018B	11/1/2017 15:22	6.3	31.4	8.2	54.1	171.0	171.6	11.8	12.8	-17.8	-17.7	-18.3
GEW-018B	11/1/2017 15:25	3.8	30.6	9.6	56.0	151.3	150.5	2.7	2.9	-4.7	-4.7	-18.2
GEW-018B	11/28/2017 11:05	0.3	7.2	17.6	74.9	119.4	119.4	23.0	23.7	-4.0	-4.0	-20.4
GEW-018B	11/28/2017 11:07	0.4	8.0	16.5	75.1	109.7	108.1	5.1	5.1	-0.2	-0.2	-19.7
GEW-018B	11/29/2017 13:46	0.6	29.7	7.3	62.4	159.4	159.4	3.3	3.2	-0.6	-0.7	-21.3
GEW-018B	11/29/2017 13:48	0.9	39.6	4.8	54.7	150.6	150.2	1.8	2.1	-0.1	-0.2	-21.6
GEW-022R	11/9/2017 14:52	2.2	52.5	4.3	41.0	63.7	63.7	5.3	6.0	-17.7	-17.7	-18.2
GEW-022R	11/9/2017 14:57	2.1	48.5	4.6	44.8	60.8	60.9	8.5	8.1	-12.1	-11.7	-18.2
GEW-022R	11/28/2017 15:24	2.1	45.6	5.2	47.1	92.5	92.5	3.2	5.7	-9.5	-9.5	-20.3
GEW-022R	11/28/2017 15:25	1.9	47.2	5.5	45.4	92.4	92.4	7.5	6.0	-9.6	-9.6	-20.1
GEW-038	11/6/2017 14:34	1.0	52.7	1.3	45.0	51.3	51.3	1.2	2.1	-0.6	-0.6	-19.4
GEW-038	11/6/2017 14:40	0.7	53.2	1.4	44.7	50.5	50.5	3.5	3.3	-0.7	-0.7	-19.4
GEW-038	11/14/2017 10:54	1.5	61.1	0.0	37.4	54.9	54.9	4.2	3.4	-0.2	-0.2	-18.5
GEW-038	11/20/2017 9:56	1.0	55.9	0.0	43.1	58.5	58.5	2.1	2.4	0.5	0.5	-19.3
GEW-038	11/20/2017 9:58	0.8	57.9	0.0	41.3	58.4	58.4	7.5	8.5	-3.6	-3.8	-19.3
GEW-038	11/27/2017 10:41	0.6	34.3	9.0	56.1	71.1	71.3	2.6	4.0	-7.8	-7.8	-18.6
GEW-038	11/27/2017 10:43	0.4	35.1	9.2	55.3	71.6	71.6	1.2	2.0	-5.3	-5.3	-19.1
GEW-039	11/6/2017 15:04	47.3	49.3	0.0	3.4	90.8	91.0	22.1	21.0	-0.6	-0.8	-18.3
GEW-039	11/6/2017 15:10	47.3	47.3	0.0	5.4	91.5	91.5	22.4	24.7	-0.7	-0.7	-19.7
GEW-039	11/14/2017 11:04	46.2	53.8	0.0	0.0	92.9	92.9	15.4	13.8	-0.5	-0.6	-18.1
GEW-039	11/20/2017 10:08	46.1	49.1	0.0	4.8	96.5	96.5	26.2	25.3	-0.7	-0.4	-19.1
GEW-039	11/27/2017 10:53	46.6	50.6	0.0	2.8	106.5	106.5	22.1	25.0	-0.6	-0.5	-22.2
GEW-040	11/9/2017 9:52	56.6	40.8	0.0	2.6	52.9	53.0	0.0	7.7	-0.5	-0.5	-14.2

November 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_2O		
GEW-040	11/9/2017 9:57	55.6	40.2	0.0	4.2	53.2	53.2	6.5	9.2	-0.6	-0.6	-14.2
GEW-040	11/15/2017 10:38	51.4	42.6	0.0	6.0	57.3	57.3	16.9	16.6	-0.6	-0.6	-13.9
GEW-040	11/20/2017 9:41	52.9	40.7	0.0	6.4	52.4	52.3	0.0	0.0	-0.5	-0.5	-13.9
GEW-040	11/28/2017 9:10	55.2	42.0	0.0	2.8	62.8	62.8	9.6	9.6	-0.5	-0.6	-14.2
GEW-041R	11/9/2017 9:41	55.5	38.9	0.0	5.6	99.6	99.4	12.2	11.5	-0.2	-0.2	-14.2
GEW-041R	11/9/2017 9:47	57.7	40.8	0.0	1.5	99.1	99.1	21.8	22.7	-0.1	-0.1	-14.2
GEW-041R	11/15/2017 10:43	58.2	39.9	0.1	1.8	99.9	99.9	13.9	13.4	-0.2	-0.2	-14.1
GEW-041R	11/20/2017 9:45	53.4	40.4	0.0	6.2	98.6	98.4	12.2	13.4	-0.1	-0.1	-13.9
GEW-041R	11/28/2017 9:14	55.7	39.4	0.0	4.9	99.2	99.1	0.0	0.0	-0.2	-0.2	-13.7
GEW-042R	11/9/2017 9:24	53.5	46.0	0.0	0.5	95.8	95.8	0.0	4.8	-0.3	-0.3	-13.9
GEW-042R	11/9/2017 9:30	54.7	42.1	0.0	3.2	96.2	96.2	6.9	6.3	-0.3	-0.3	-14.2
GEW-042R	11/15/2017 10:46	58.0	38.5	0.0	3.5	95.8	95.8	20.4	20.7	-0.3	-0.4	-13.8
GEW-042R	11/20/2017 9:49	56.9	39.2	0.0	3.9	94.3	94.6	24.3	24.6	0.0	0.0	-13.8
GEW-042R	11/20/2017 9:51	55.5	41.3	0.0	3.2	95.3	95.4	20.4	20.4	-0.2	-0.2	-13.8
GEW-042R	11/28/2017 9:18	56.6	38.8	0.0	4.6	97.9	97.7	10.5	9.7	-0.4	-0.4	-13.8
GEW-043R	11/9/2017 10:09	54.3	43.8	0.0	1.9	117.9	118.1	34.4	34.7	-0.3	-0.3	-14.3
GEW-043R	11/9/2017 10:15	54.1	43.1	0.0	2.8	118.4	118.4	9.5	12.0	-0.3	-0.3	-14.5
GEW-043R	11/15/2017 10:50	56.7	40.7	0.0	2.6	117.6	117.6	33.7	33.7	-0.6	-0.6	-13.9
GEW-043R	11/15/2017 10:51	56.0	42.4	0.0	1.6	117.3	117.1	13.2	15.0	-0.6	-0.6	-14.4
GEW-043R	11/20/2017 9:55	54.9	41.4	0.0	3.7	116.8	116.8	0.0	0.0	-0.1	-0.1	-14.1
GEW-043R	11/20/2017 9:57	54.9	41.7	0.0	3.4	117.6	117.3	0.0	0.0	-0.1	-0.1	-13.8
GEW-043R	11/28/2017 9:21	55.0	40.6	0.0	4.4	118.1	118.1	36.7	36.7	-0.6	-0.6	-14.0
GEW-044	11/9/2017 10:21	56.0	42.4	0.0	1.6	82.6	82.8	6.3	6.3	-0.2	-0.2	-13.9
GEW-044	11/9/2017 10:26	56.1	39.9	0.0	4.0	82.8	82.8	7.5	6.9	-0.2	-0.2	-13.5
GEW-044	11/15/2017 10:56	57.9	41.1	0.0	1.0	80.7	81.0	8.0	7.5	-0.4	-0.4	-13.9
GEW-044	11/20/2017 10:01	53.7	41.4	0.0	4.9	78.9	78.7	9.0	9.0	0.0	0.0	-13.7
GEW-044	11/20/2017 10:03	55.6	39.7	0.0	4.7	79.4	79.4	0.0	0.0	0.0	0.0	-14.6
GEW-044	11/21/2017 9:40	56.3	41.1	0.0	2.6	77.5	77.7	0.0	0.0	-0.6	-0.6	-13.8
GEW-044	11/28/2017 9:25	54.7	40.6	0.0	4.7	85.6	85.6	33.3	33.5	-0.5	-0.5	-13.7
GEW-045R	11/6/2017 11:26	56.8	39.7	0.0	3.5	80.7	80.5	8.0	8.0	0.1	0.1	-12.2
GEW-045R	11/6/2017 11:32	55.9	39.7	0.0	4.4	81.7	81.7	9.0	9.0	-0.1	-0.1	-12.2
GEW-045R	11/15/2017 11:01	57.5	39.9	0.0	2.6	81.6	81.7	8.5	8.5	-0.2	-0.2	-14.1
GEW-045R	11/20/2017 10:07	56.4	39.5	0.0	4.1	82.7	82.8	13.6	12.4	0.1	0.1	-13.8
GEW-045R	11/20/2017 10:08	55.5	41.7	0.0	2.8	84.0	84.0	10.8	10.8	-0.2	-0.2	-13.7
GEW-045R	11/28/2017 9:29	56.6	39.0	0.0	4.4	87.7	87.7	11.3	11.6	-0.6	-0.6	-13.5
GEW-046R	11/6/2017 10:42	54.0	40.9	0.0	5.1	94.6	94.6	34.9	34.8	-0.2	-0.2	-12.2
GEW-046R	11/6/2017 10:48	55.4	37.8	0.0	6.8	94.9	94.9	19.6	18.6	-0.1	-0.1	-12.2
GEW-046R	11/15/2017 11:05	53.3	41.0	0.0	5.7	95.9	96.0	9.7	9.3	-0.3	-0.3	-13.9
GEW-046R	11/20/2017 10:12	54.7	40.9	0.0	4.4	96.2	96.5	8.4	7.4	0.0	0.0	-13.6
GEW-046R	11/20/2017 10:13	54.6	40.4	0.0	5.0	96.3	96.5	8.4	7.9	-0.1	0.0	-13.7
GEW-046R	11/28/2017 9:36	55.6	38.8	0.0	5.6	97.0	96.7	27.2	27.3	-0.2	-0.1	-13.5
GEW-047R	11/6/2017 11:37	56.3	40.3	0.0	3.4	56.4	56.5	8.2	8.2	-0.1	-0.1	-12.2
GEW-047R	11/6/2017 11:45	56.7	40.0	0.0	3.3	57.0	57.3	46.3	46.2	-0.2	-0.2	-12.2

November 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_2O		
GEW-047R	11/15/2017 9:36	56.3	40.4	0.0	3.3	55.5	55.5	100.2	100.2	-2.1	-2.1	-14.2
GEW-047R	11/15/2017 9:39	56.6	41.5	0.0	1.9	55.5	55.5	34.3	34.3	-0.1	-0.1	-14.0
GEW-047R	11/16/2017 9:35	55.1	40.4	0.0	4.5	49.6	49.6	9.2	9.7	-0.2	-0.2	-14.5
GEW-047R	11/20/2017 8:26	55.0	41.7	0.0	3.3	95.5	95.8	0.0	4.9	0.0	0.0	-14.1
GEW-047R	11/20/2017 8:27	54.9	41.6	0.0	3.5	97.0	97.1	17.0	17.5	0.0	-0.1	-14.3
GEW-047R	11/28/2017 8:10	52.0	39.9	0.0	8.1	103.8	103.9	32.2	31.8	-0.3	-0.3	-14.1
GEW-048	11/6/2017 13:43	58.5	38.5	0.0	3.0	99.9	99.9	16.2	12.6	0.0	0.0	-7.0
GEW-048	11/6/2017 13:51	57.7	36.7	0.0	5.6	100.3	100.4	0.0	0.0	0.0	0.0	-8.3
GEW-048	11/15/2017 9:47	58.4	39.2	0.0	2.4	100.6	100.6	19.5	12.5	-0.5	-0.5	-12.1
GEW-048	11/20/2017 8:36	57.6	38.7	0.0	3.7	99.6	99.6	13.1	6.2	-0.3	-0.3	-6.5
GEW-048	11/28/2017 8:16	55.7	38.2	0.0	6.1	100.1	100.1	17.2	16.9	-0.6	-0.6	-7.8
GEW-049	11/6/2017 14:10	57.9	37.4	0.0	4.7	105.3	105.7	0.0	0.0	0.0	0.0	-0.1
GEW-049	11/6/2017 14:15	56.9	36.8	0.0	6.3	105.5	105.5	0.0	0.0	-0.1	-0.1	-0.5
GEW-049	11/15/2017 10:06	55.0	38.7	0.0	6.3	106.5	106.4	18.8	19.2	-0.3	-0.3	-14.0
GEW-049	11/20/2017 8:52	55.2	38.3	0.0	6.5	105.2	105.2	27.6	27.8	-0.2	-0.2	-14.3
GEW-049	11/28/2017 8:29	51.8	36.7	0.0	11.5	105.7	105.7	12.7	13.3	-0.4	-0.4	-13.8
GEW-050	11/6/2017 14:33	58.2	37.9	0.0	3.9	103.0	103.0	30.9	29.4	0.0	0.0	-6.8
GEW-050	11/6/2017 14:39	58.2	37.5	0.0	4.3	103.3	103.3	16.6	16.6	-0.1	-0.1	-4.5
GEW-050	11/15/2017 9:57	58.5	37.1	0.0	4.4	104.1	104.1	27.2	29.6	-0.3	-0.3	-5.9
GEW-050	11/20/2017 8:48	56.8	37.8	0.0	5.4	103.3	103.1	28.1	28.8	-0.2	-0.2	-6.9
GEW-050	11/28/2017 8:25	53.7	36.3	0.0	10.0	104.3	104.3	16.2	13.9	-0.4	-0.4	-7.9
GEW-051	11/6/2017 14:45	55.9	39.8	0.0	4.3	121.1	121.3	39.0	37.9	0.1	0.1	-12.2
GEW-051	11/6/2017 14:51	56.3	38.8	0.0	4.9	120.7	120.7	0.0	0.0	0.1	0.1	-12.3
GEW-051	11/15/2017 10:09	53.6	38.9	0.0	7.5	122.1	121.9	25.2	26.4	-0.4	-0.4	-13.8
GEW-051	11/20/2017 8:57	55.7	38.9	0.0	5.4	120.5	120.5	11.3	13.7	-0.1	-0.1	-14.1
GEW-051	11/28/2017 8:32	55.7	37.5	0.0	6.8	122.1	122.1	33.1	31.5	-0.6	-0.6	-13.8
GEW-052	11/7/2017 14:13	53.0	37.4	0.1	9.5	111.1	111.0	28.3	29.1	-0.2	-0.2	-11.1
GEW-052	11/7/2017 14:19	52.9	36.1	0.0	11.0	111.0	111.0	21.0	21.0	-0.2	-0.2	-8.6
GEW-052	11/15/2017 10:01	51.4	38.0	0.0	10.6	111.5	111.4	14.3	14.3	-0.3	-0.3	-13.8
GEW-052	11/20/2017 9:01	49.9	38.0	0.0	12.1	111.0	111.0	28.0	28.3	-0.2	-0.2	-14.6
GEW-052	11/28/2017 8:35	47.5	38.0	0.0	14.5	111.0	111.0	23.4	22.3	-0.4	-0.4	-13.8
GEW-053	11/9/2017 9:09	48.6	44.8	0.0	6.6	121.3	120.7	8.2	10.6	0.1	0.1	-14.2
GEW-053	11/9/2017 9:16	48.3	44.3	0.0	7.4	122.6	123.1	19.7	17.7	0.1	0.1	-14.2
GEW-053	11/15/2017 10:13	52.3	39.3	0.0	8.4	115.5	116.0	0.0	0.0	0.0	0.0	-14.1
GEW-053	11/15/2017 10:15	49.9	43.3	0.0	6.8	122.2	122.4	26.5	25.8	-0.1	0.0	-13.9
GEW-053	11/16/2017 9:00	51.3	40.8	0.0	7.9	130.9	130.9	23.0	23.5	-0.2	-0.2	-14.4
GEW-053	11/20/2017 9:19	49.9	39.5	0.0	10.6	130.6	130.6	0.0	0.0	0.2	0.2	-14.0
GEW-053	11/20/2017 9:20	49.4	42.9	0.0	7.7	134.7	134.5	0.0	0.0	0.1	0.1	-14.1
GEW-053	11/21/2017 9:25	50.8	44.0	0.0	5.2	136.8	136.8	35.3	35.8	-0.6	-0.6	-13.8
GEW-053	11/21/2017 9:26	50.8	43.8	0.0	5.4	137.1	137.1	8.9	16.6	-0.6	-0.6	-14.1
GEW-053	11/28/2017 8:50	50.9	39.3	0.0	9.8	136.5	136.5	7.6	12.7	-0.2	-0.2	-13.7
GEW-053	11/28/2017 8:52	50.9	41.9	0.0	7.2	136.5	136.4	11.1	12.1	-0.2	-0.3	-13.8
GEW-054	11/9/2017 8:25	51.8	45.7	0.0	2.5	142.9	142.9	49.9	38.2	-3.8	-3.8	-15.0

November 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_2O		
GEW-054	11/9/2017 8:32	51.6	41.4	0.0	7.0	143.2	143.2	46.2	42.0	-3.8	-3.8	-15.0
GEW-054	11/15/2017 10:22	55.6	39.3	0.0	5.1	141.5	141.5	41.5	41.5	-3.9	-3.9	-14.9
GEW-054	11/15/2017 10:24	53.7	42.4	0.0	3.9	141.9	141.9	40.5	35.2	-4.2	-4.2	-13.8
GEW-054	11/16/2017 8:54	54.0	41.3	0.0	4.7	141.9	141.9	42.8	39.7	-4.3	-4.3	-15.6
GEW-054	11/16/2017 8:56	53.6	41.6	0.0	4.8	142.0	141.9	43.7	41.7	-4.3	-4.3	-14.3
GEW-054	11/20/2017 9:26	54.2	38.5	0.0	7.3	141.2	141.2	38.2	36.0	-3.8	-3.9	-13.8
GEW-054	11/20/2017 9:28	53.1	41.2	0.0	5.7	141.2	141.2	37.3	40.5	-3.8	-3.8	-15.3
GEW-054	11/28/2017 8:57	54.3	39.0	0.0	6.7	142.2	142.1	32.6	39.5	-4.2	-4.1	-14.2
GEW-054	11/28/2017 8:58	53.2	41.3	0.0	5.5	142.0	142.1	50.0	45.0	-4.2	-4.2	-14.5
GEW-055	11/9/2017 8:58	52.1	40.5	0.1	7.3	132.0	132.0	0.0	7.2	-0.5	-0.5	-14.2
GEW-055	11/9/2017 9:04	51.1	44.7	0.1	4.1	131.9	131.7	11.8	9.8	-0.5	-0.5	-14.3
GEW-055	11/15/2017 10:33	51.9	42.2	0.1	5.8	114.8	114.8	12.6	11.3	-0.5	-0.5	-14.0
GEW-055	11/15/2017 10:34	51.8	43.1	0.1	5.0	113.2	113.0	9.1	11.0	-0.4	-0.4	-13.8
GEW-055	11/20/2017 9:36	48.8	39.5	0.0	11.7	130.7	130.6	0.0	0.0	0.1	0.1	-13.8
GEW-055	11/20/2017 9:38	48.3	40.9	0.0	10.8	130.4	130.4	0.0	0.0	0.1	0.1	-13.8
GEW-055	11/21/2017 9:30	49.9	41.0	0.0	9.1	125.0	124.8	22.0	21.8	-0.3	-0.3	-13.8
GEW-055	11/28/2017 9:05	50.6	39.6	0.0	9.8	108.7	109.2	8.3	8.3	0.1	0.1	-13.8
GEW-055	11/28/2017 9:07	49.6	42.2	0.0	8.2	132.6	132.9	11.8	11.8	-0.4	-0.4	-13.9
GEW-056R	11/6/2017 9:51	31.9	47.0	0.0	21.1	76.6	76.4	3.9	5.1	-0.6	-0.6	-19.5
GEW-056R	11/6/2017 9:57	32.9	45.1	0.0	22.0	76.1	76.1	3.9	4.4	-0.7	-0.7	-19.4
GEW-056R	11/13/2017 15:52	28.3	56.7	0.0	15.0	79.1	79.0	5.8	5.1	-0.4	-0.4	-19.0
GEW-056R	11/20/2017 9:16	30.7	50.3	0.0	19.0	78.7	78.7	2.0	2.3	-0.5	-0.5	-19.5
GEW-056R	11/27/2017 9:25	29.5	51.9	0.0	18.6	96.5	96.5	3.0	2.5	-0.5	-0.5	-21.0
GEW-057B	11/15/2017 9:47	5.7	50.8	0.0	43.5	55.5	55.5	7.9	6.9	-11.8	-11.8	-12.1
GEW-057B	11/21/2017 14:25	6.3	46.9	0.3	46.5	54.8	54.7	16.6	13.3	-16.6	-17.1	-16.7
GEW-057R	11/8/2017 15:11	0.2	1.5	20.1	78.2	68.6	68.8	1.2	1.7	-10.0	-10.0	-10.4
GEW-057R	11/8/2017 15:12	0.1	1.4	20.2	78.3	69.5	69.5	1.2	1.2	-9.7	-9.7	-10.2
GEW-057R	11/21/2017 14:28	1.5	20.2	14.2	64.1	54.2	54.2	3.4	2.1	-16.1	-16.0	-16.2
GEW-057R	11/21/2017 14:29	1.0	10.5	16.9	71.6	54.2	54.2	2.1	2.1	-16.5	-16.5	-16.8
GEW-058	11/8/2017 11:10	2.5	39.0	2.6	55.9	66.0	66.1	8.9	7.9	-2.6	-2.4	-19.2
GEW-058	11/8/2017 11:20	3.2	31.9	2.9	62.0	71.8	71.6	5.6	6.4	-1.5	-1.5	-19.1
GEW-058	11/21/2017 11:04	1.6	44.7	1.8	51.9	64.9	64.9	12.8	10.0	-2.6	-2.5	-21.7
GEW-058A	11/8/2017 9:51	11.5	25.1	7.3	56.1	64.4	64.5	19.5	19.5	-1.5	-1.5	-19.8
GEW-058A	11/8/2017 10:50	12.2	24.8	6.4	56.6	67.5	67.5	1.2	1.7	-1.2	-1.2	-19.5
GEW-058A	11/21/2017 11:00	3.9	25.0	7.0	64.1	66.2	66.1	23.8	23.8	-0.4	-0.4	-22.1
GEW-058A	11/21/2017 11:01	2.0	22.9	7.2	67.9	65.2	65.2	23.2	23.5	-0.4	-0.4	-22.6
GEW-059R	11/7/2017 11:09	16.4	46.5	0.0	37.1	161.1	161.1	8.4	7.4	-18.1	-17.9	-18.3
GEW-059R	11/7/2017 11:15	16.3	46.3	0.0	37.4	160.2	160.3	8.9	7.5	-17.9	-17.7	-18.3
GEW-059R	11/21/2017 10:05	15.7	45.5	0.0	38.8	158.5	158.5	2.8	3.3	-18.9	-18.8	-19.2
GEW-059R	11/21/2017 10:06	15.1	48.1	0.0	36.8	159.0	158.6	11.0	11.6	-19.4	-19.8	-20.2
GEW-067A	11/29/2017 14:41	7.4	46.7	0.0	45.9	60.2	60.2	5.0	8.2	0.0	-0.1	0.1
GEW-067A	11/29/2017 14:44	3.9	57.7	0.0	38.4	61.0	61.1	5.0	7.7	0.0	0.0	0.1
GEW-067A	11/30/2017 13:51	3.4	36.4	4.8	55.4	151.7	151.7	7.2	6.0	-0.4	-0.4	-20.7

November 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_2O		
GEW-067A	11/30/2017 13:52	3.4	37.3	4.8	54.5	138.3	136.5	13.3	6.6	-0.2	-0.2	-20.4
GEW-068A	11/15/2017 10:05	15.4	47.1	1.7	35.8	178.7	178.6	29.5	28.5	-18.6	-18.6	-19.8
GEW-068A	11/15/2017 10:06	14.5	52.3	1.5	31.7	179.7	179.7	27.0	30.0	-18.6	-18.5	-19.9
GEW-068A	11/22/2017 11:20	15.9	44.1	1.8	38.2	171.0	171.0	26.5	25.6	-18.9	-18.9	-19.8
GEW-068A	11/22/2017 11:21	14.8	47.0	1.6	36.6	169.5	169.5	27.1	24.3	-20.4	-19.9	-21.5
GEW-078R	11/15/2017 10:39	12.4	51.0	0.0	36.6	156.9	156.9	8.1	8.4	-19.1	-18.9	-19.4
GEW-078R	11/15/2017 10:39	13.0	51.8	0.0	35.2	157.3	157.3	9.1	8.6	-19.3	-19.1	-19.4
GEW-078R	11/28/2017 10:31	13.8	43.6	0.0	42.6	161.6	162.0	9.2	7.9	-20.2	-20.0	-20.6
GEW-078R	11/28/2017 10:32	13.6	45.5	0.0	40.9	162.4	162.0	7.9	8.7	-19.2	-19.2	-19.3
GEW-081	11/15/2017 10:45	0.4	44.2	5.2	50.2	59.7	59.7	4.7	3.3	-19.3	-19.3	-19.3
GEW-081	11/15/2017 10:46	0.5	57.0	4.1	38.4	59.4	59.3	4.2	4.0	-19.3	-19.3	-19.4
GEW-081	11/28/2017 15:04	0.3	22.5	13.3	63.9	79.8	79.8	4.9	2.2	-20.5	-20.4	-20.8
GEW-081	11/28/2017 15:06	0.2	21.2	13.5	65.1	80.0	80.0	5.6	3.5	-20.5	-20.5	-20.9
GEW-082R	11/13/2017 10:13	10.3	43.4	0.0	46.3	174.7	174.2	2.1	3.1	-16.8	-16.9	-17.6
GEW-082R	11/13/2017 10:19	11.4	40.9	0.0	47.7	167.6	168.1	5.7	5.1	-16.9	-16.9	-17.8
GEW-082R	11/28/2017 11:29	11.6	41.3	0.0	47.1	176.4	176.4	3.2	2.4	-18.6	-18.6	-19.7
GEW-082R	11/28/2017 11:30	11.4	42.6	0.0	46.0	177.5	176.9	4.8	3.2	-18.6	-18.7	-20.2
GEW-086	11/9/2017 15:20	18.6	38.6	1.6	41.2	70.0	70.0	8.5	8.6	-0.4	-0.4	-19.1
GEW-086	11/9/2017 15:26	18.8	38.7	1.7	40.8	69.5	69.5	8.6	8.3	-0.4	-0.4	-19.0
GEW-086	11/29/2017 15:05	4.3	55.0	0.3	40.4	65.6	66.0	3.8	2.7	0.0	0.0	0.2
GEW-086	11/29/2017 15:06	4.0	55.4	0.1	40.5	67.0	67.1	2.4	2.4	0.0	0.0	0.1
GEW-086	11/30/2017 14:04	20.9	39.5	1.3	38.3	101.8	101.8	15.2	14.4	-1.0	-1.0	-21.4
GEW-087	11/15/2017 14:42	4.6	20.6	9.0	65.8	119.7	119.7	NFD		-18.9	-18.9	-19.1
GEW-087	11/15/2017 14:42	4.5	17.4	8.8	69.3	119.7	119.7	NFD		-18.9	-18.9	-19.0
GEW-087	11/22/2017 13:36	5.2	10.1	11.5	73.2	128.6	128.4	NFD		-20.6	-20.6	-20.6
GEW-087	11/22/2017 13:37	5.0	13.1	11.1	70.8	127.2	127.0	NFD		-20.9	-20.9	-21.0
GEW-088	11/30/2017 14:00	4.7	44.7	0.2	50.4	190.9	190.9	52.9	54.3	-0.2	-0.3	-20.7
GEW-088	11/30/2017 14:01	4.5	47.6	0.1	47.8	190.9	190.9	55.1	55.1	-0.3	-0.3	-19.7
GEW-090	11/9/2017 15:04	21.0	45.7	0.0	33.3	157.3	157.3	8.8	7.5	-18.4	-18.5	-18.4
GEW-090	11/9/2017 15:11	20.5	46.8	0.0	32.7	156.9	156.9	4.2	5.8	-18.5	-18.6	-18.4
GEW-090	11/29/2017 14:58	20.2	45.9	0.1	33.8	161.1	161.2	16.5	11.7	-20.5	-20.3	-21.0
GEW-090	11/29/2017 15:00	19.5	47.4	0.0	33.1	162.6	162.7	11.4	5.9	-20.0	-20.0	-20.6
GEW-091	11/15/2017 9:19	3.6	56.2	0.0	40.2	185.7	185.8	19.3	20.4	-19.6	-19.6	-20.1
GEW-091	11/15/2017 9:20	3.2	59.8	0.0	37.0	185.7	185.1	26.1	24.7	-20.0	-19.9	-20.1
GEW-091	11/29/2017 14:49	4.5	54.6	0.0	40.9	166.6	166.6	53.1	52.4	-21.0	-20.8	-21.0
GEW-091	11/29/2017 14:50	4.5	54.4	0.0	41.1	166.6	166.1	51.2	50.5	-21.0	-20.9	-21.0
GEW-100	11/15/2017 10:18	0.9	57.9	4.0	37.2	56.3	56.4	6.8	1.7	-19.3	-19.3	-20.0
GEW-100	11/15/2017 10:19	0.9	59.8	3.9	35.4	56.4	56.3	2.0	2.6	-19.3	-19.4	-19.9
GEW-100	11/22/2017 11:31	1.9	49.9	4.5	43.7	54.5	55.0	5.2	4.8	-21.3	-21.0	-21.2
GEW-100	11/22/2017 11:35	0.9	52.2	3.3	43.6	57.8	57.7	4.1	3.9	-18.9	-18.9	-19.3
GEW-101	11/15/2017 10:10	11.1	40.8	9.8	38.3	81.4	81.4	91.0	91.9	-11.8	-11.8	-21.2
GEW-101	11/15/2017 10:13	10.3	39.4	10.2	40.1	74.1	73.9	1.7	6.9	-0.1	-0.2	-19.8
GEW-101	11/22/2017 11:26	13.1	40.5	6.6	39.8	64.8	64.9	11.5	13.2	-0.3	-0.3	-21.9

November 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_2O**		
GEW-101	11/22/2017 11:27	11.6	45.6	6.3	36.5	65.8	65.8	10.2	15.2	-0.3	-0.3	-23.0
GEW-102	11/9/2017 9:02	6.4	50.6	0.5	42.5	49.2	49.3	6.3	5.0	-19.5	-19.9	-19.7
GEW-102	11/9/2017 9:09	6.3	48.2	1.3	44.2	50.2	50.2	6.8	6.6	-18.9	-18.8	-18.8
GEW-102	11/29/2017 14:37	15.0	46.8	2.0	36.2	62.3	62.3	3.6	3.0	-19.8	-20.2	-19.7
GEW-104	11/15/2017 9:42	0.7	29.2	10.9	59.2	54.8	54.8	3.4	3.2	-6.0	-5.9	-6.1
GEW-104	11/15/2017 9:44	0.6	35.2	8.2	56.0	54.7	54.7	1.2	1.2	-5.8	-5.8	-5.7
GEW-104	11/21/2017 14:15	0.6	23.1	9.6	66.7	55.2	55.1	3.4	3.4	-8.2	-8.2	-8.4
GEW-104	11/21/2017 14:16	0.4	29.1	8.2	62.3	55.2	55.2	2.1	3.8	-8.4	-8.4	-8.3
GEW-105	11/21/2017 11:14	16.5	48.4	2.3	32.8	78.9	79.1	4.7	3.7	-1.5	-1.5	-16.2
GEW-106	11/15/2017 9:30	20.1	53.2	3.8	22.9	55.6	55.5	3.3	3.0	-0.8	-0.9	-6.4
GEW-106	11/15/2017 9:31	21.9	50.4	3.9	23.8	55.5	55.5	2.8	3.0	-0.7	-0.7	-7.2
GEW-106	11/21/2017 11:08	14.0	49.3	2.6	34.1	62.3	62.4	4.0	4.0	-1.3	-1.3	-16.2
GEW-107	11/7/2017 11:19	43.7	41.9	1.7	12.7	53.1	53.1	11.8	12.8	-18.4	-18.3	-18.5
GEW-107	11/7/2017 11:26	45.2	38.6	1.7	14.5	53.2	53.2	19.1	18.9	-18.2	-18.6	-18.2
GEW-107	11/21/2017 10:47	0.2	6.2	20.2	73.4	62.4	62.4	7.2	6.1	-24.5	-24.6	-25.0
GEW-107	11/21/2017 10:48	0.1	0.9	21.2	77.8	62.9	62.9	9.4	2.7	-24.6	-24.0	-24.6
GEW-108	11/15/2017 9:11	36.4	42.8	0.0	20.8	140.6	140.2	9.3	9.2	-19.6	-19.6	-19.9
GEW-108	11/15/2017 9:12	35.5	44.0	0.0	20.5	140.6	140.9	13.1	10.8	-20.0	-20.0	-19.9
GEW-108	11/21/2017 10:16	35.9	43.5	0.0	20.6	141.9	141.6	3.8	13.5	-18.3	-18.0	-18.4
GEW-108	11/21/2017 10:42	39.2	38.1	0.0	22.7	140.6	142.2	8.0	10.8	-24.8	-24.7	-25.0
GEW-109	11/6/2017 14:53	36.2	40.6	0.0	23.2	53.4	53.4	5.4	6.3	-6.3	-6.4	-17.4
GEW-109	11/6/2017 15:00	35.8	40.5	0.0	23.7	52.6	52.6	3.4	3.2	-6.4	-6.4	-18.0
GEW-109	11/14/2017 11:02	31.8	44.0	0.0	24.2	56.7	56.7	1.9	3.5	-4.9	-4.9	-14.3
GEW-109	11/20/2017 10:05	32.7	41.1	0.0	26.2	62.1	62.1	2.4	2.9	-5.4	-5.3	-16.1
GEW-109	11/27/2017 10:51	32.1	41.4	0.0	26.5	78.4	78.3	2.3	3.5	-5.9	-5.8	-19.1
GEW-110	11/6/2017 9:21	8.8	20.5	14.3	56.4	51.7	51.8	24.2	22.9	0.3	0.3	-19.1
GEW-110	11/6/2017 9:28	7.8	17.1	14.9	60.2	50.4	50.4	1.2	1.8	-0.1	-0.1	-19.1
GEW-110	11/13/2017 15:44	16.6	54.4	0.0	29.0	66.1	66.1	17.6	17.8	-0.3	-0.4	-18.9
GEW-110	11/20/2017 9:08	14.5	50.0	0.0	35.5	55.5	55.6	15.2	13.6	-0.2	-0.1	-19.7
GEW-110	11/27/2017 9:18	15.9	48.7	0.2	35.2	70.0	70.0	14.0	18.1	-0.2	-0.3	-21.6
GEW-113	11/15/2017 10:28	7.4	49.1	3.2	40.3	155.2	155.2	21.2	18.3	-7.8	-7.9	-20.3
GEW-113	11/15/2017 10:30	7.7	49.3	3.2	39.8	155.6	155.6	17.7	18.4	-7.4	-7.4	-20.9
GEW-113	11/22/2017 14:06	6.3	42.2	3.3	48.2	156.9	156.9	15.3	15.4	-7.7	-7.7	-19.0
GEW-113	11/22/2017 14:07	6.4	41.4	3.3	48.9	157.3	157.3	17.0	17.8	-8.2	-8.2	-22.2
GEW-116	11/13/2017 9:50	8.4	65.5	0.2	25.9	187.0	186.9	5.6	7.3	-9.1	-8.8	-20.3
GEW-116	11/13/2017 9:56	8.1	62.1	0.3	29.5	186.4	186.4	4.6	8.4	-8.5	-8.5	-18.1
GEW-116	11/28/2017 10:57	7.9	60.7	0.3	31.1	185.7	185.7	4.1	6.3	-7.8	-7.8	-21.0
GEW-116	11/28/2017 10:58	7.9	62.4	0.3	29.4	185.7	185.7	7.9	7.5	-7.7	-7.5	-19.7
GEW-117	11/9/2017 15:50	43.1	54.9	0.0	2.0	128.6	127.8	NR	NR	2.7	3.0	-18.9
GEW-117	11/9/2017 16:00	44.6	53.0	0.0	2.4	126.7	126.7	NR	NR	3.0	2.9	-19.0
GEW-117	11/10/2017 11:31	41.1	58.0	0.1	0.8	128.6	128.6	NR	NR	-17.2	-17.2	-19.6
GEW-117	11/28/2017 11:19	43.7	50.5	0.1	5.7	131.7	132.0	NR	NR	-12.3	-12.3	-20.7
GEW-117	11/28/2017 11:20	42.8	52.2	0.0	5.0	132.9	132.9	NR	NR	-12.3	-12.3	-19.7

November 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_2O		
GEW-118	11/9/2017 15:23	1.5	35.1	9.5	53.9	179.9	178.0	80.3	80.5	-0.3	-0.2	-18.5
GEW-118	11/9/2017 15:30	1.8	53.6	3.8	40.8	192.7	191.7	76.9	77.3	-0.5	-0.6	-18.5
GEW-118	11/28/2017 11:33	1.7	60.6	0.0	37.7	192.9	192.9	80.4	80.5	0.2	0.3	-20.2
GEW-118	11/28/2017 11:35	2.3	61.0	0.0	36.7	193.0	192.9	80.2	79.9	-0.2	-0.2	-20.2
GEW-120	11/9/2017 15:38	17.0	54.0	0.0	29.0	162.4	157.3	28.3	28.6	-17.5	-17.5	-18.5
GEW-120	11/9/2017 15:43	17.7	50.8	0.0	31.5	160.0	159.8	31.8	30.0	-18.0	-17.9	-18.7
GEW-120	11/28/2017 11:39	16.4	53.8	0.0	29.8	162.4	162.7	27.9	27.9	-19.4	-19.4	-20.5
GEW-120	11/28/2017 11:40	16.4	53.5	0.0	30.1	162.9	162.5	29.8	27.6	-18.9	-18.6	-19.9
GEW-121	11/9/2017 14:33	12.2	47.9	0.0	39.9	173.6	173.6	24.1	20.6	-16.5	-16.2	-17.3
GEW-121	11/9/2017 14:39	11.3	47.9	0.0	40.8	174.7	174.6	29.3	31.7	-17.1	-17.2	-17.3
GEW-121	11/28/2017 11:43	9.7	46.4	0.1	43.8	171.0	171.0	20.3	20.0	-17.7	-17.2	-18.6
GEW-121	11/28/2017 11:44	9.6	48.5	0.1	41.8	169.5	169.7	24.5	19.4	-18.0	-17.6	-18.7
GEW-121	11/28/2017 15:11	9.6	44.1	0.5	45.8	173.1	173.1	17.2	24.2	-17.9	-18.3	-19.2
GEW-121	11/28/2017 15:12	9.6	46.5	0.3	43.6	173.6	173.6	25.7	28.5	-18.7	-18.9	-19.5
GEW-122	11/9/2017 14:08	12.4	38.2	0.0	49.4	157.7	157.7	24.5	23.5	-17.3	-17.1	-18.0
GEW-122	11/9/2017 14:14	11.9	35.6	0.0	52.5	157.7	157.7	19.4	18.2	-17.5	-17.5	-17.9
GEW-122	11/28/2017 15:00	11.0	36.5	0.6	51.9	156.4	156.4	25.3	25.2	-20.5	-20.5	-21.5
GEW-122	11/28/2017 15:01	11.0	36.3	0.6	52.1	155.7	155.6	24.8	23.1	-20.5	-20.6	-21.4
GEW-123	11/9/2017 14:43	8.1	57.7	0.0	34.2	148.4	148.0	3.7	4.8	-0.9	-0.9	-17.9
GEW-123	11/9/2017 14:48	8.7	50.8	0.0	40.5	148.0	148.0	3.9	2.8	-0.9	-0.8	-18.0
GEW-123	11/28/2017 15:17	7.4	57.2	0.0	35.4	162.1	162.0	2.5	2.9	-1.0	-1.0	-21.5
GEW-123	11/28/2017 15:19	11.2	57.6	0.0	31.2	187.1	187.4	4.8	8.0	-10.1	-9.7	-21.1
GEW-124	11/9/2017 14:22	49.9	43.4	0.2	6.5	64.4	64.4	3.8	3.6	-8.5	-8.4	-17.4
GEW-124	11/9/2017 14:28	52.0	43.8	0.0	4.2	63.0	63.0	2.7	3.4	-9.2	-9.1	-17.5
GEW-124	11/28/2017 15:30	53.9	40.7	0.1	5.3	75.2	75.2	3.6	3.0	-20.0	-19.9	-20.3
GEW-125	11/9/2017 13:46	3.8	48.5	0.8	46.9	184.5	184.5	16.3	20.7	-14.1	-14.1	-18.2
GEW-125	11/9/2017 13:52	3.4	47.1	0.9	48.6	184.5	185.1	17.6	18.5	-14.1	-14.1	-18.4
GEW-125	11/28/2017 14:53	4.4	42.2	2.3	51.1	179.7	179.7	20.6	23.5	-15.9	-15.9	-21.4
GEW-125	11/28/2017 14:54	3.2	44.6	2.2	50.0	180.3	180.3	25.1	25.5	-15.8	-15.8	-21.8
GEW-126	11/9/2017 13:36	21.4	51.1	0.0	27.5	67.7	67.7	8.0	8.6	-6.7	-6.8	-7.0
GEW-126	11/9/2017 13:42	21.5	46.9	0.0	31.6	66.6	66.5	9.8	11.9	-6.8	-6.8	-7.2
GEW-126	11/28/2017 14:38	16.1	54.9	0.1	28.9	86.6	86.5	8.8	9.3	-9.8	-10.4	-10.2
GEW-127	11/9/2017 11:21	4.6	59.1	0.0	36.3	179.2	178.6	34.3	30.3	-14.6	-10.8	-17.6
GEW-127	11/9/2017 11:27	4.6	57.0	0.0	38.4	179.2	179.2	23.1	23.4	-9.7	-14.0	-18.4
GEW-127	11/28/2017 14:31	3.2	58.8	0.1	37.9	167.5	167.6	3.4	1.4	1.8	1.9	-20.2
GEW-127	11/28/2017 14:34	2.0	63.6	0.0	34.4	190.2	190.2	27.2	29.4	-20.3	-20.5	-20.9
GEW-128	11/9/2017 11:04	13.9	62.9	0.0	23.2	165.7	165.7	24.2	20.6	-16.0	-16.0	-16.5
GEW-128	11/9/2017 11:11	14.7	58.8	0.0	26.5	165.2	165.7	25.8	23.4	-16.5	-16.5	-17.2
GEW-128	11/28/2017 11:34	10.8	58.1	0.0	31.1	170.5	170.5	26.2	27.9	-18.9	-18.9	-19.6
GEW-128	11/28/2017 11:35	11.1	58.4	0.0	30.5	171.0	171.0	29.4	31.1	-18.7	-18.9	-20.0
GEW-129	11/9/2017 10:55	8.2	63.1	0.0	28.7	146.2	146.3	9.4	11.2	-17.1	-17.0	-17.1
GEW-129	11/9/2017 11:01	8.8	60.7	0.0	30.5	144.2	144.2	11.1	13.5	-17.2	-17.0	-17.6
GEW-129	11/28/2017 11:29	9.3	59.4	0.0	31.3	141.5	141.9	15.3	7.2	-19.7	-19.7	-19.9

November 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_2O		
GEW-129	11/28/2017 11:30	9.6	59.6	0.0	30.8	143.9	143.9	13.1	11.1	-20.1	-19.9	-20.1
GEW-130	11/9/2017 13:22	6.2	41.5	4.9	47.4	168.5	168.5	41.0	38.1	-14.6	-14.6	-18.0
GEW-130	11/9/2017 13:29	6.3	42.4	4.7	46.6	168.5	169.0	39.2	36.8	-12.1	-12.2	-18.8
GEW-130	11/28/2017 14:42	5.9	41.2	5.9	47.0	166.6	166.6	37.8	50.9	-12.6	-12.6	-21.2
GEW-130	11/28/2017 14:43	5.6	40.9	6.1	47.4	166.1	166.1	52.8	48.8	-12.8	-12.8	-22.5
GEW-131	11/9/2017 13:56	18.6	46.9	0.0	34.5	164.0	163.8	11.7	12.4	-11.2	-11.3	-18.1
GEW-131	11/9/2017 14:01	19.9	40.7	0.0	39.4	164.4	164.3	13.2	13.1	-11.2	-11.4	-18.4
GEW-131	11/28/2017 14:47	18.0	41.6	0.2	40.2	161.6	161.7	13.4	12.8	-12.5	-12.5	-20.0
GEW-131	11/28/2017 14:49	19.0	41.8	0.0	39.2	162.0	162.0	16.0	15.2	-12.7	-12.8	-21.2
GEW-132	11/9/2017 15:11	1.7	23.7	8.8	65.8	161.1	161.1	14.7	16.0	-2.7	-2.7	-18.2
GEW-132	11/9/2017 15:19	1.7	20.0	9.0	69.3	139.8	138.7	1.8	1.9	-0.4	-0.4	-18.4
GEW-132	11/28/2017 11:47	0.6	57.8	0.0	41.6	173.6	173.8	3.4	3.5	0.3	0.4	-20.7
GEW-132	11/28/2017 11:49	0.6	59.1	0.0	40.3	195.7	195.7	6.3	7.7	-0.4	-0.3	-19.4
GEW-133	11/13/2017 9:39	11.8	54.0	0.0	34.2	159.4	158.5	15.2	15.2	-16.1	-16.1	-18.9
GEW-133	11/13/2017 9:46	11.4	51.5	0.0	37.1	158.1	158.2	35.7	35.8	-16.2	-16.2	-19.3
GEW-133	11/28/2017 10:53	10.7	51.5	0.0	37.8	159.4	159.4	19.7	19.5	-16.5	-16.7	-18.2
GEW-133	11/28/2017 10:54	10.8	52.8	0.0	36.4	159.4	159.2	21.9	19.5	-16.7	-16.7	-15.8
GEW-134	11/13/2017 10:00	9.3	49.9	0.8	40.0	111.7	111.2	3.7	4.0	-0.9	-0.9	-17.8
GEW-134	11/13/2017 10:06	9.9	40.8	0.9	48.4	116.9	117.1	5.3	5.4	-0.9	-0.9	-17.4
GEW-134	11/28/2017 11:02	13.3	38.7	2.4	45.6	129.2	129.2	4.3	3.5	-0.8	-0.8	-20.1
GEW-135	11/13/2017 10:39	7.4	41.7	3.5	47.4	150.6	151.0	26.3	27.8	-9.2	-9.3	-18.4
GEW-135	11/13/2017 10:45	7.3	39.2	3.6	49.9	150.6	150.4	21.7	26.0	-7.4	-7.8	-18.2
GEW-135	11/28/2017 10:08	6.0	41.0	2.6	50.4	153.3	153.3	16.1	14.4	-5.9	-5.9	-20.0
GEW-135	11/28/2017 10:10	5.8	41.1	2.6	50.5	152.4	152.9	13.1	13.7	-5.4	-5.4	-19.4
GEW-136	11/13/2017 10:50	5.3	34.3	7.4	53.0	63.3	63.3	7.3	6.6	-0.1	-0.1	-6.7
GEW-136	11/13/2017 10:56	5.8	32.8	7.0	54.4	62.8	62.6	3.8	6.3	-0.1	-0.1	-7.1
GEW-136	11/28/2017 10:15	2.8	41.7	3.2	52.3	103.9	104.0	4.0	4.8	0.0	0.0	-10.4
GEW-136	11/28/2017 10:17	2.6	43.3	3.3	50.8	134.8	135.8	1.8	2.3	-0.1	-0.1	-10.8
GEW-137	11/13/2017 10:37	28.7	34.3	0.7	36.3	67.5	67.5	1.7	2.9	-8.3	-8.3	-17.7
GEW-137	11/13/2017 10:48	29.3	33.1	0.6	37.0	64.9	64.9	1.2	1.2	-8.2	-8.3	-17.7
GEW-137	11/28/2017 10:22	28.1	36.3	0.6	35.0	79.5	79.4	2.1	2.1	-9.8	-9.7	-20.0
GEW-138	11/13/2017 10:22	7.6	19.4	8.5	64.5	119.7	119.6	10.7	11.8	-1.0	-0.9	-17.6
GEW-138	11/13/2017 10:29	7.0	22.6	8.1	62.3	120.2	120.2	13.3	13.8	-0.9	-0.9	-17.3
GEW-138	11/28/2017 10:26	6.2	23.7	8.4	61.7	121.5	121.5	14.3	15.7	-1.0	-1.0	-19.9
GEW-138	11/28/2017 10:28	6.1	22.9	8.4	62.6	114.7	114.8	5.1	5.2	-0.3	-0.3	-20.5
GEW-139	11/9/2017 10:33	1.8	53.1	0.0	45.1	168.5	168.4	5.4	4.7	-2.6	-2.6	-16.9
GEW-139	11/9/2017 10:39	1.9	52.1	0.0	46.0	168.5	168.5	3.9	5.3	-2.6	-2.6	-16.8
GEW-139	11/28/2017 11:18	3.4	51.8	0.2	44.6	158.5	158.5	3.4	2.9	-3.6	-3.6	-20.8
GEW-139	11/28/2017 11:19	3.1	53.9	0.0	43.0	158.6	158.6	3.5	4.3	-3.5	-3.5	-20.0
GEW-140	11/9/2017 9:42	0.1	6.1	21.0	72.8	57.5	57.5	24.2	24.5	-17.9	-17.0	-19.2
GEW-140	11/9/2017 9:44	0.0	1.7	21.9	76.4	59.4	59.7	3.1	1.2	-16.2	-16.0	-17.7
GEW-140	11/28/2017 10:59	0.2	4.7	20.2	74.9	74.7	74.8	4.7	2.3	-20.8	-20.7	-21.1
GEW-140	11/28/2017 11:00	0.0	0.8	21.0	78.2	75.9	76.1	2.4	2.4	-19.1	-19.1	-20.0

November 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_2O		
GEW-142	11/9/2017 10:08	0.0	9.4	20.3	70.3	62.3	62.3	3.7	4.1	-10.7	-10.7	-17.7
GEW-142	11/9/2017 10:09	0.0	3.5	21.2	75.3	62.1	61.8	1.7	1.7	-16.8	-16.9	-19.2
GEW-142	11/28/2017 11:14	0.0	2.6	20.4	77.0	74.6	74.8	2.8	2.8	-15.0	-14.9	-21.0
GEW-142	11/28/2017 11:15	0.0	0.6	20.5	78.9	76.6	76.6	2.8	2.5	-15.5	-15.5	-20.5
GEW-143	11/9/2017 10:13	0.0	6.4	18.4	75.2	60.7	60.7	3.1	3.3	-17.9	-17.9	-18.6
GEW-143	11/9/2017 10:15	0.0	11.0	17.6	71.4	60.6	60.5	1.7	1.2	-17.9	-17.9	-18.7
GEW-143	11/28/2017 11:10	0.0	15.3	18.4	66.3	75.0	75.0	1.6	1.6	-17.3	-17.3	-21.1
GEW-143	11/28/2017 11:11	0.0	3.1	19.8	77.1	77.1	77.1	4.6	2.3	-19.3	-19.2	-20.4
GEW-145	11/15/2017 9:54	0.1	12.2	19.6	68.1	55.2	55.2	5.7	5.4	-16.6	-16.6	-19.9
GEW-145	11/15/2017 9:57	0.0	4.5	21.4	74.1	55.2	55.2	3.2	3.2	-8.1	-8.5	-20.0
GEW-145	11/29/2017 14:40	0.1	3.8	21.0	75.1	60.4	60.4	4.0	2.6	-20.6	-20.6	-20.7
GEW-145	11/29/2017 14:41	0.1	1.8	21.3	76.8	60.4	60.4	1.2	1.6	-19.7	-20.2	-20.7
GEW-146	11/13/2017 10:14	2.7	16.5	15.8	65.0	78.2	78.4	6.0	6.8	0.0	0.0	-18.4
GEW-146	11/13/2017 10:15	3.3	9.2	16.8	70.7	80.7	80.7	7.6	8.5	0.0	0.0	-18.4
GEW-146	11/22/2017 13:49	3.4	6.7	16.4	73.5	87.8	87.5	9.5	8.8	-0.1	-0.1	-23.2
GEW-146	11/22/2017 13:51	3.4	5.6	16.7	74.3	87.8	87.9	8.9	8.9	-0.1	-0.1	-23.9
GEW-147	11/13/2017 10:55	12.4	41.8	0.0	45.8	166.1	166.1	28.3	27.3	-16.9	-16.9	-17.7
GEW-147	11/13/2017 11:01	11.6	44.4	0.0	44.0	167.6	167.2	31.4	31.4	-16.6	-16.9	-17.8
GEW-147	11/22/2017 14:26	10.9	45.7	0.0	43.4	174.2	174.2	29.1	30.1	-18.9	-18.7	-19.6
GEW-147	11/22/2017 14:27	10.8	46.1	0.0	43.1	174.2	174.2	37.1	34.9	-20.8	-20.5	-22.1
GEW-148	11/13/2017 9:35	0.1	9.7	19.4	70.8	49.8	49.8	3.9	1.7	-19.9	-19.9	-19.7
GEW-148	11/13/2017 9:37	0.0	3.8	20.4	75.8	50.2	50.2	2.7	1.2	-19.9	-19.9	-19.8
GEW-148	11/22/2017 13:31	0.0	1.8	20.3	77.9	49.9	50.2	2.5	4.3	-21.3	-21.4	-21.5
GEW-148	11/22/2017 13:33	0.0	0.9	20.6	78.5	51.7	51.8	3.6	0.8	-21.7	-21.9	-22.0
GEW-149	11/9/2017 14:43	11.6	43.2	3.2	42.0	97.3	97.3	16.9	16.0	-0.4	-0.3	-13.0
GEW-149	11/9/2017 14:48	13.5	34.2	3.2	49.1	98.5	98.5	14.1	16.0	-0.4	-0.3	-12.6
GEW-149	11/29/2017 14:38	10.7	39.2	3.6	46.5	97.7	97.7	20.9	27.9	-0.5	-0.1	-13.7
GEW-150	11/8/2017 14:43	12.1	32.5	6.3	49.1	116.0	116.0	4.5	6.9	-1.2	-1.2	-11.3
GEW-150	11/8/2017 14:52	12.0	32.2	6.2	49.6	104.8	103.9	1.4	1.4	-0.3	-0.3	-11.3
GEW-150	11/21/2017 11:25	16.1	42.7	5.3	35.9	70.4	70.5	4.0	2.9	-0.3	-0.3	-13.3
GEW-150	11/21/2017 11:26	16.2	41.5	5.4	36.9	70.7	70.7	3.2	3.4	-0.2	-0.3	-12.9
GEW-151	11/13/2017 9:59	1.5	48.4	0.1	50.0	52.1	52.1	6.6	5.0	0.3	0.3	0.5
GEW-151	11/13/2017 10:05	1.4	48.4	0.0	50.2	52.3	52.3	6.7	13.0	0.3	0.3	0.5
GEW-151	11/29/2017 15:18	1.5	43.5	0.0	55.0	62.6	62.6	3.0	2.7	0.1	0.1	0.1
GEW-151	11/29/2017 15:19	1.3	47.4	0.0	51.3	63.1	63.0	2.1	3.0	0.2	0.2	0.2
GEW-151	11/30/2017 13:56	22.6	49.2	0.1	28.1	122.6	122.6	31.1	24.9	-14.3	-14.2	-21.1
GEW-152	11/7/2017 11:29	29.1	44.8	0.0	26.1	117.4	117.6	3.6	3.6	-7.7	-7.7	-18.5
GEW-152	11/7/2017 11:35	27.4	48.2	0.0	24.4	119.7	119.4	4.7	4.0	-7.8	-7.8	-18.4
GEW-152	11/21/2017 10:52	32.2	41.4	0.4	26.0	125.0	124.7	4.8	3.3	-10.5	-10.6	-23.5
GEW-153	11/7/2017 10:59	43.5	40.1	0.0	16.4	72.1	72.2	5.8	4.5	-4.7	-4.7	-18.6
GEW-153	11/7/2017 11:06	44.2	37.6	0.0	18.2	73.9	74.1	5.6	6.4	-4.6	-4.6	-18.3
GEW-153	11/21/2017 10:10	41.1	39.7	0.0	19.2	81.5	81.6	3.7	1.6	-5.2	-5.2	-20.4
GEW-154	11/9/2017 14:53	2.5	17.9	14.8	64.8	87.9	88.1	5.7	10.2	-1.7	-1.7	-18.3

November 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_2O		
GEW-154	11/9/2017 14:59	2.0	10.4	15.6	72.0	88.5	88.4	4.8	5.3	-1.8	-1.8	-19.1
GEW-154	11/29/2017 14:53	1.6	16.2	14.1	68.1	75.2	75.1	2.9	3.3	-1.5	-1.5	-20.6
GEW-154	11/29/2017 14:55	1.8	8.6	14.9	74.7	75.6	75.5	1.2	2.4	-1.5	-1.5	-20.6
GEW-155	11/13/2017 10:24	1.1	20.5	9.4	69.0	110.5	110.5	12.1	14.2	-0.6	-0.6	-15.5
GEW-155	11/13/2017 10:31	0.9	14.2	9.9	75.0	107.0	107.2	6.6	5.9	-0.2	-0.2	-15.5
GEW-155	11/28/2017 10:43	0.9	18.7	6.2	74.2	112.0	112.0	6.5	6.8	-0.2	-0.2	-17.8
GEW-155	11/28/2017 10:45	0.8	17.7	6.3	75.2	109.5	109.2	4.1	5.3	-0.1	-0.1	-17.8
GEW-156	11/8/2017 15:21	16.7	23.9	10.7	48.7	87.2	87.2	2.8	2.8	-0.1	-0.1	-19.0
GEW-156	11/8/2017 15:27	15.4	21.9	10.8	51.9	87.2	87.0	2.0	2.0	-0.1	-0.1	-18.8
GEW-156	11/21/2017 14:33	11.7	17.4	12.8	58.1	80.3	80.1	2.9	2.9	-0.1	-0.1	-21.8
GEW-156	11/21/2017 14:35	11.8	18.4	12.7	57.1	80.5	80.3	3.9	1.2	-0.1	-0.1	-22.5
GEW-157	11/8/2017 15:04	0.0	4.2	20.1	75.7	66.8	67.0	3.9	4.3	-5.9	-6.0	-10.4
GEW-157	11/8/2017 15:06	0.0	1.1	20.7	78.2	68.4	68.5	2.0	2.0	-8.1	-8.1	-10.3
GEW-157	11/21/2017 14:20	0.0	6.4	19.3	74.3	55.7	55.7	3.1	4.3	-15.2	-15.2	-16.1
GEW-157	11/21/2017 14:21	0.0	3.2	19.7	77.1	55.6	55.6	1.2	5.0	-16.6	-16.6	-16.7
GEW-158	11/8/2017 11:26	34.8	47.3	0.0	17.9	83.7	83.3	7.6	6.4	-0.8	-0.8	-10.6
GEW-158	11/8/2017 11:33	35.1	47.1	0.0	17.8	88.2	88.6	9.7	6.5	-1.3	-1.3	-10.0
GEW-158	11/21/2017 11:11	27.8	54.0	0.0	18.2	96.3	96.0	5.1	3.2	-2.0	-2.0	-14.0
GEW-159	11/7/2017 10:49	27.5	45.9	0.0	26.6	90.3	90.1	5.2	5.9	-10.4	-10.5	-18.6
GEW-159	11/7/2017 10:55	29.0	42.8	0.0	28.2	88.4	88.4	4.0	5.8	-10.5	-10.5	-18.3
GEW-159	11/21/2017 10:13	30.8	40.7	0.0	28.5	102.3	101.3	3.6	3.0	-9.6	-9.6	-19.8
GEW-160	11/13/2017 8:52	13.4	44.7	0.0	41.9	48.5	48.4	13.8	14.7	-20.0	-19.9	-20.1
GEW-160	11/13/2017 8:58	13.2	44.5	0.0	42.3	48.8	48.8	10.6	17.8	-19.9	-19.9	-20.1
GEW-161	11/13/2017 9:03	0.3	14.0	14.4	71.3	47.3	47.3	3.6	6.9	-19.9	-19.9	-20.1
GEW-161	11/13/2017 9:05	0.3	12.2	14.6	72.9	47.4	47.4	4.9	6.6	-19.9	-19.9	-20.1
GEW-162	11/9/2017 14:32	11.6	62.0	0.0	26.4	69.6	69.6	9.9	1.7	-9.4	-9.4	-18.7
GEW-162	11/9/2017 14:39	11.4	60.4	0.0	28.2	68.1	68.0	3.3	2.6	-9.4	-9.4	-18.9
GEW-162	11/29/2017 14:35	22.5	47.4	0.5	29.6	67.0	66.9	8.2	2.6	-15.3	-15.2	-20.0
GEW-163	11/1/2017 15:35	10.4	29.5	10.1	50.0	151.3	151.0	35.7	35.7	-1.1	-1.1	-19.1
GEW-163	11/1/2017 15:39	10.5	30.6	9.7	49.2	150.2	151.4	18.5	18.7	-0.3	-0.4	-17.4
GEW-163	11/7/2017 8:59	11.2	35.3	6.4	47.1	169.5	170.0	7.9	7.1	-0.2	-0.2	-18.3
GEW-163	11/7/2017 9:06	11.1	36.2	6.2	46.5	170.5	169.9	16.1	14.3	-0.2	-0.3	-18.6
GEW-163	11/13/2017 14:56	8.2	36.1	7.4	48.3	172.6	172.9	24.6	16.5	-0.2	-0.2	-17.8
GEW-163	11/13/2017 14:58	7.8	39.4	7.0	45.8	173.1	173.2	29.2	26.9	-0.1	-0.1	-16.8
GEW-163	11/20/2017 10:48	8.3	40.4	5.9	45.4	178.7	178.4	10.8	13.5	-0.1	-0.1	-17.1
GEW-163	11/20/2017 10:50	8.2	41.3	6.0	44.5	178.6	178.7	27.6	30.4	-0.1	-0.1	-17.8
GEW-163	11/27/2017 11:08	4.2	31.6	9.4	54.8	176.3	175.8	14.7	7.1	-0.1	-0.1	-20.4
GEW-163	11/27/2017 11:09	4.1	30.6	9.8	55.5	175.8	175.3	10.8	11.8	-0.1	-0.2	-20.1
GEW-164	11/7/2017 9:10	19.4	49.6	3.0	28.0	161.8	162.0	28.0	23.1	-0.9	-1.0	-19.5
GEW-164	11/7/2017 9:16	19.4	49.3	2.9	28.4	162.1	162.0	25.8	26.6	-0.9	-0.9	-19.3
GEW-164	11/13/2017 15:01	19.6	59.5	1.2	19.7	167.6	167.1	32.8	32.3	-0.6	-0.6	-17.9
GEW-164	11/13/2017 15:02	19.8	63.0	1.1	16.1	167.1	167.1	36.0	36.6	-0.6	-0.6	-18.2
GEW-164	11/20/2017 10:55	20.8	54.0	1.3	23.9	166.4	166.1	34.6	27.4	-0.6	-0.6	-19.1

November 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_2O		
GEW-164	11/20/2017 10:56	20.9	55.3	1.2	22.6	166.6	166.2	25.6	23.4	-0.6	-0.6	-19.7
GEW-164	11/27/2017 11:14	17.4	46.0	4.2	32.4	159.0	158.5	46.6	40.8	-1.0	-0.9	-20.8
GEW-164	11/27/2017 11:16	17.1	47.7	4.0	31.2	158.7	158.5	35.5	33.1	-0.9	-1.0	-20.5
GEW-165	11/7/2017 9:19	9.4	53.1	3.1	34.4	183.4	183.9	32.6	33.4	-1.2	-1.1	-18.0
GEW-165	11/7/2017 9:26	8.7	55.2	3.1	33.0	183.9	183.3	25.7	25.4	-1.2	-1.2	-18.1
GEW-165	11/13/2017 15:06	7.3	58.1	3.5	31.1	183.3	183.3	39.0	38.3	-1.1	-1.1	-16.6
GEW-165	11/13/2017 15:07	7.0	61.1	3.5	28.4	183.3	183.3	31.4	29.9	-0.8	-0.9	-16.6
GEW-165	11/20/2017 10:59	8.9	51.7	3.1	36.3	183.3	182.8	30.0	29.2	-1.2	-1.2	-19.1
GEW-165	11/20/2017 11:01	8.5	55.8	2.8	32.9	183.2	183.3	14.0	18.5	-1.0	-0.9	-19.1
GEW-165	11/27/2017 11:19	9.2	54.2	2.6	34.0	183.3	183.3	29.2	26.4	-1.0	-0.9	-19.3
GEW-165	11/27/2017 11:20	8.9	57.1	2.6	31.4	183.3	183.3	34.4	26.6	-0.9	-0.9	-19.1
GEW-166	11/7/2017 9:37	1.2	52.5	0.5	45.8	195.0	195.0	34.5	32.1	-14.7	-14.8	-18.6
GEW-166	11/7/2017 9:44	0.9	55.6	0.3	43.2	195.0	195.0	33.9	29.6	-14.7	-14.7	-19.4
GEW-166	11/13/2017 15:10	1.0	61.7	0.4	36.9	195.7	195.7	34.8	33.2	-12.9	-12.6	-16.9
GEW-166	11/13/2017 15:12	0.7	64.0	0.4	34.9	195.7	195.7	35.4	31.4	-13.1	-12.7	-16.1
GEW-166	11/20/2017 11:04	1.1	54.8	0.4	43.7	195.0	195.0	39.3	39.4	-13.0	-13.2	-15.9
GEW-166	11/20/2017 11:05	1.0	56.5	0.4	42.1	195.0	195.0	35.8	37.3	-13.7	-13.2	-18.9
GEW-166	11/27/2017 11:23	1.2	55.3	0.4	43.1	194.4	194.4	39.7	39.8	-15.1	-15.1	-19.1
GEW-166	11/27/2017 11:23	0.9	57.2	0.4	41.5	194.8	194.3	43.9	43.9	-15.1	-15.1	-19.6
GEW-167	11/7/2017 9:48	0.6	40.8	7.1	51.5	187.6	187.6	17.0	17.6	-0.3	-0.3	-18.0
GEW-167	11/7/2017 9:56	0.5	39.6	7.0	52.9	188.3	188.3	18.2	17.0	-0.3	-0.3	-18.0
GEW-167	11/13/2017 15:15	0.3	56.6	2.6	40.5	191.6	190.9	17.0	14.1	-0.1	-0.1	-17.2
GEW-167	11/13/2017 15:16	0.3	57.2	2.4	40.1	191.7	191.0	16.0	17.9	-0.1	-0.1	-16.6
GEW-167	11/20/2017 11:09	0.5	49.2	2.8	47.5	190.9	190.9	13.0	13.2	-0.1	-0.1	-18.0
GEW-167	11/20/2017 11:10	0.5	49.8	2.9	46.8	190.9	190.9	8.3	6.5	-0.1	-0.1	-17.7
GEW-167	11/27/2017 11:27	0.5	47.9	4.1	47.5	190.2	190.2	13.8	16.1	-0.2	-0.2	-19.6
GEW-167	11/27/2017 11:28	0.4	46.0	4.2	49.4	190.2	190.2	13.2	16.0	-0.2	-0.1	-19.7
GEW-168	11/7/2017 10:04	10.8	55.3	0.7	33.2	166.6	166.6	172.4	172.9	-3.8	-3.7	-19.5
GEW-168	11/7/2017 10:10	11.0	55.9	0.5	32.6	166.1	166.1	166.5	166.3	-3.5	-3.5	-17.8
GEW-168	11/13/2017 15:21	10.0	66.2	0.7	23.1	166.1	165.7	168.4	168.5	-3.8	-3.8	-17.9
GEW-168	11/13/2017 15:23	10.2	66.1	0.7	23.0	166.1	166.1	168.9	169.2	-3.8	-3.8	-18.2
GEW-168	11/20/2017 11:14	9.4	58.2	0.0	32.4	179.2	179.2	173.4	174.5	-1.9	-1.9	-18.3
GEW-168	11/20/2017 11:15	9.3	59.9	0.0	30.8	179.7	179.7	174.4	175.0	-2.0	-2.0	-18.5
GEW-168	11/27/2017 11:31	9.5	58.5	0.0	32.0	181.6	181.5	179.0	177.9	-2.2	-2.3	-20.3
GEW-168	11/27/2017 11:32	9.4	61.3	0.0	29.3	181.5	181.5	180.1	179.3	-2.2	-2.2	-20.6
GEW-169	11/7/2017 10:14	3.2	49.0	4.9	42.9	184.8	185.1	25.1	18.8	-2.6	-2.6	-17.8
GEW-169	11/7/2017 10:20	3.0	48.6	4.9	43.5	183.9	183.9	15.2	12.9	-1.8	-1.8	-17.9
GEW-169	11/13/2017 15:26	1.5	58.0	4.6	35.9	186.4	185.7	21.8	17.7	-1.9	-1.9	-18.1
GEW-169	11/13/2017 15:27	1.5	57.4	4.8	36.3	185.1	185.7	12.3	11.6	-1.4	-1.4	-18.0
GEW-169	11/20/2017 11:18	2.7	61.3	0.0	36.0	193.6	193.1	10.3	13.4	-0.1	-0.1	-18.5
GEW-169	11/20/2017 11:20	2.6	63.1	0.0	34.3	193.6	193.6	10.5	14.0	-0.3	-0.4	-18.6
GEW-169	11/27/2017 11:35	3.0	63.1	0.1	33.8	192.6	192.4	16.2	12.8	-0.7	-0.8	-20.9
GEW-169	11/27/2017 11:36	2.8	64.0	0.1	33.1	192.9	192.9	18.1	17.6	-0.7	-0.7	-20.2

November 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_2O		
GEW-170	11/9/2017 11:30	8.5	48.0	5.5	38.0	165.7	165.7	36.2	40.8	-11.2	-12.1	-15.7
GEW-170	11/9/2017 11:39	8.7	45.3	5.5	40.5	166.1	166.1	19.4	22.9	-8.7	-8.7	-15.7
GEW-170	11/28/2017 14:27	8.1	40.8	6.3	44.8	168.1	168.1	30.4	27.9	-8.8	-9.1	-17.4
GEW-170	11/28/2017 14:28	7.6	43.1	6.1	43.2	168.1	167.8	19.7	23.7	-8.7	-8.6	-17.1
GEW-172	11/9/2017 9:48	0.2	56.1	0.9	42.8	63.0	62.6	11.7	12.0	-17.5	-17.9	-18.2
GEW-172	11/9/2017 9:55	0.2	48.5	2.7	48.6	61.9	62.3	4.8	3.9	-18.4	-18.4	-19.2
GEW-172	11/28/2017 11:05	0.1	21.4	13.1	65.4	80.0	79.9	5.9	9.6	-20.3	-20.4	-20.6
GEW-172	11/28/2017 11:06	0.1	26.9	11.4	61.6	79.6	79.5	8.8	6.5	-20.2	-20.3	-20.1
GEW-173	11/9/2017 9:30	7.8	24.8	10.6	56.8	101.1	101.1	48.0	37.9	-1.7	-1.6	-8.1
GEW-173	11/9/2017 9:38	9.1	19.3	11.4	60.2	94.3	94.1	9.0	8.6	-0.2	-0.2	-15.0
GEW-173	11/28/2017 10:44	27.2	33.7	3.8	35.3	98.4	98.9	5.4	13.8	-0.2	-0.2	-19.2
GEW-174	11/9/2017 9:17	6.1	52.1	0.0	41.8	112.2	112.2	6.5	7.0	1.2	1.2	-18.0
GEW-174	11/9/2017 9:26	10.3	53.9	0.0	35.8	152.9	153.3	16.5	13.9	-0.3	-0.3	-19.9
GEW-174	11/22/2017 11:16	18.1	45.5	0.2	36.2	146.3	146.3	34.7	49.7	-4.6	-4.6	-20.8
GEW-175	11/8/2017 14:31	17.9	45.3	2.4	34.4	124.2	124.2	50.5	48.7	-0.7	-0.7	-18.7
GEW-175	11/8/2017 14:37	17.4	46.3	2.2	34.1	124.4	124.3	55.1	46.9	-0.7	-0.7	-18.2
GEW-175	11/21/2017 11:22	18.0	43.1	3.4	35.5	117.9	117.7	54.9	49.8	-0.8	-0.6	-22.2
GEW-176	11/8/2017 11:37	22.2	39.7	4.0	34.1	69.0	69.0	14.8	14.9	-0.7	-0.7	-19.3
GEW-176	11/8/2017 11:47	21.9	41.2	4.0	32.9	68.8	68.8	10.0	9.6	-0.5	-0.5	-19.1
GEW-176	11/21/2017 11:18	24.9	46.2	3.4	25.5	64.9	64.9	9.0	9.8	-0.5	-0.5	-22.2
GEW-177	11/9/2017 10:46	0.2	58.3	1.0	40.5	70.5	70.9	14.2	18.2	-17.1	-17.4	-17.2
GEW-177	11/9/2017 10:52	0.2	61.1	0.3	38.4	73.1	73.0	19.1	15.1	-17.4	-17.1	-17.3
GEW-177	11/28/2017 11:24	0.2	50.6	3.5	45.7	80.6	80.5	18.4	9.9	-20.1	-19.9	-20.2
GEW-177	11/28/2017 11:26	0.2	60.7	0.3	38.8	80.7	81.2	16.5	27.5	-20.4	-20.3	-20.6
GEW-1A	11/9/2017 10:35	1.3	10.1	19.7	68.9	65.0	65.1	8.0	5.2	-13.4	-13.7	-13.5
GEW-1A	11/9/2017 10:36	0.3	2.7	20.8	76.2	66.5	66.6	4.7	4.7	-13.7	-13.7	-13.5
GEW-1A	11/16/2017 9:54	0.3	6.6	20.7	72.4	52.7	52.8	4.5	1.2	-14.3	-14.3	-14.6
GEW-1A	11/16/2017 9:56	0.1	1.3	21.8	76.8	53.9	53.9	1.7	2.7	-14.2	-14.3	-14.5
GEW-1A	11/20/2017 11:00	0.6	7.7	20.1	71.6	64.4	64.4	6.1	5.9	-13.5	-13.5	-13.8
GEW-1A	11/20/2017 11:02	0.1	1.2	21.4	77.3	65.4	65.4	2.6	4.1	-13.5	-13.5	-13.7
GEW-1A	11/28/2017 9:52	2.0	12.8	18.7	66.5	70.0	70.2	4.9	3.3	-13.2	-13.2	-13.6
GEW-1A	11/28/2017 9:54	0.3	2.4	20.7	76.6	71.1	71.1	5.0	2.8	-13.5	-13.3	-13.7
GEW-2S	11/9/2017 10:54	51.8	41.6	1.0	5.6	71.1	71.0	5.2	3.1	-10.0	-10.0	-10.2
GEW-2S	11/9/2017 11:03	51.9	41.5	1.1	5.5	70.2	70.2	1.2	7.4	-10.0	-10.0	-10.0
GEW-2S	11/9/2017 11:06	51.7	41.7	1.1	5.5	70.9	70.9	6.6	8.7	-8.6	-9.0	-11.1
GEW-2S	11/9/2017 11:54	55.4	39.1	0.0	5.5	67.0	67.2	6.8	6.9	-0.6	-0.6	-11.3
GEW-2S	11/16/2017 11:06	56.4	40.8	0.1	2.7	56.1	56.1	1.2	2.1	-5.3	-5.3	-11.1
GEW-2S	11/20/2017 11:14	55.6	39.7	0.2	4.5	65.0	65.0	6.6	3.6	-7.4	-7.2	-7.3
GEW-2S	11/28/2017 10:05	54.6	39.6	0.5	5.3	72.8	72.7	13.4	10.1	-9.2	-9.2	-10.3
GIW-01	11/6/2017 10:41	6.1	56.2	0.5	37.2	170.7	171.0	7.5	7.8	-6.3	-6.3	-20.4
GIW-01	11/6/2017 10:47	6.0	58.9	0.4	34.7	173.1	173.1	12.4	13.2	-6.1	-5.9	-19.9
GIW-01	11/14/2017 9:35	7.0	56.8	0.2	36.0	169.0	169.5	4.5	4.7	-5.8	-5.8	-20.4
GIW-01	11/14/2017 9:36	6.3	73.8	0.0	19.9	170.5	170.5	6.0	4.9	-5.5	-5.5	-20.6

November 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_2O		
GIW-01	11/20/2017 9:23	5.9	62.9	0.0	31.2	172.1	172.1	12.7	13.0	-5.3	-5.4	-19.9
GIW-01	11/20/2017 9:24	6.0	63.6	0.0	30.4	172.6	172.6	13.1	13.1	-5.3	-5.3	-20.2
GIW-01	11/27/2017 9:31	17.4	43.2	2.3	37.1	95.5	95.5	5.5	5.6	-20.5	-20.5	-21.5
GIW-02	11/6/2017 10:51	1.8	19.8	13.7	64.7	57.3	57.4	3.8	3.8	-0.1	-0.1	-19.1
GIW-02	11/6/2017 10:57	1.9	13.3	14.4	70.4	57.1	57.0	1.3	1.8	-0.1	-0.1	-19.2
GIW-02	11/14/2017 9:39	4.6	31.9	7.7	55.8	52.3	52.3	4.9	3.6	-0.1	-0.1	-19.6
GIW-02	11/14/2017 9:40	5.1	29.3	7.9	57.7	52.3	52.3	2.9	2.6	-0.1	-0.1	-19.6
GIW-02	11/20/2017 9:27	3.4	29.5	8.9	58.2	59.9	60.1	5.0	4.4	-0.1	-0.1	-19.5
GIW-02	11/20/2017 9:28	3.8	25.0	9.4	61.8	60.7	60.7	2.4	3.8	-0.1	0.0	-19.4
GIW-02	11/21/2017 13:21	2.8	21.0	9.8	66.4	60.7	60.7	1.0	0.9	-0.1	-0.1	-21.0
GIW-02	11/21/2017 13:22	2.7	22.3	9.7	65.3	60.7	60.7	1.2	1.4	-0.1	-0.1	-20.2
GIW-02	11/27/2017 9:34	3.9	27.0	9.3	59.8	69.5		2.7	2.1	-0.1	-0.1	-21.6
GIW-02	11/27/2017 9:35	3.6	24.6	9.5	62.3	70.9	70.9	3.8	3.4	-0.1	-0.1	-21.5
GIW-03	11/6/2017 11:01	3.5	48.0	1.2	47.3	56.6	56.7	4.2	4.2	-4.7	-4.7	-19.2
GIW-03	11/6/2017 11:07	3.2	49.9	0.7	46.2	57.5	57.5	3.2	4.0	-4.7	-4.7	-19.4
GIW-03	11/14/2017 9:43	1.5	66.0	0.0	32.5	51.0	51.0	2.6	1.5	1.2	1.2	-20.1
GIW-03	11/14/2017 9:50	1.2	67.7	0.0	31.1	48.8	48.8	2.9	2.9	-1.0	-1.0	-20.1
GIW-03	11/20/2017 9:31	2.3	61.8	0.3	35.6	56.4	56.4	4.2	4.0	-1.6	-1.6	-19.4
GIW-03	11/27/2017 9:38	1.5	59.8	0.0	38.7	65.8	65.8	4.0	3.6	-0.4	-0.5	-18.1
GIW-04	11/6/2017 11:12	1.7	51.3	3.9	43.1	56.2	56.3	1.7	2.1	-6.9	-6.9	-19.1
GIW-04	11/6/2017 11:19	1.5	51.4	4.1	43.0	56.0	56.0	2.4	2.7	-6.4	-6.4	-19.2
GIW-04	11/14/2017 9:53	0.5	58.4	3.3	37.8	51.3	51.3	9.1	8.0	-5.1	-5.0	-18.5
GIW-04	11/20/2017 9:34	0.0	7.7	20.1	72.2	57.3	57.7	2.3	3.8	-16.2	-16.2	-19.4
GIW-04	11/20/2017 9:35	0.0	3.8	20.9	75.3	58.7	58.7	1.7	1.7	-16.1	-16.1	-19.4
GIW-04	11/27/2017 9:42	0.1	13.4	18.3	68.2	68.8	69.1	3.6	3.6	-15.6	-15.6	-19.3
GIW-04	11/27/2017 9:43	0.1	6.5	19.5	73.9	69.5	69.6	2.3	2.6	-16.1	-16.2	-19.6
GIW-05	11/6/2017 11:35	0.3	10.0	20.0	69.7	53.9	54.1	0.0	0.0	-1.9	-1.9	-19.2
GIW-05	11/6/2017 11:42	0.1	3.3	21.6	75.0	54.7	54.7	3.0	0.9	-1.8	-1.8	-19.1
GIW-05	11/14/2017 10:00	0.6	22.3	16.1	61.0	50.2	50.4	6.5	6.8	-1.2	-1.2	-18.5
GIW-05	11/14/2017 10:01	0.3	16.2	16.6	66.9	50.7	50.7	5.8	7.0	-1.2	-1.2	-19.2
GIW-05	11/20/2017 9:43	0.5	17.8	14.9	66.8	56.5	57.2	0.0	0.0	-1.0	-0.9	-19.3
GIW-05	11/20/2017 9:45	0.0	0.0	14.1	85.9	57.4	57.4	2.8	4.0	-1.0	-1.0	-19.3
GIW-05	11/27/2017 10:30	0.6	21.5	13.3	64.6	70.0	70.0	4.8	3.9	-0.8	-0.8	-18.7
GIW-05	11/27/2017 10:31	0.6	21.1	13.1	65.2	70.4	70.5	5.6	6.2	-0.8	-0.8	-18.2
GIW-06	11/6/2017 14:04	19.4	42.3	0.2	38.1	50.9	50.9	5.7	6.1	-16.2	-16.1	-19.3
GIW-06	11/6/2017 14:11	18.6	44.0	0.0	37.4	51.0	51.0	4.8	3.8	-16.1	-16.0	-19.3
GIW-06	11/14/2017 10:47	14.8	47.8	0.1	37.3	53.7	53.7	2.6	1.5	-9.1	-9.1	-18.4
GIW-06	11/20/2017 9:48	11.5	46.6	0.1	41.8	57.8	57.8	2.7	2.7	-6.9	-6.9	-19.4
GIW-06	11/27/2017 10:33	14.3	45.4	0.3	40.0	73.4	73.5	4.2	4.0	-8.5	-8.4	-18.3
GIW-07	11/6/2017 14:14	21.9	60.6	0.4	17.1	51.3	51.3	4.5	4.7	-8.4	-8.3	-18.9
GIW-07	11/6/2017 14:21	21.8	61.0	0.2	17.0	51.0	51.0	4.2	3.6	-8.6	-8.5	-19.4
GIW-07	11/14/2017 10:50	20.7	67.4	0.3	11.6	53.9	53.9	1.9	1.9	-7.4	-7.4	-18.9
GIW-07	11/20/2017 9:51	20.9	59.3	0.5	19.3	60.7	60.7	3.8	2.9	-7.4	-7.4	-19.3

November 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_2O		
GIW-07	11/27/2017 10:37	21.2	59.3	0.7	18.8	78.0	78.0	2.8	2.6	-6.8	-6.8	-17.8
GIW-08	11/6/2017 14:25	23.5	53.9	0.0	22.6	52.2	52.3	1.2	1.2	-4.1	-4.1	-19.0
GIW-08	11/6/2017 14:31	23.9	52.4	0.0	23.7	52.3	52.3	3.0	3.2	-4.1	-4.1	-19.7
GIW-08	11/14/2017 10:52	22.7	63.9	0.0	13.4	55.1	55.1	4.8	3.8	-3.8	-3.8	-18.6
GIW-08	11/20/2017 9:54	23.9	52.2	0.0	23.9	61.6	61.6	3.2	1.7	-3.6	-3.6	-19.4
GIW-08	11/27/2017 10:39	25.6	54.6	0.0	19.8	74.5	74.5	2.0	2.6	-3.4	-3.5	-18.6
GIW-09	11/6/2017 14:44	3.5	23.1	10.4	63.0	51.0	51.0	3.7	4.3	-2.2	-2.2	-19.4
GIW-09	11/6/2017 14:50	4.1	15.6	11.1	69.2	51.4	51.4	2.1	1.2	-2.3	-2.3	-19.4
GIW-09	11/14/2017 10:57	4.8	28.8	8.0	58.4	55.2	55.2	5.0	4.5	-2.0	-2.0	-18.6
GIW-09	11/14/2017 10:58	5.6	22.8	8.3	63.3	55.6	55.7	4.5	4.5	-2.0	-2.0	-18.4
GIW-09	11/20/2017 10:01	6.8	25.2	6.2	61.8	59.4	59.4	3.2	3.0	-1.9	-1.9	-19.5
GIW-09	11/20/2017 10:02	7.1	21.8	6.5	64.6	60.0	60.0	1.7	1.2	-1.8	-1.8	-19.1
GIW-09	11/27/2017 10:45	6.1	23.5	7.4	63.0	73.0	73.0	1.7	1.2	-1.6	-1.6	-19.0
GIW-09	11/27/2017 10:46	6.4	20.9	7.4	65.3	73.8	73.9	1.2	1.7	-1.6	-1.6	-18.3
GIW-10	11/6/2017 11:24	11.5	37.6	0.0	50.9	55.2	55.3	2.1	2.1	-5.3	-5.1	-19.3
GIW-10	11/6/2017 11:30	12.3	34.0	0.0	53.7	56.4	56.4	2.1	2.1	-5.0	-5.0	-19.0
GIW-10	11/14/2017 9:56	6.1	49.9	0.0	44.0	52.4	52.4	4.7	5.0	-3.6	-3.6	-18.5
GIW-10	11/20/2017 9:39	7.8	38.5	0.0	53.7	59.2	59.2	2.1	2.4	-3.9	-3.9	-19.3
GIW-10	11/27/2017 10:26	6.7	42.7	0.0	50.6	72.5	72.5	2.4	2.0	-3.4	-3.4	-19.6
GIW-11	11/6/2017 10:29	14.8	37.7	0.4	47.1	53.4	53.4	5.9	4.2	-1.7	-1.7	-17.2
GIW-11	11/6/2017 10:36	13.6	39.3	0.4	46.7	53.2	53.2	3.2	4.3	-1.8	-1.8	-17.4
GIW-11	11/13/2017 15:55	11.1	50.1	0.0	38.8	54.9	54.9	5.5	7.6	-1.2	-1.2	-16.1
GIW-11	11/20/2017 9:19	12.6	44.5	0.0	42.9	57.5	57.6	1.7	4.0	-1.3	-1.3	-17.4
GIW-11	11/27/2017 9:27	11.7	46.5	0.0	41.8	67.9	67.9	3.8	4.0	-1.2	-1.2	-19.4
GIW-12	11/6/2017 9:40	5.5	37.7	8.1	48.7	47.8	47.9	2.5	2.5	-0.2	-0.2	-17.7
GIW-12	11/6/2017 9:47	4.7	31.9	8.6	54.8	48.0	48.0	2.8	2.5	-0.1	-0.1	-17.9
GIW-12	11/13/2017 15:49	2.3	60.1	0.8	36.8	54.4	54.4	4.8	4.6	-0.1	-0.1	-17.4
GIW-12	11/20/2017 9:13	3.0	51.7	0.6	44.7	52.3	52.4	2.5	5.2	-0.1	-0.1	-18.0
GIW-12	11/27/2017 9:22	2.2	56.2	0.0	41.6	60.1	60.1	3.2	2.7	-0.1	-0.1	-19.4
GIW-13	11/6/2017 9:31	27.1	52.3	0.0	20.6	46.9	47.0	5.7	5.4	-1.7	-1.7	-12.7
GIW-13	11/6/2017 9:37	24.9	52.7	0.0	22.4	47.4	47.4	3.1	1.8	-1.7	-1.7	-13.1
GIW-13	11/13/2017 15:46	18.4	65.6	0.0	16.0	57.6	57.7	4.6	4.4	-1.0	-1.0	-12.8
GIW-13	11/20/2017 9:11	19.6	55.7	0.0	24.7	54.5	54.5	4.9	5.5	-1.2	-1.2	-13.3
GIW-13	11/27/2017 9:20	19.2	58.2	0.0	22.6	65.0	65.2	1.7	2.4	-1.3	-1.3	-15.1
LCS-1D	11/15/2017 9:07	53.5	29.7	3.2	13.6	69.8	69.6	2.0	5.0	-17.9	-17.6	-19.3
LCS-5A	11/10/2017 8:56	55.8	37.7	0.5	6.0	73.3	73.4	NFD		-14.8	-14.8	-14.7
LCS-5A	11/15/2017 10:19	54.7	42.7	0.4	2.2	79.2	79.1	NFD		-14.0	-14.0	-13.8
LCS-5A	11/20/2017 9:23	50.9	42.3	0.7	6.1	79.2	79.3	NFD		-14.0	-13.7	-13.8
LCS-5A	11/28/2017 8:54	53.3	40.9	0.3	5.5	84.1	84.1	NFD		-13.6	-13.6	-13.7
LCS-5B	11/10/2017 9:00	55.5	38.4	0.0	6.1	143.6	143.6	24.4	24.2	-14.7	-14.6	-14.7
LCS-5B	11/10/2017 9:01	53.6	40.7	0.0	5.7	143.9	143.9	26.0	25.2	-14.7	-14.7	-14.8
LCS-5B	11/15/2017 10:27	54.0	41.0	0.0	5.0	144.5	144.5	25.8	23.7	-13.8	-13.8	-13.8
LCS-5B	11/15/2017 10:28	54.0	42.0	0.0	4.0	144.6	144.8	24.8	25.1	-13.6	-13.7	-13.8

November 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_2O**		
LCS-5B	11/20/2017 9:31	52.8	40.8	0.0	6.4	132.9	133.0	28.1	28.1	-13.7	-13.7	-13.8
LCS-5B	11/20/2017 9:32	52.9	41.3	0.0	5.8	134.0	134.1	25.3	24.8	-13.6	-13.6	-13.8
LCS-5B	11/28/2017 9:01	53.1	40.6	0.0	6.3	144.5	144.5	29.8	29.1	-13.5	-13.5	-13.7
LCS-5B	11/28/2017 9:02	53.3	41.0	0.0	5.7	144.5	144.6	27.3	26.4	-13.5	-13.5	-13.8
LCS-6B	11/10/2017 8:39	57.0	36.1	0.0	6.9	101.4	101.4	8.3	7.8	-2.7	-2.7	-14.9
LCS-6B	11/15/2017 9:33	56.3	42.0	0.1	1.6	104.2	104.3	10.3	10.0	-2.1	-2.2	-14.1
LCS-6B	11/20/2017 8:22	53.7	41.9	0.1	4.3	94.1	94.1	25.8	27.7	-1.5	-1.5	-14.1
LCS-6B	11/28/2017 8:07	52.1	41.8	0.0	6.1	93.9	93.9	10.8	10.8	-1.4	-1.4	-13.8
PGW-60	11/10/2017 8:33	58.0	39.3	0.0	2.7	78.0	78.0	13.0	21.6	-10.6	-11.7	-12.1
PGW-60	11/20/2017 11:06	58.2	39.1	0.1	2.6	82.8	82.8	0.0	0.0	-7.5	-8.2	-9.2
PGW-60	11/28/2017 9:58	57.8	40.1	0.0	2.1	83.7	83.5	15.9	0.0	-9.6	-9.6	-10.3
SEW-002	11/22/2017 10:11	5.7	30.1	11.4	52.8	111.7	111.7	15.5	11.7	-0.7	-0.7	-20.4
SEW-002	11/22/2017 10:13	5.3	31.5	11.4	51.8	100.4	100.1	7.1	4.6	-0.1	-0.1	-19.7
T-56	11/10/2017 8:46	26.4	27.7	1.1	44.8	59.2	59.2	18.8	16.4	0.0	0.0	-14.6
T-56	11/15/2017 9:53	47.2	35.4	0.0	17.4	60.7	60.7	15.6	20.5	0.0	0.0	-14.3
T-56	11/20/2017 8:42	33.7	31.5	0.0	34.8	58.3	58.4	15.9	17.9	0.0	0.1	-13.7
T-56	11/20/2017 8:44	33.4	30.4	0.1	36.1	58.6	58.7	17.6	15.1	0.0	0.0	-13.5
T-56	11/28/2017 8:21	35.1	31.9	0.0	33.0	59.4	59.3	21.5	14.2	-0.1	-0.1	-13.5

ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

Wellfield Temperature - Bridgeton Landfill

Well Name	August 2017	September 2017	October 2017	November 2017	Temp Trend ><30°F	Comments
GEW-001	--	--	--	--		
GEW-002	118.6	124.2	121.0	107.1		
GEW-003	116.6	115.8	114.7	111.4		
GEW-004	118.5	118.9	118.1	116.2		
GEW-005	94.1	94.2	91.5	89.4		
GEW-006	91.8	91.7	87.5	86.5		
GEW-007	97.7	97.2	93.6	91.5		
GEW-008	112.7	113.4	111.5	111.7		
GEW-009	123.1	124.5	121.5	121.8		
GEW-010	106.2	104.7	84.9	61.8		
GEW-011	--	--	--	--		
GEW-013A	132.9	130	129.7	119.7		
GEW-014A	--	--	--	--		
GEW-015	163.1	162.6	156.9	183.1		
GEW-016R	182.7	180.5	183.3	183.3		
GEW-018B	193.6	179.7	181.3	171.0		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	136.2	123.4	102.3	92.5		
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	111.6	110	90.6	71.6		
GEW-039	119.9	120.5	113.7	106.5		
GEW-040	93.4	85.6	79.6	62.8		
GEW-041R	106.3	105.0	104.5	99.9		
GEW-042R	110.5	109.2	107.0	97.9		
GEW-043R	121.3	121.0	119.7	118.4		

Wellfield Temperature - Bridgeton Landfill

Well Name	August 2017	September 2017	October 2017	November 2017	Temp Trend ><30°F	Comments
GEW-044	97.9	97.0	95.0	85.6		
GEW-045R	115.8	98.6	96.3	87.7		
GEW-046R	102.1	103.3	99.4	97.0		
GEW-047R	111.8	91.7	80	103.8		
GEW-048	105.0	104.5	103.3	100.6		
GEW-049	113.1	110.1	108.7	106.5		
GEW-050	108	107.2	106.2	104.3		
GEW-051	127.5	125.8	123.9	122.1		
GEW-052	115.1	116.0	112.0	111.5		
GEW-053	136.8	136.4	134.6	137.1		
GEW-054	140.9	143.6	142.9	143.2		
GEW-055	139.6	135.9	132.0	132.6		
GEW-056R	136.8	129.4	111.0	96.5		
GEW-057B	93.4	107.1	74.1	55.5		
GEW-057R	107.2	--	85.6	69.5		
GEW-058	130.6	139.9	84.7	71.8		
GEW-058A	124.2	123.1	85.4	67.5		
GEW-059R	171.0	172.6	168.5	161.1		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	--	--	--	--		
GEW-066	--	--	--	--		
GEW-067A	168.1	150.2	169.5	151.7		
GEW-068A	--	192.9	183.3	179.7		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	129.4	120.0	--	--		
GEW-078R	171	167.1	169	162.4		
GEW-080	--	--	--	--		
GEW-081	100.8	90.3	87.5	80.0		
GEW-082R	181.5	182.7	183.3	177.5		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	114.5	106.9	99.4	101.8		

Wellfield Temperature - Bridgeton Landfill

Well Name	August 2017	September 2017	October 2017	November 2017	Temp Trend ><30°F	Comments
GEW-087	195.7	166.6	169	128.6		
GEW-088	193.6	181.5	197.2	190.9		
GEW-089	--	--	--	--		
GEW-090	183.3	163.8	170.1	162.6		
GEW-091	194.4	195.7	199.3	185.7		
GEW-100	--	--	91.9	57.8		
GEW-101	106	103.8	--	81.4		
GEW-102	91.9	110.0	85.6	62.3		
GEW-103	--	--	--	--		
GEW-104	92.9	172.6	173.6	55.2		
GEW-105	154.8	140.9	81.7	78.9		
GEW-106	102.2	108.0	76.2	62.3		
GEW-107	101.8	110.2	78.9	62.9		
GEW-108	90.5	164.3	146.3	141.9		
GEW-109	108.5	110.0	92.7	78.4		
GEW-110	103.1	128.0	89.6	70.0		
GEW-112	--	--	--	--		
GEW-113	158.1	158.5	159.4	157.3		
GEW-116	190.2	190.2	190.9	187.0		
GEW-117	134.4	144.9	139.9	132.9		
GEW-118	194.3	192.9	195	193.0		
GEW-120	164.3	167.1	158.1	162.9		
GEW-121	178	178	175.3	174.7		
GEW-122	168.2	159.4	158.5	157.7		
GEW-123	169.5	184.5	173.6	187.1		
GEW-124	91	91	86	75.2		
GEW-125	188.9	189.6	181.0	184.5		
GEW-126	103	101.6	96.5	86.6		
GEW-127	183.9	188.6	86.8	190.2		
GEW-128	185.1	183.3	181.5	171.0		
GEW-129	197.9	91.5	158.1	146.2		
GEW-130	185.7	188.8	188.9	168.5		
GEW-131	177.5	173.6	170.5	164.4		
GEW-132	175.8	162.9	162	195.7		
GEW-133	171	168.5	170	159.4		
GEW-134	152.1	142.8	143.2	129.2		
GEW-135	186	171	157	153.3		
GEW-136	130.3	127.5	111.4	134.8		
GEW-137	101.4	106.7	95.9	79.5		
GEW-138	149.9	148.4	130.0	121.5		
GEW-139	184.6	176.9	181.6	168.5		

Wellfield Temperature - Bridgeton Landfill

Well Name	August 2017	September 2017	October 2017	November 2017	Temp Trend ><30°F	Comments
GEW-140	119.9	106.0	93.4	75.9		
GEW-141	--	--	--	--		
GEW-142	--	83.5	--	76.6		
GEW-143	103.6	--	92.9	77.1		
GEW-144	102.5	92.9	--	--		
GEW-145	94.5	104.5	83.3	60.4		
GEW-146	106.0	103.0	101.6	87.8		
GEW-147	188.3	185.7	185.1	174.2		
GEW-148	154.4	148.8	158.9	51.7		
GEW-149	138.3	139.6	142.5	98.5		
GEW-150	128.9	156.5	140.9	116.0		
GEW-151	100.4	107	82.2	122.6		
GEW-152	142.2	146.7	127.4	125.0		
GEW-153	116.6	116.6	89.1	81.5		
GEW-154	185.3	126.1	104.3	88.5		
GEW-155	150	125	124	112.0		
GEW-156	120.2	118.9	102.4	87.2		
GEW-157	93.6	104.3	75.6	68.4		
GEW-158	107.5	125.0	107.8	96.3		
GEW-159	87.2	138.3	116.8	102.3		
GEW-160	110.0	155.2	156.0	48.8		
GEW-161	103.7	176.4	178.6	47.4		
GEW-162	96.5	137.2	113.2	69.6		
GEW-163	182.7	192.3	165.2	178.7		
GEW-164	174.1	176.2	173.6	167.6		
GEW-165	192.3	187.9	188.3	183.9		
GEW-166	197.2	196.4	196.4	195.7		
GEW-167	195.7	193.5	195.0	191.7		
GEW-168	188.3	189.6	187.0	181.6		
GEW-169	195.0	196.4	195.0	193.6		
GEW-170	188.9	176.4	164.3	168.1		
GEW-171	93.0	--	--	--		
GEW-172	103.0	--	--	80.0		
GEW-173	124.7	115.3	106.7	98.4		
GEW-174	176.9	144.5	--	152.9		
GEW-175	134.4	132.9	127.0	124.4		
GEW-176	104.8	109.5	87.9	69.0		
GEW-177	110.2	88.4	60.2	80.7		
GEW-1A	100.6	88.7	83.3	71.1		
GEW-2S	99.6	96.5	87.0	72.8		
GIW-01	119.4	182.5	178.0	173.1		

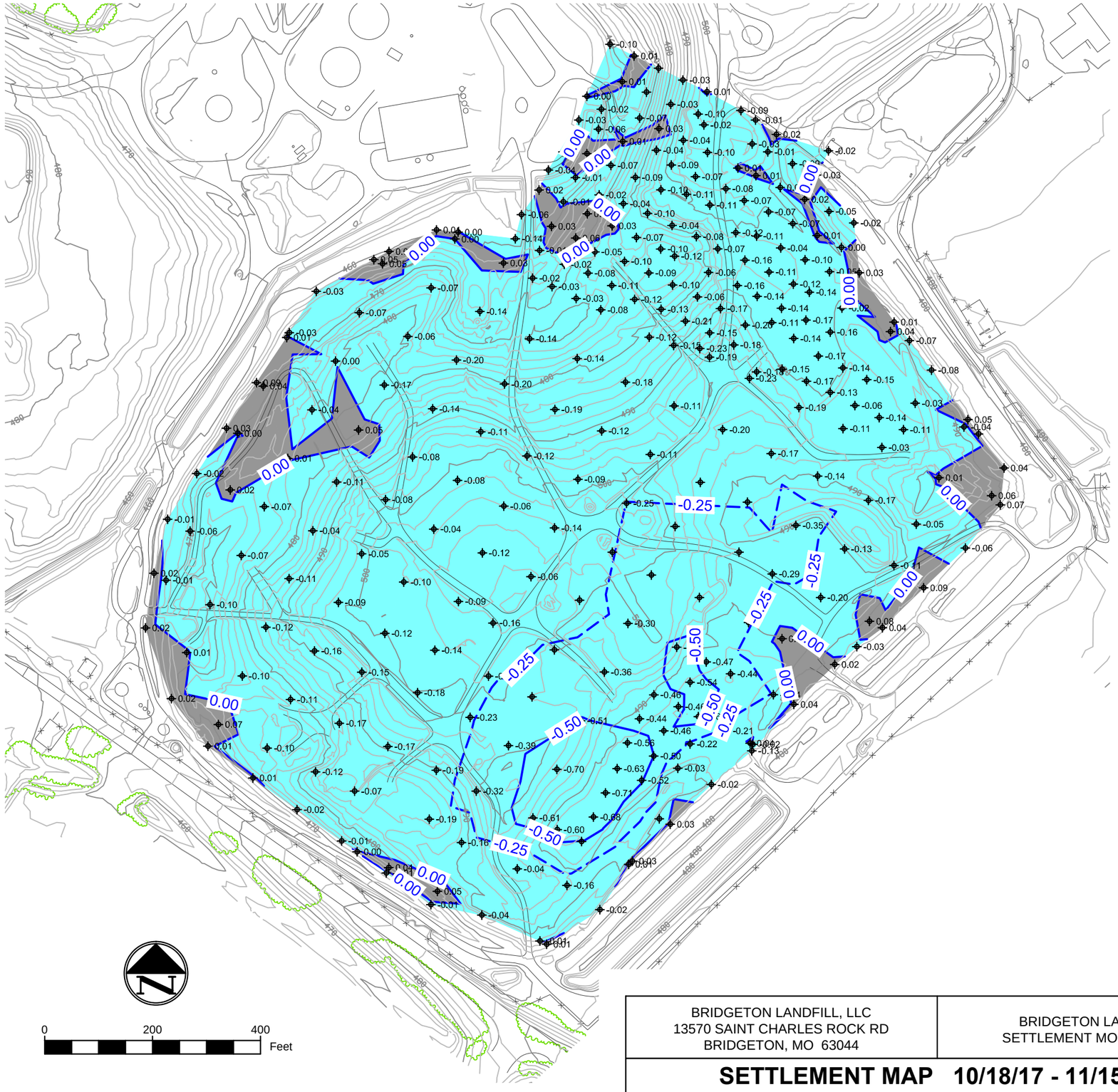
Wellfield Temperature - Bridgeton Landfill

Well Name	August 2017	September 2017	October 2017	November 2017	Temp Trend ><30°F	Comments
GIW-02	108.5	110.0	88.2	70.9		
GIW-03	112.3	101.0	82.9	65.8		
GIW-04	103.7	101.8	85.6	69.5		
GIW-05	101.8	102.1	87.0	70.4		
GIW-06	104.0	104.5	89.0	73.4		
GIW-07	101.0	105.2	90.9	78.0		
GIW-08	108.2	107.0	92.0	74.5		
GIW-09	103.0	108.0	90.6	73.8		
GIW-10	106.3	108	86.3	72.5		
GIW-11	106.4	104.8	85.3	67.9		
GIW-12	102.4	105.5	81	60.1		
GIW-13	101.1	106.2	86.2	65.0		
LCS-1D	96.7	92	87.5	69.8		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	92.4	96.5	92.0	84.1		
LCS-6B	112.5	130.1	113.0	104.2		
PGW-60	93	94	91	83.7		
SEW-002	--	--	98.9	111.7		
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	83	80	79	60.7		

-- = 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	
2	-4.00	-3.00	0.00	
3	-3.00	-2.00	0.00	
4	-2.00	-1.00	0.00	
5	-1.00	0.00	1,410,973.88	
6	0.00	1.00	127,597.75	

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)
- -.03 — SPOT ELEVATION DIFFERENCE (TO 10-18-2017 TO 11-15-2017)
- *11-2017* — *SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.26' PER 28 DAYS FOR CURRENT PERIOD OF DAYS

*NONE FOR NOVEMBER 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 10-18-17 FROM SPOT ELEVATIONS SURVEYED ON 11-15-17.
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 10/18/17 - 11/15/17

PROJECT NUMBER: BT-145 | FILE PATH: C:\Users\plins\Dropbox (Feezor Engineering)\BT-145 Agreed Order Reporting\Monthly Reports\11-2017 Report\Internal Draft\Draft Site Data\Settlement\3_deliverables\Settlement And Fill 11-15-17.dwg

Engineering for a Better World
FEEZOR ENGINEERING, INC.

REVISION	DATE

NOVEMBER 2017
DESIGNED BY: PML
APPROVED BY: DRF

DRAWING NO.:
001

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

November 1, 2017 – November 30, 2017 / MDNR ODOR COMPLAINTS

Name: Suzanne Frens

Message: Odor logged November 8, 2017, at 9:00 pm strength of 10

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

Name: N/A

Message: Odor logged November 15, 2017, at 8:30 pm strength of 8

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

Name: Emily Jacobi

Message: Odor logged November 16, 2017, at 8:08 am strength of 5

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

Name: Judi Stover

Message: Odor logged November 17, 2017, at 1:55 pm strength of 5

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

Name: Margaret Beckermann

Message: Odor logged November 21, 2017, at 5:07 pm strength of 8

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

Name: Robbin Dailey

Message: Odor logged November 21, 2017, at 9:05 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 15 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Robbin Dailey

Message: Odor logged November 22, 2017, at 11:45 am strength of 10

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

Name: Michael Dailey

Message: Odor logged November 22, 2017, at 11:45 am strength of 10

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

Name: Robbin Dailey

Message: Odor logged November 22, 2017, at 12:50 pm strength of 10

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

Name: Michael Dailey

Message: Odor logged November 22, 2017, at 12:51 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 12 hours after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

November 2017

Liquid Characterization Data

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

Hauled Disposal to MSD – Bissell Point

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

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
11/1/2017	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	102,868
11/2/2017			98,516
11/3/2017			119,216
11/4/2017			116,820
11/5/2017			111,920
11/6/2017			105,640
11/7/2017			98,356
11/8/2017			95,396
11/9/2017			92,204
11/10/2017			95,036
11/11/2017			92,280
11/12/2017			93,256
11/13/2017			94,376
11/14/2017			92,376
11/15/2017			93,800
11/16/2017			102,200
11/17/2017			126,008
11/18/2017			106,752
11/19/2017			99,360
11/20/2017			96,580
11/21/2017			177,512
11/22/2017			150,320
11/23/2017			93,968
11/24/2017			88,124
11/25/2017			85,484
11/26/2017			87,104
11/27/2017			92,324
11/28/2017			88,228
11/29/2017			96,560
11/30/2017			107,228
		Total	**3,099,812**

ATTACHMENT I

LOW FILL PROJECT AREA

ATTACHMENT I-1

LOW FILL AREA BOUNDARY

LEGEND

BOUNDARY OF FILL AREA FOR 10-18-2017 THROUGH 11-15-2017

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.

N

0 350 700 Feet

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

BRIDGETON LANDFILL
SETTLEMENT MONITORING

LOW FILL AREA BOUNDARY 10/18/2017 - 11/17/2015

PROJECT NUMBER: BT-145 | FILE PATH: C:\Users\plins\Dropbox (Feezor Engineering)\BT-145 Agreed Order Reporting\Monthly Reports\11-2017 Report\Internal Draft\Draft Site Data\Settlement\3_deliverables\Settlement And Fill 11-15-17.dwg

Engineering for a Better World
FEEZOR ENGINEERING, INC.

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

DRAWING NO.:
002