Bridgeton Landfill, LLC

Monthly Data Submittals

August 2016

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

Contents:

Provided Separately:

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

September 20, 2016

Commentary on Data

September 20, 2016

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

Gas Volume

- As seen in Attachment B-1, the gas collection volumetric rate in for this month averaged 2,664 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 32 GEW wells that are experiencing low or restricted flows, and five (5) GIW wells that have low gas flow due to the cooling loops that are installed within these wells. By the end of the month, the majority of these wells still exhibited oxygen at the wellhead at or greater than 5%. All of these wells are low-flow/vacuum sensitive wells with valves only slightly open. On-going tuning, maintenance, and pump operation is being performed to manage the oxygen content. With the exception of GEW-1A, all of these wells are in the south quarry area where the flexible membrane liner cap is in place to prevent atmospheric intrusion into the waste mass. A dewatering sump has been installed adjacent to GEW-1A in hopes of lowering the liquid level in the gas well. The dewatering sump is expected to improve gas collection and reduce ambient air intrusion from the wellhead.

- Attachment E-2 contains gas temperatures as measured at the wellheads. Three (3) vertical wells (excluding GIW wells) decreased by 30°F during this reporting period. Additionally, nine (9) vertical wells (excluding GIW wells) increased by 30°F or more. All wells that exhibited changes greater than 30 degrees are all within the historical gas temperature norms for these wells or within the range of temperatures of nearby vertical wells.

- A detailed review of the gas extraction wells in the neck area was conducted. Well GEW-160, GEW-161, and GEW-162 exhibited a wellhead temperature increase greater than 30°F. These wells were installed in December 2015 within the south quarry area/neck area and vacuum has been adjusted over time as part of normal GCCS operations. The wellhead temperatures at these wells are similar to the wellhead temperatures of nearby wells. Maximum temperatures are consistent with previous months in each of the gas extraction wells in vicinity to the neck.

- All wells in the North Quarry during this reporting period exhibited a maximum wellhead temperature under 145°F with the exception of GEW-054. Well GEW-054 had a maximum well head temperature of 147.3°F which is consistent with historic readings. Carbon monoxide (CO) results showed non-detect (ND) for all other North quarry wells, with the exception of GEW-053 (61 ppm).

- Review of weekly gas quality in Attachment E reveals that all of the active North Quarry gas wells continue to have low, if any, oxygen and healthy methane and carbon dioxide levels indicating normal wellfield conditions for aged waste at all locations, consistent with GCCS wellfield conditions observed in the North Quarry for some time.

Settlement

- The South Quarry exhibited monthly maximum settlement up to 1.35 feet over 31 days for this reporting period (see Attachment F); which is comparable to last month's rate. The rate of settlement directly south of the neck continues to be small and stable.

Bird Monitoring and Mitigation

- Bridgeton Landfill conducted bird monitoring during this reporting period in accordance with the Approved Bird Hazard Monitoring and Mitigation Plan. Logs of bird population observations were provided to the Airport on a weekly basis. No change in bird population or bird hazards were observed and no bird mitigation measures were necessary with respect to landfill activities.

Low Fill Project Area

- Enclosed is the requested clean fill placement figure in accordance with the June 19, 2015 letter from the Missouri Department of Natural Resources (MDNR) granting modification approval to Permit number 0118912. This modification allows for the acceptance of clean fill and use thereof as a method of re-establishing positive surface drainage and maintaining structural stability of landfill infrastructure. Condition four (4) of this approval is satisfied via the text below and the accompanying figure.

- Planned low fill activities have ceased for the remainder of 2016 and will commence again in 2017. The total cubic yardage of fill material used will be provided in the September monthly report.

ATTACHMENT A

WORK COMPLETED AND PLANNED

Bridgeton Landfill, LLC
Monthly Summary of Work Completed and Planned

Work Completed in August 2016

Gas Collection and Control System (GCCS)

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

Heat Extraction System (HES)

- Continued operation and maintenance of the pilot HES.
- Continued construction and installation of neck heat extraction barrier (HEB) project.

Leachate Management System

- Continued routine operation of previously installed and upgraded features.

Pre-Treatment Facility

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

Other Projects

- Continued acceptance of clean fill.
- Installed ambient air sulfur dioxide monitoring stations and began monitoring for a period of one (1) year per the USEPA Administrative Settlement Agreement and Order on Consent (ASAOC) for Removal Actions related to the North Quarry, EPA Docket No. CERCLA-07-2016-0005.

Work Planned for September 2016

Gas Collection and Control System (GCCS)

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

Heat Extraction System (HES)

- Continue operation and maintenance of the pilot HES.
- Continue construction and installation of neck heat extraction barrier (HEB) project.

Leachate Management System

- Continue routine operation of previously installed and upgraded features.

Pre-Treatment Facility

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

Other Projects:

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

ATTACHMENT B

DAILY FLARE MONITORING DATA

ATTACHMENT B-1

FLOW DATA TABLE

Daily Flare Monitoring Data - Bridgeton Landfill
August 2016

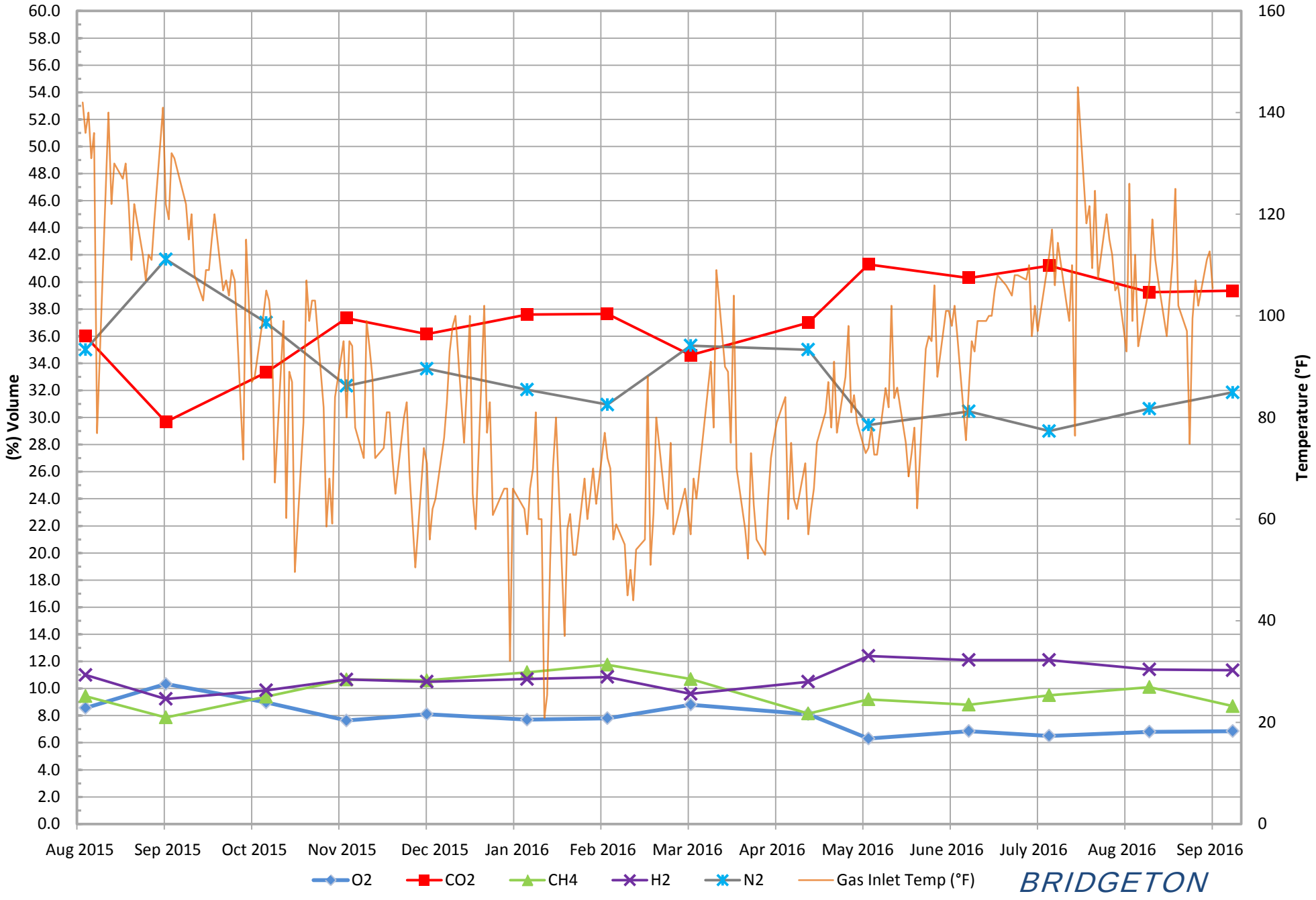
Date	Average Device Flow* (scfm)				Total Avg. Flow** (scfm)
	Utility Flare (FL-100)	Utility Flare (FL-120)	Utility Flare (FL-140)	Aux. Utility Flare***	
8/1/2016	0	2,291	0	234	2,525
8/2/2016	0	2,378	0	246	2,624
8/3/2016	0	2,305	0	264	2,569
8/4/2016	0	2,330	0	270	2,600
8/5/2016	0	2,300	0	265	2,565
8/6/2016	0	2,292	0	266	2,558
8/7/2016	0	2,319	0	185	2,504
8/8/2016	10	2,275	0	273	2,558
8/9/2016	1,474	816	0	223	2,513
8/10/2016	2,495	0	0	284	2,779
8/11/2016	2,555	0	0	278	2,833
8/12/2016	2,484	82	0	325	2,891
8/13/2016	0	2,545	0	295	2,840
8/14/2016	0	2,436	0	287	2,723
8/15/2016	1,216	1,179	0	283	2,677
8/16/2016	2,460	0	0	290	2,750
8/17/2016	2,540	0	0	292	2,831
8/18/2016	2,480	0	0	333	2,813
8/19/2016	2,403	0	0	358	2,761
8/20/2016	2,356	0	0	349	2,705
8/21/2016	2,354	0	0	346	2,700
8/22/2016	2,408	0	0	351	2,758
8/23/2016	2,281	0	0	345	2,626
8/24/2016	2,297	0	0	336	2,633
8/25/2016	2,339	0	0	298	2,637
8/26/2016	2,321	0	0	293	2,613
8/27/2016	2,307	0	0	294	2,601
8/28/2016	2,333	0	0	297	2,630
8/29/2016	2,322	0	0	302	2,623
8/30/2016	2,269	0	0	305	2,574
8/31/2016	2,265	0	0	304	2,569
				Average	**2,664**

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

ATTACHMENT B-2

FLOW DATA GRAPHS

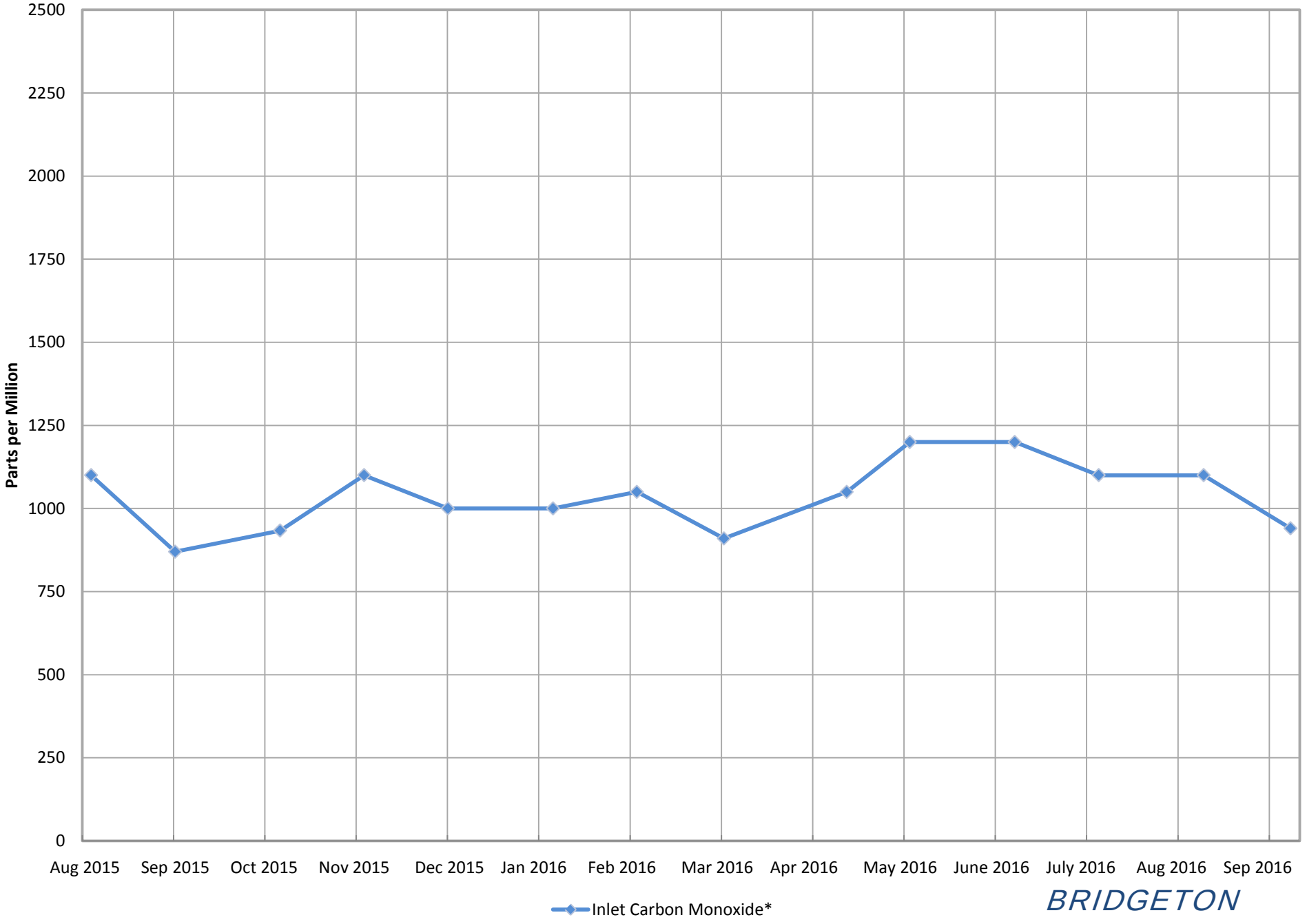
South Quarry Inlet Gas and Temperature*



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

BRIDGETON LANDFILL

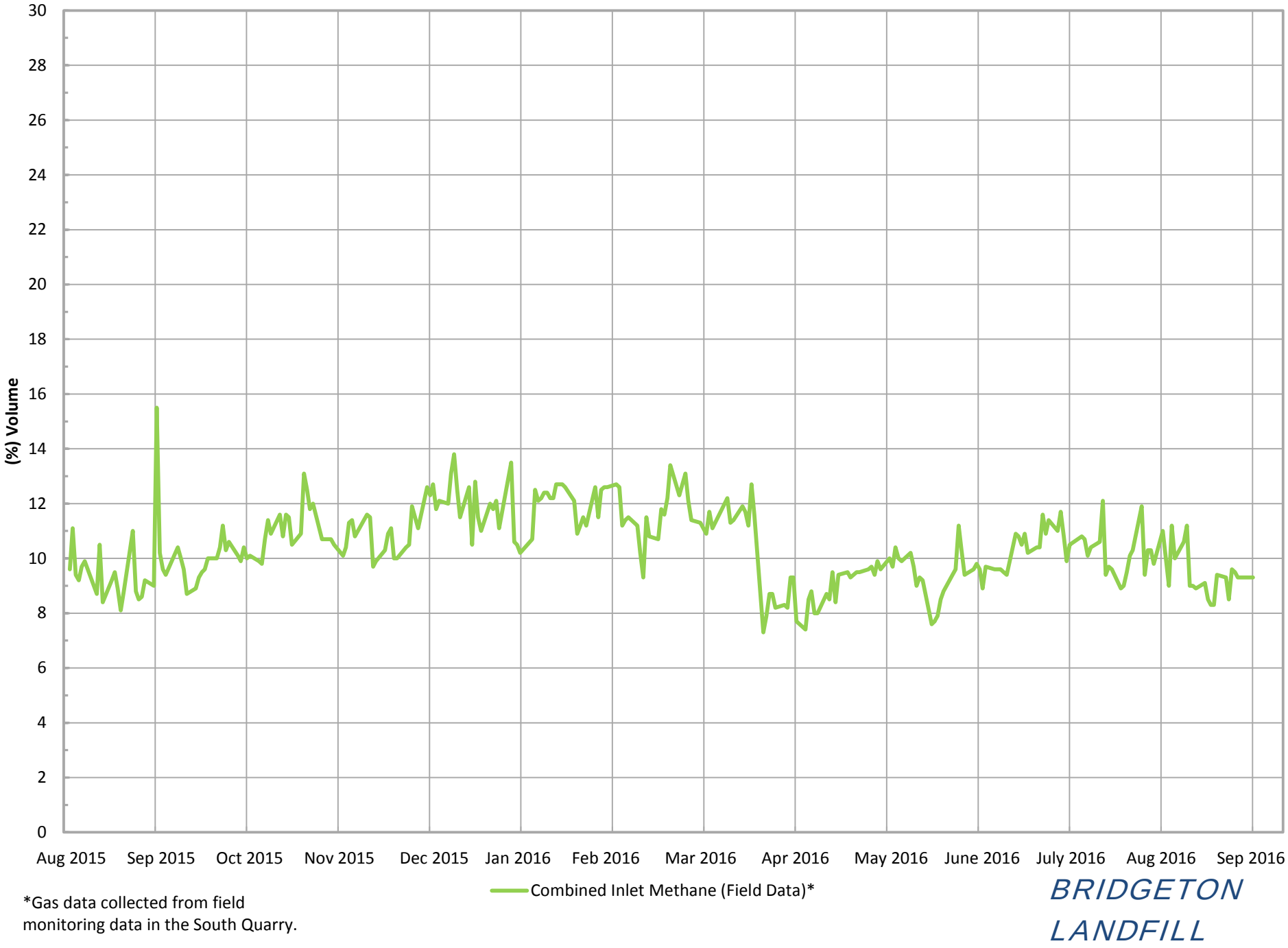
South Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the South Quarry.

BRIDGETON LANDFILL

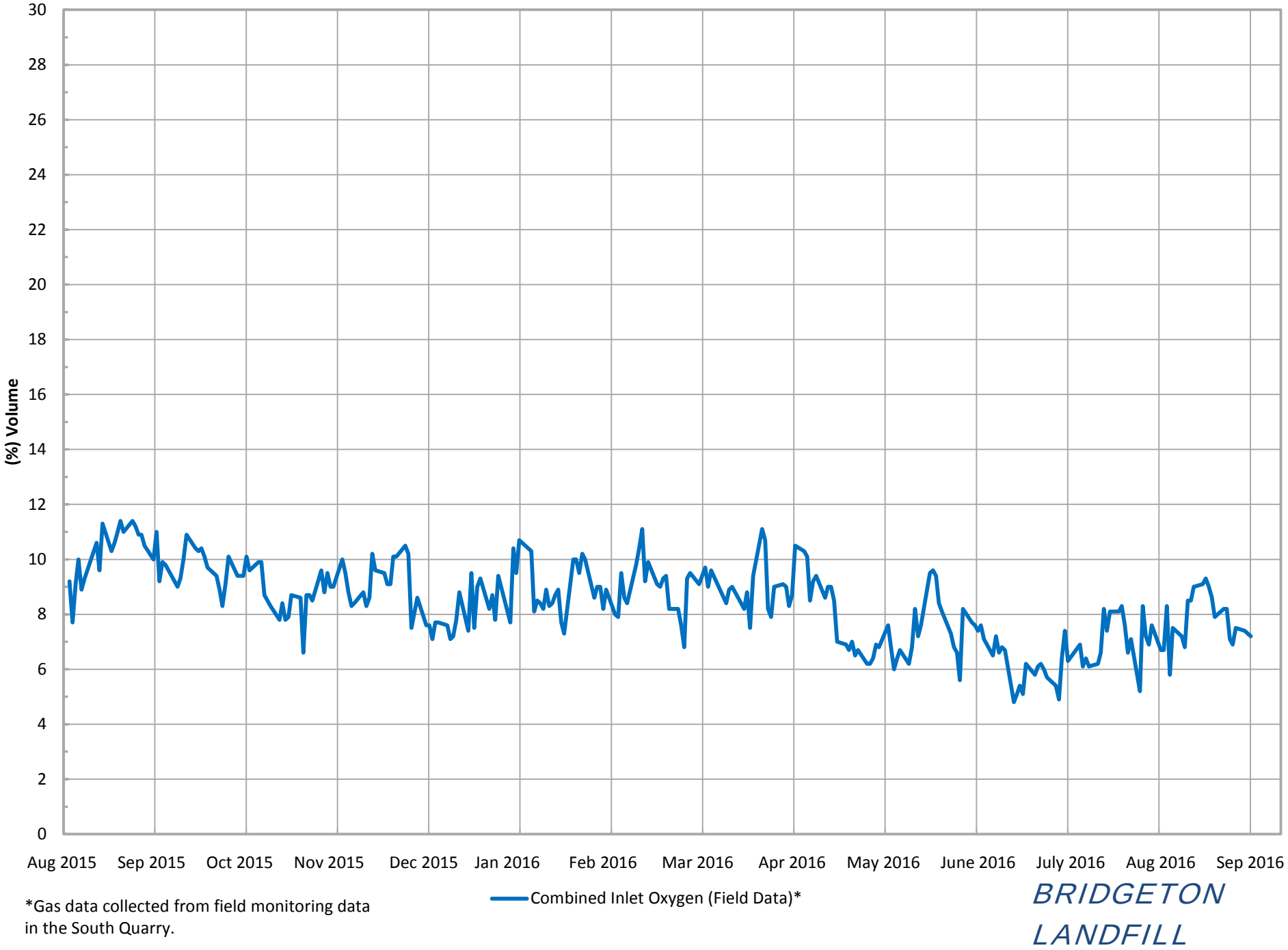
South Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

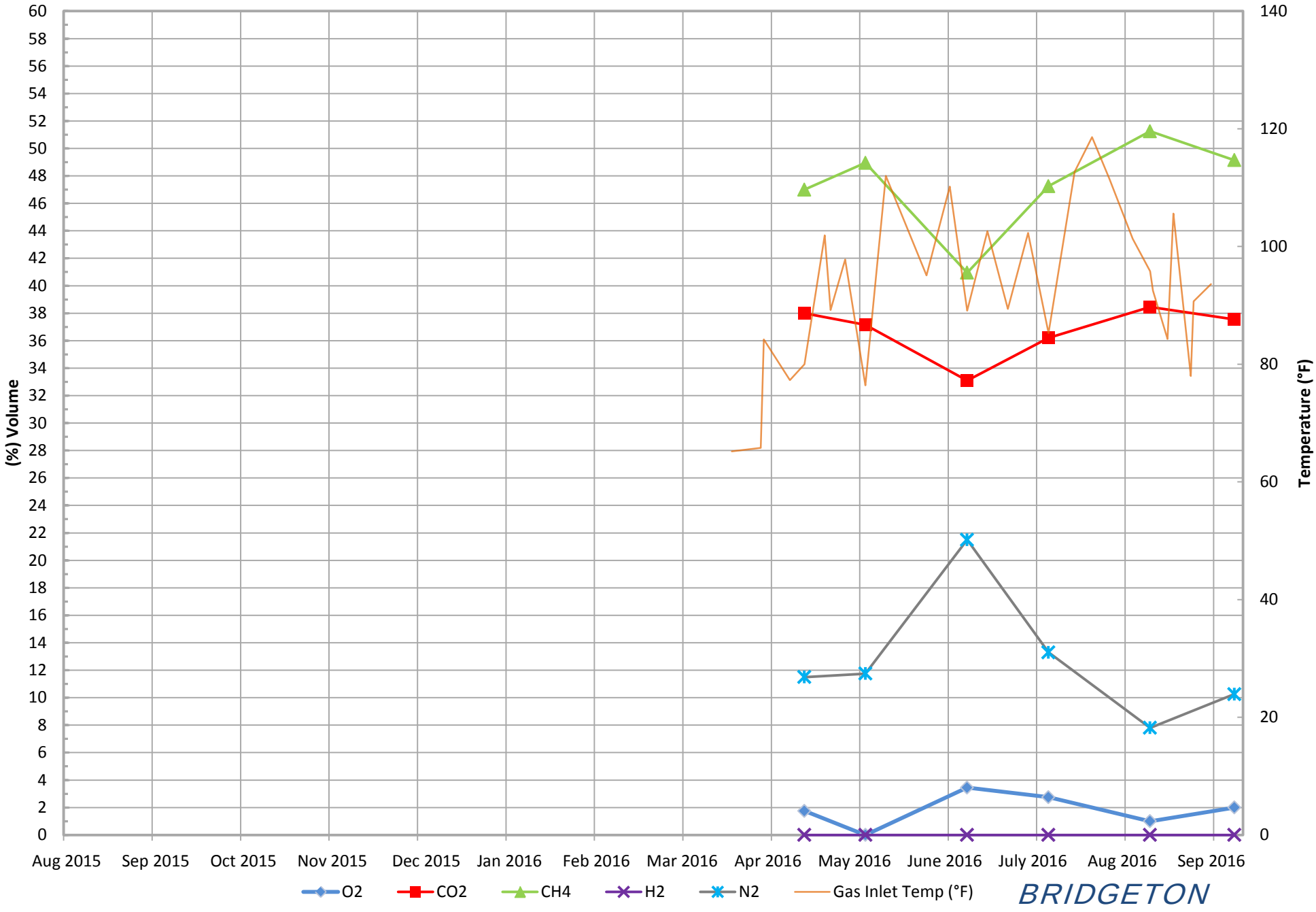
South Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

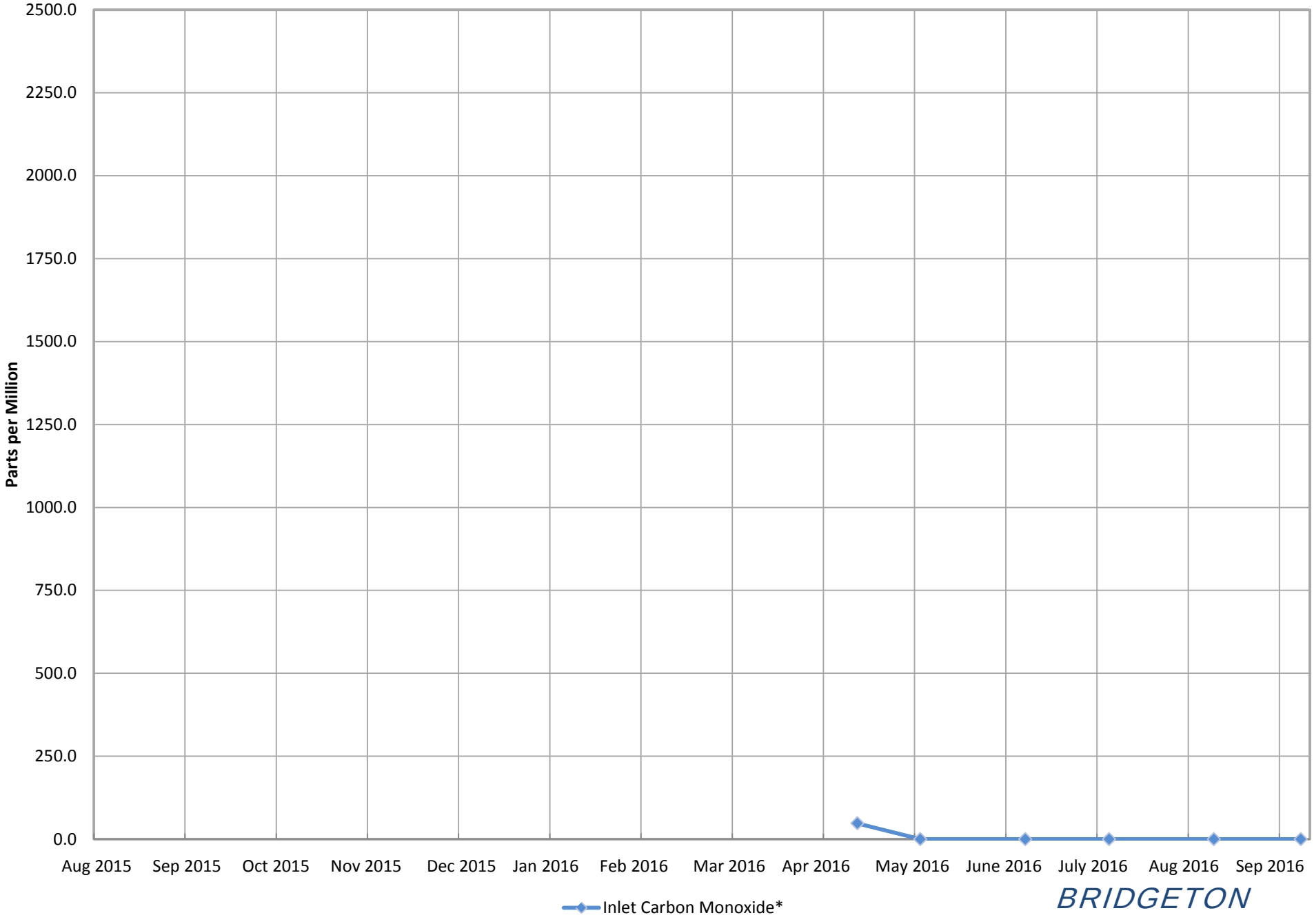
North Quarry Inlet Gas and Temperature*



BRIDGETON LANDFILL

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

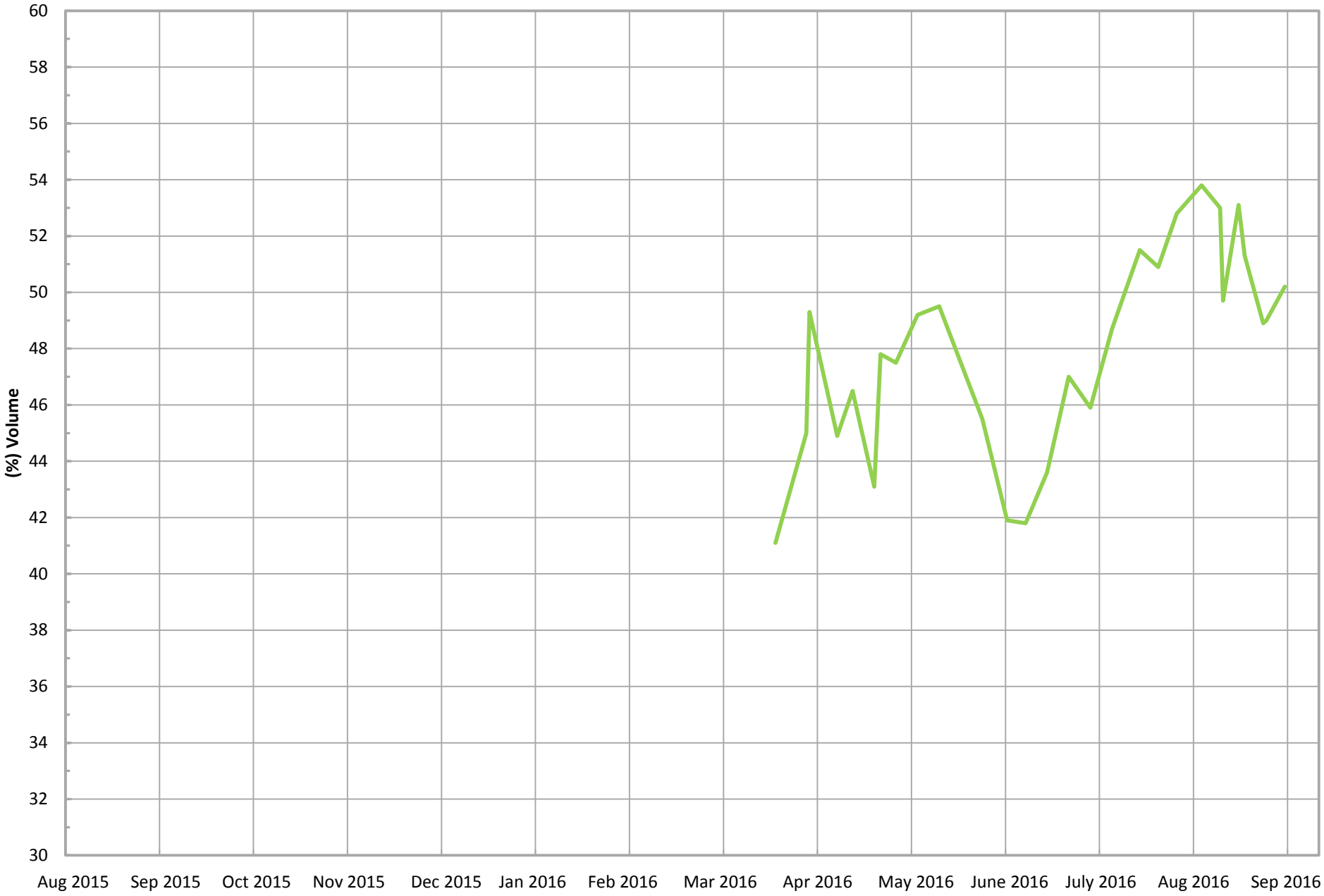
North Quarry Inlet Carbon Monoxide*



*Data collected from Laboratory Reports for the North Quarry.

BRIDGETON LANDFILL

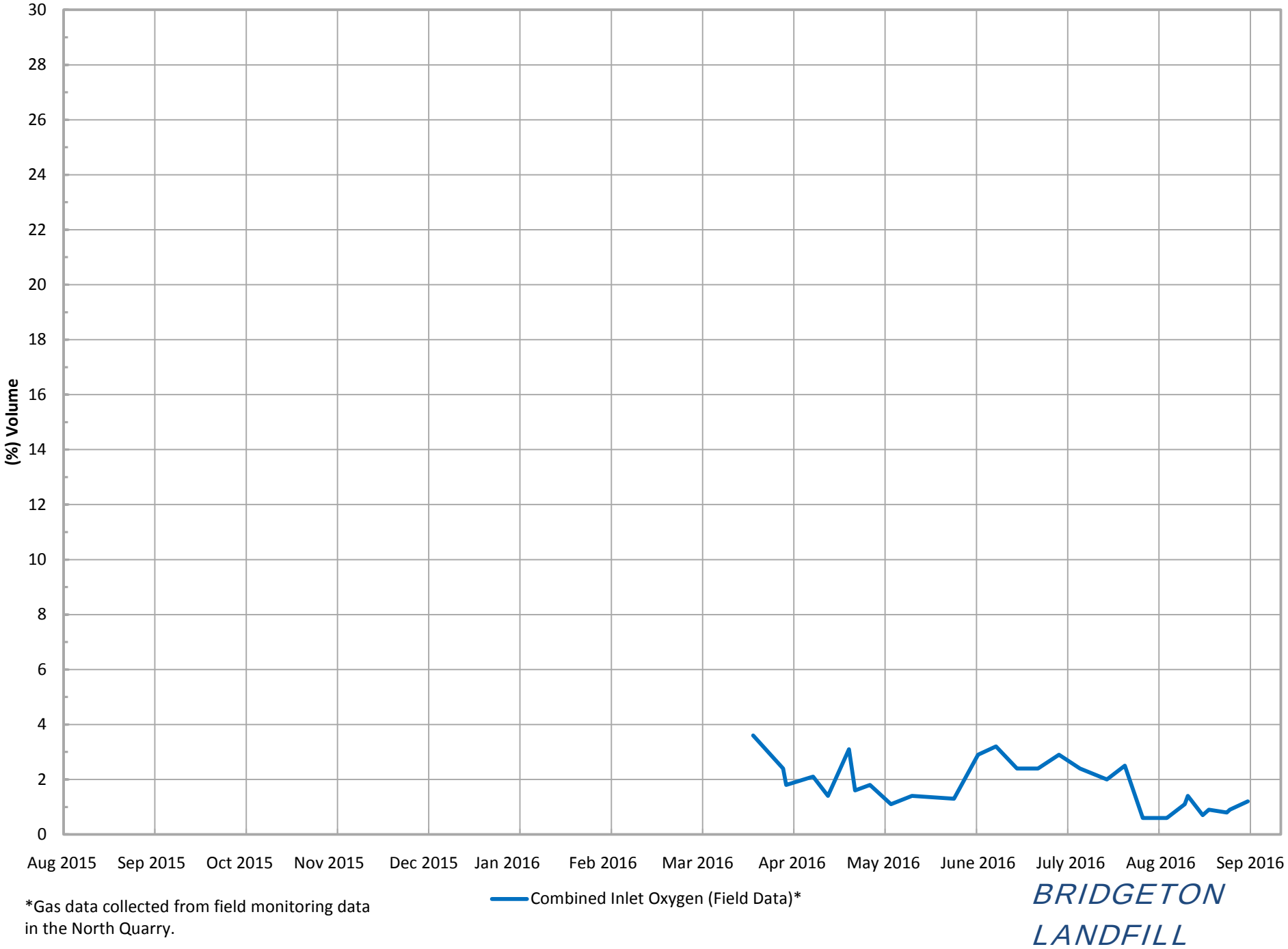
North Quarry Inlet Methane (Field Data)*



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

BRIDGETON LANDFILL

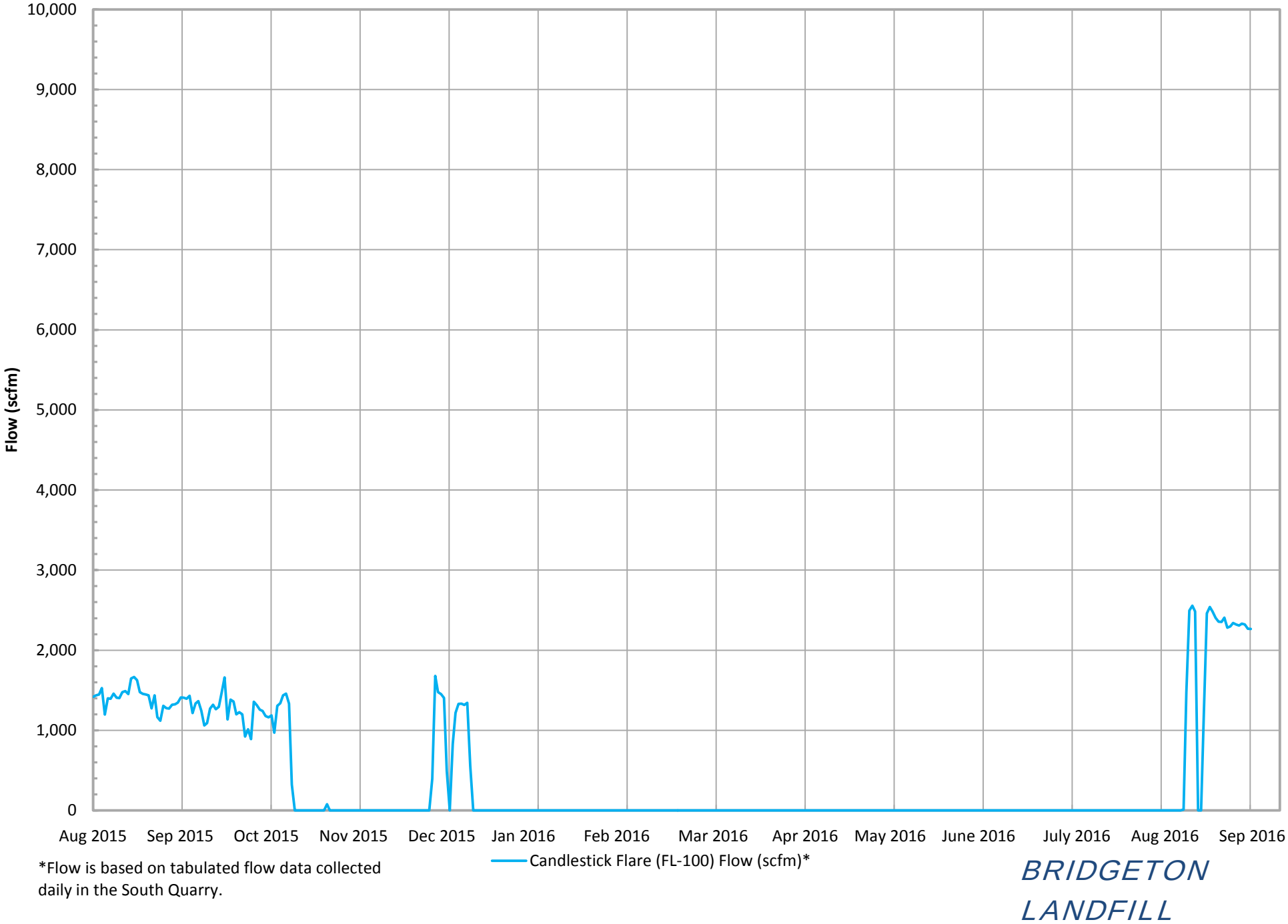
North Quarry Inlet Oxygen (Field Data)*



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

BRIDGETON LANDFILL

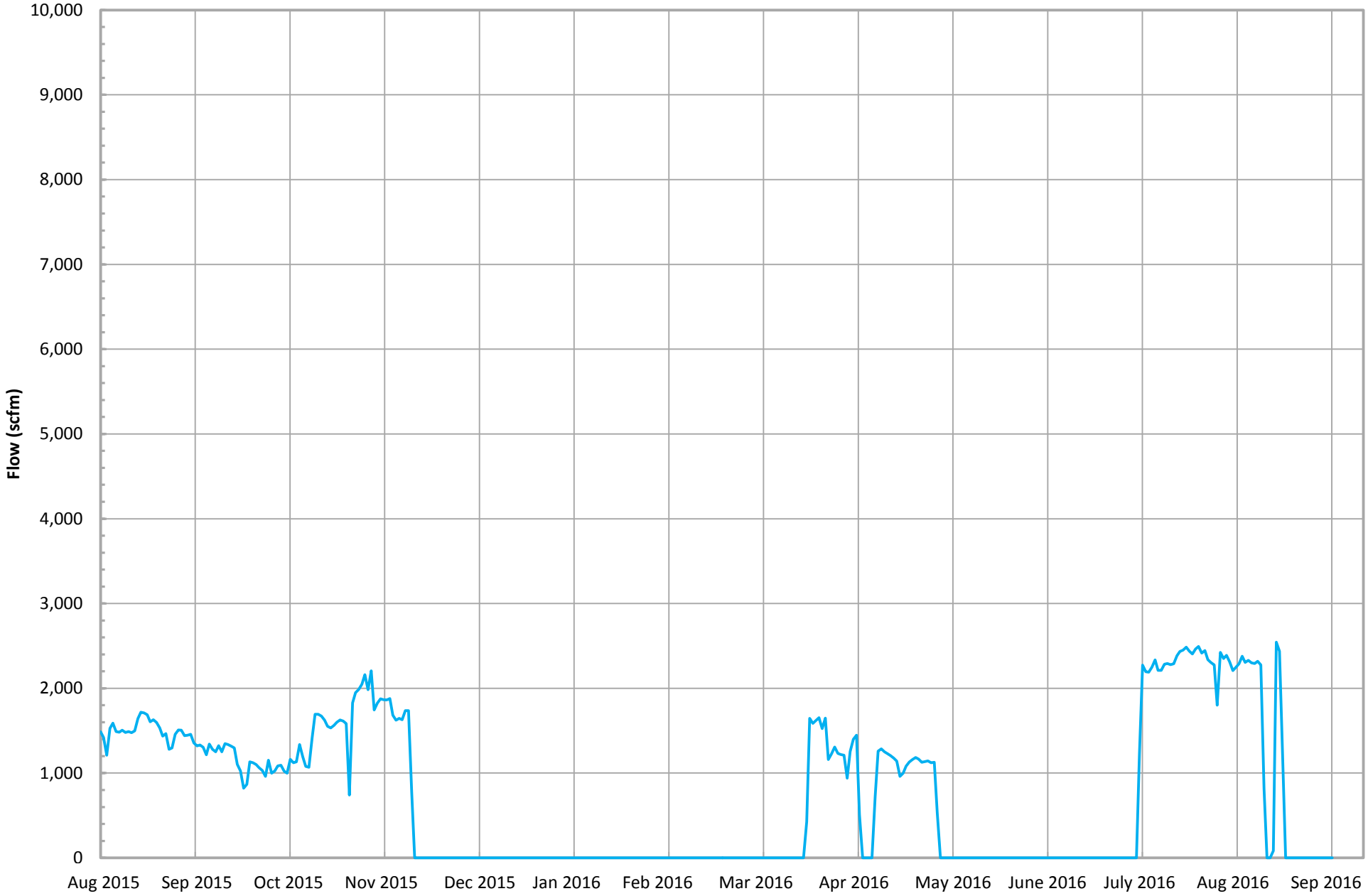
Candlestick Flare (FL-100) Flow (scfm)*



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

BRIDGETON LANDFILL

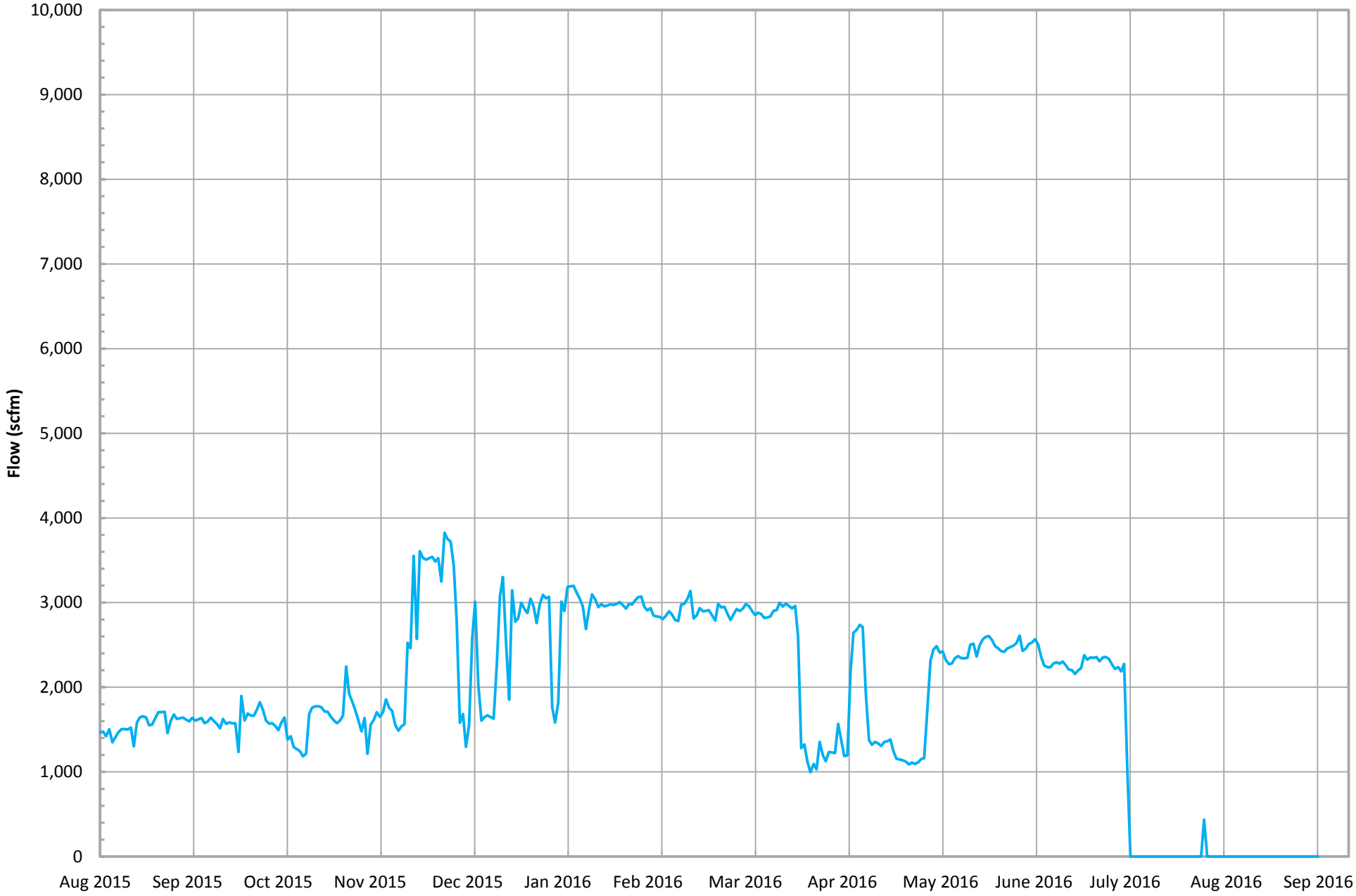
Candlestick Flare (FL-120) Flow (scfm)*



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

BRIDGETON LANDFILL

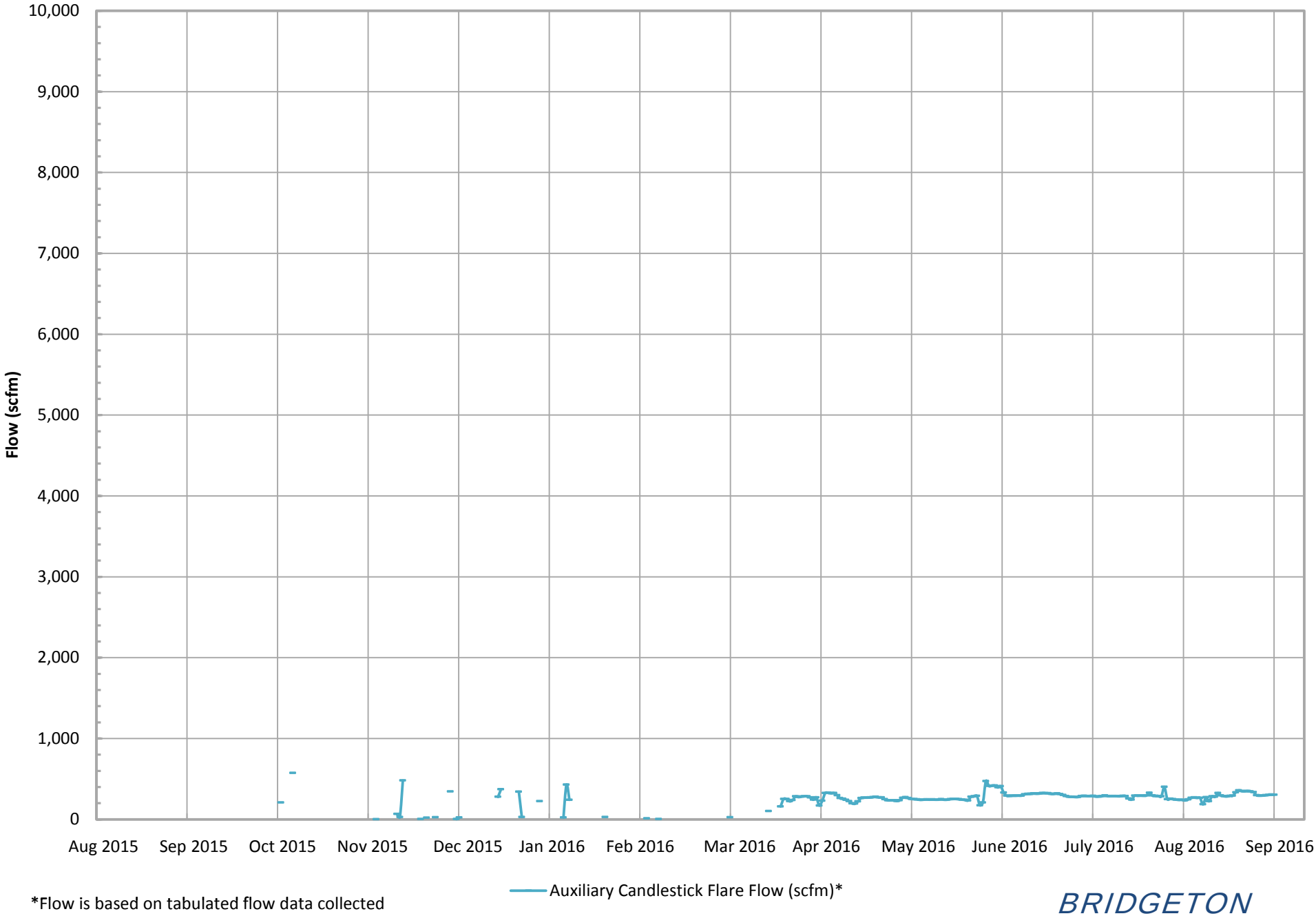
Candlestick Flare (FL-140) Flow (scfm)*



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

BRIDGETON LANDFILL

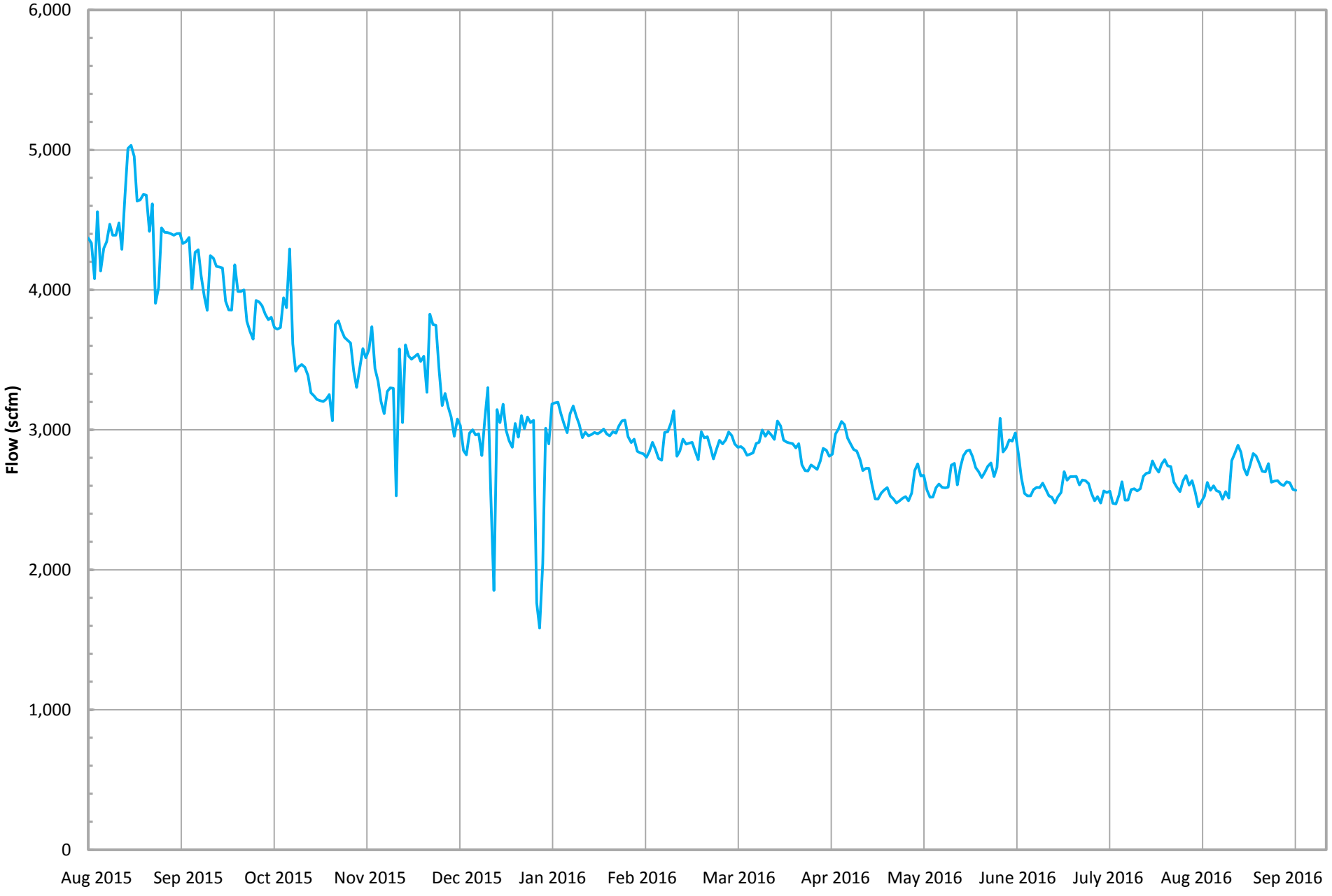
Auxiliary Candlestick Flare Flow (scfm)*



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

BRIDGETON LANDFILL

Total Combined Flow (scfm)*

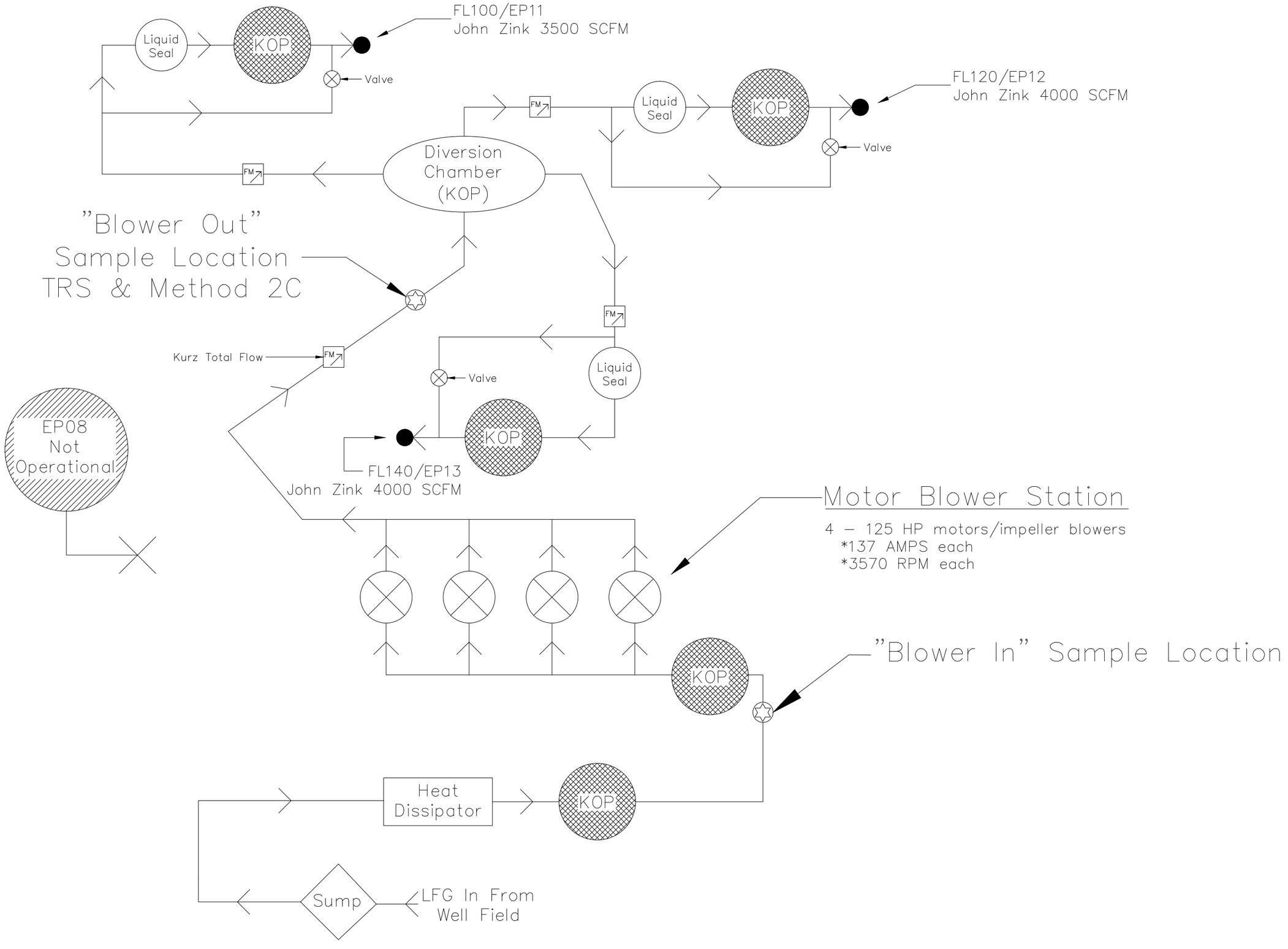


*Combined flow is based on tabulated flow data collected daily from FL-100, FL-120, FL-140, and the Auxillary Candlestick Flare.

BRIDGETON LANDFILL

ATTACHMENT B-3

FLARE TRS / FLARE STATION FLOW



PREPARED FOR:
BRIDGETON LANDFILL, LLC

FIGURE 1 - FLARE COMPOUND
PROCESS FLOW DIAGRAM
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI

No.	DATE	REVISION DESCRIPTION

Weaver Consultants Group

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

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

SHEET 1 OF 1

TABLE 1 **Bridgeton Landfill, LLC.**

Summary of Key LFG Tested Parameters **August 3, 2016 to September 7, 2016**

Flare Compound: *Blower Outlet*

SAMPLE EVENT #	DATE	VELOCITY ft/sec	FLOW dscfm	TRS ppm_{vd}
79-36[1]	9/7/2016	26.41	1913	1800
				1700
78-35[2]	8/30/2016	28.02	2270	1400
				1500
77-34[2]	8/24/2016	26.52	2148	1200
				1600
76-33[2]	8/17/2016	30.65	2483	1200
				1500
75-32[1]	8/9/2016	27.03	1894	2200
				1900
74-31[2]	8/3/2016	26.94	2182	1200
				1400

Notes:

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

[2] Indicates velocity/flow determined by KURZ

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 79-36
09/07/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)		
Date	Test Date	9/7/16
Start	Run Start Time	10:07
	Run Finish Time	11:27
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:19:30
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.73
% H_2O	Moisture Content of LFG, %	7.85
% RH	Relative Humidity, %	66.70
M_{fd}	Dry Mole Fraction	0.921
%CH_4	Methane, %	8.70
%CO_2	Carbon Dioxide, %	39.35
%O_2	Oxygen, %	6.85
%Balance	Assumed as Nitrogen, %	31.85
%H_2	Hydrogen, %	11.35
%CO	Carbon Monoxide, %	0.09
M_d	Dry Molecular Weight, lb/lb-Mole	30.76
M_s	Wet Molecular weight, lb/lb-Mole	29.76
P_g	Flue Gas Static Pressure, inches of H_2O	31.14
P_s	Absolute Flue Gas Pressure, inches of Mercury	32.02
t_s	Average Stack Gas Temperature, °F	123
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.159
v_s	Average LFG Velocity, feet/second	26.41
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,913
Q_s	Standard Volumetric Flow Rate, scfm	2,063
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	2,144
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	9,165
NHV	Net Heating Value, Btu/scf	155
LFG_{CH4}	Methane, lb/hr	416.0
	Methane, grains/dscf	25.36
LFG_{CO2}	Carbon Dioxide, lb/hr	5,161.2
	Carbon Dioxide, grains/dscf	314.72
LFG_{O2}	Oxygen, lb/hr	653.3
	Oxygen, grains/dscf	39.83
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,659.1
	Balance gas as Nitrogen, grains/dscf	162.15
LFG_{H4}	Hydrogen, lb/hr	68.2
	Hydrogen, grains/dscf	4.16
LFG_{CO}	Carbon Monoxide, lb/hr	7.8
	Carbon Monoxide, grains/dscf	0.48

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	11.00	7.10
	Hydrogen Sulfide Rate, lb/hr	0.11	0.07
	Hydrogen Sulfide Rate, grains/dscf	0.007	0.004
COS	Carbonyl Sulfide Concentration, ppmd	0.65	0.63
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	230.00	210.00
	Methyl Mercaptan Rate, lb/hr	3.30	3.01
	Methyl Mercaptan Rate, grains/dscf	0.201	0.184
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	3.00	2.50
	Ethyl Mercaptan Rate, lb/hr	0.06	0.05
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.003
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,300.00	1,300.00
	Dimethyl Sulfide Rate, lb/hr	24.07	24.07
	Dimethyl Sulfide Rate, grains/dscf	1.468	1.468
CS_2	Carbon Disulfide Concentration, ppmd	1.60	1.50
	Carbon Disulfide Rate, lb/hr	0.04	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	110.00	110.00
	Dimethyl Disulfide Rate, lb/hr	3.09	2.50
	Dimethyl Disulfide Rate, grains/dscf	0.188	0.152
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,800.00	1,700.00
	TRS-->SO2 Emission Rate, lb/hr	34.37	32.46
	TRS-->SO2 Emission Rate, grains/dscf	2.096	1.979

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

Wednesday, September 07, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**10:07**	**2,063**	**2,121**	**1,883**	**-2.8%**	**8.7%**	**-12.6%**

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 79-36
09/07/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	9/7/16
Start	Run Start Time	8:14
	Run Finish Time	9:30
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:15:45
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.73
% H_2O	Moisture Content of LFG, %	4.38
% RH	Relative Humidity, %	76.60
M_{fd}	Dry Mole Fraction	0.956
%CH_4	Methane, %	49.15
%CO_2	Carbon Dioxide, %	37.55
%O_2	Oxygen, %	2.00
%Balance	Assumed as Nitrogen, %	10.25
%H_2	Hydrogen, %	3.15
%CO	Carbon Monoxide, %	0.0032
M_d	Dry Molecular Weight, lb/lb-Mole	28.43
M_s	Wet Molecular weight, lb/lb-Mole	27.97
P_g	Flue Gas Static Pressure, inches of H_2O	1.58
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.85
t_s	Average Stack Gas Temperature, °F	96
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.024
v_s	Average LFG Velocity, feet/second	10.65
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	297
Q_s	Standard Volumetric Flow Rate, scfm	310
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	328
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,315
NHV	Net Heating Value, Btu/scf	447
LFG_{CH4}	Methane, lb/hr	364.8
	Methane, grains/dscf	143.29
LFG_{CO2}	Carbon Dioxide, lb/hr	764.7
	Carbon Dioxide, grains/dscf	300.33
LFG_{O2}	Oxygen, lb/hr	29.6
	Oxygen, grains/dscf	11.63
LFG_{N2}	Balance gas as Nitrogen, lb/hr	132.9
	Balance gas as Nitrogen, grains/dscf	52.18
LFG_{H4}	Hydrogen, lb/hr	2.9
	Hydrogen, grains/dscf	1.15
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	63.00	51.00
	Hydrogen Sulfide Rate, lb/hr	0.10	0.08
	Hydrogen Sulfide Rate, grains/dscf	0.039	0.032
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	3.80	3.60
	Methyl Mercaptan Rate, lb/hr	0.01	0.01
	Methyl Mercaptan Rate, grains/dscf	0.003	0.003
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	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	12.00	12.00
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.014	0.014
CS_2	Carbon Disulfide Concentration, ppmd	0.63	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	79.00	66.00
	TRS-->SO2 Emission Rate, lb/hr	0.23	0.20
	TRS-->SO2 Emission Rate, grains/dscf	0.092	0.077

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

Wednesday, September 07, 2016

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ LFG	8:14	310	323	-4.0%

Air TECHNOLOGY Laboratories, Inc.

September 9, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H090802-01/04

Enclosed are results for sample(s) received 9/08/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 9/09/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	■
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 1 OF 1

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

Project No.:	
Project Name:	Bridgeton LF Monthly Permit Flare LFG Testing
Report To:	Nick Bauers/Ryans Ayers/David Randall
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	NBauer@republicservices.com

BILLING

P.O. No.:	PO5881099
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS	ASTM 1946 +H2 + CO & BTU/SCF		ASTM 1946 +H2 + CO & BTU/SCF (by CH4 ONLY)		
H090802-01	5958	-21.07	-3.3	-5.5	Blower Outlet A	9/7/2016	1034	C -6L	LFG	He	X	X				
-02	5987	-20.53	-2.67	-5	Blower Outlet B	9/7/2016	1100	C -6L	LFG	He	X	X				
-03	7129	-20.74	-3	-4.5	NQ EP14 A	9/7/2016	836	C -6L	LFG	He	X	~~X~~ 200		X		
-04	5962	-20.81	-3.51	-5	NQ EP14 B	9/7/2016	904	C -6L	LFG	He	X	~~X~~	9/15/16	X		

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

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

RELINQUISHED BY: [signature] 9-7-16 1200 — DATE/RECEIVED BY — DATE/TIME

RELINQUISHED BY: FED EX — DATE/RECEIVED BY — DATE/TIME

RELINQUISHED BY — DATE/RECEIVED BY: [signature] 9/8/16 0848 — DATE/TIME

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

COMMENTS:

TEST INST CONF'D VIA TELECON WITH KEVIN AT 0957

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 09/08/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H090802-01		H090802-02		H090802-03		H090802-04	
Client Sample I.D.:	Blower Outlet A		Blower Outlet B		NQ EP14 A		NQ EP14 B	
Date/Time Sampled:	9/7/16 10:34		9/7/16 11:00		9/7/16 8:36		9/7/16 9:04	
Date/Time Analyzed:	9/8/16 12:13		9/8/16 13:27		9/8/16 14:05		9/8/16 14:30	
QC Batch No.:	160908GC3A2		160908GC3A2		160908GC3A2		160908GC3A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.3		3.2		3.2		3.2	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	11	0.65	7.1	0.63	63 d	6.3	51 d	6.3
Carbonyl Sulfide	ND	0.65	ND	0.63	ND	0.63	ND	0.63
Methyl Mercaptan	230 d	6.5	210 d	6.3	3.8	0.63	3.6	0.63
Ethyl Mercaptan	3.0	0.65	2.5	0.63	ND	0.63	ND	0.63
Dimethyl Sulfide	1,300 d	65.0	1,300 d	63.0	12	0.63	12	0.63
Carbon Disulfide	1.6	0.65	1.5	0.63	ND	0.63	ND	0.63
Dimethyl Disulfide	110 d	6.5	110 d	6.3	ND	0.63	ND	0.63
Total Reduced Sulfur	1,800	0.65	1,700	0.63	79	0.63	66	0.63

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

Reviewed/Approved By: _____ Date 9-9-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/8/16 12:01		9/8/16 11:36		9/8/16 11:48			
Analyst Initials:	AS		AS		AS			
Datafile:	08sep018		08sep016		08sep017			
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%	0.4	<30
Carbonyl Sulfide	ND	0.20	94	70-130%	94	70-130%	0.5	<30
Methyl Mercaptan	ND	0.20	98	70-130%	99	70-130%	0.8	<30
Ethyl Mercaptan	ND	0.20	108	70-130%	107	70-130%	0.7	<30
Dimethyl Sulfide	ND	0.20	92	70-130%	91	70-130%	1.7	<30
Carbon Disulfide	ND	0.20	95	70-130%	95	70-130%	0.3	<30
Dimethyl Disulfide	ND	0.20	75	70-130%	75	70-130%	0.5	<30

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

Reviewed/Approved By: _____ Date: 9-9-16
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 09/08/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H090802-01		H090802-02					
Client Sample I.D.:	Blower Outlet A		Blower Outlet B					
Date/Time Sampled:	9/7/16 10:34		9/7/16 11:00					
Date/Time Analyzed:	9/8/16 21:02		9/8/16 21:17					
QC Batch No.:	160908GC8A1		160908GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.3		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	11.2	3.3	11.5	3.2				
Carbon Dioxide	39.3	0.033	39.4	0.032				
Oxygen/Argon	6.9	1.6	6.8	1.6				
Nitrogen	32.0	3.3	31.7	3.2				
Methane	8.7	0.0033	8.7	0.0032				
Carbon Monoxide	0.094	0.0033	0.094	0.0032				
Net Heating Value (BTU/ft3)	154.9	3.3	155.7	3.2				
Gross Heating Value (BTU/ft3)	175.2	3.3	176.2	3.2				

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

Reviewed/Approved By: _____ Date 9-9-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton LF Monthly Permit Flare LFG Testing
Project No.: NA
Date Received: 09/08/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H090802-03		H090802-04					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	9/7/16 8:36		9/7/16 9:04					
Date/Time Analyzed:	9/8/16 21:32		9/8/16 23:20					
QC Batch No.:	160908GC8A1		160908GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.1		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	3.1	ND	3.2				
Carbon Dioxide	37.6	0.031	37.5	0.032				
Oxygen/Argon	2.0	1.5	2.0	1.6				
Nitrogen	10.2	3.1	10.3	3.2				
Methane	49.2	0.0031	49.1	0.0032				
Carbon Monoxide	ND	0.0031	ND	0.0032				
Net Heating Value (BTU/ft3) methane only	447.6	3.1	446.2	3.2				
Gross Heating Value (BTU/ft3) methane only	497.1	3.1	495.6	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 9-9-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

QC Batch No.: 160908GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/8/16 11:52		9/8/16 10:39		9/8/16 10:53			
Analyst Initials:	AS		AS		AS			
Datafile:	08sep010		08sep005		08sep006			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	98	70-130%	97	70-130%	1.5	<30
Carbon Dioxide	ND	0.010	95	70-130%	95	70-130%	0.2	<30
Oxygen/Argon	ND	0.50	101	70-130%	101	70-130%	0.1	<30
Nitrogen	ND	1.0	98	70-130%	98	70-130%	0.1	<30
Methane	ND	0.0010	105	70-130%	104	70-130%	0.6	<30
Carbon Monoxide	ND	0.0010	103	70-130%	102	70-130%	0.5	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 9-9-16

Mark J. Johnson
Operations Manager

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

Kurz FM =	**2,390** scfm
Fleetzoom Total =	**2,271** scfm

$\Delta =$ **-5.3%**

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 78-35
08/30/2016

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		8/30/16
Time	Start	13:30	13:38
***%CH_4**	Methane, %	9.50	9.50
***%CO_2**	Carbon Dioxide, %	39.90	40.80
***'%O_2**	Oxygen, %	6.70	7.10
***%Balance**	Assumed as Nitrogen, %	43.90	42.60
P_g	Flue Gas Static Pressure, inches of H_2O	25.23	24.00
t_s	Blower Outlet LFG Temperature, °F	122	122
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,270	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,390	
LFG_{CH4}	Methane, lb/hr	539.0	539.0
	Methane, grains/dscf	27.70	27.70
LFG_{CO2}	Carbon Dioxide, lb/hr	6,210.1	6,350.2
	Carbon Dioxide, grains/dscf	319.12	326.32
LFG_{O2}	Oxygen, lb/hr	758.2	803.5
	Oxygen, grains/dscf	38.96	41.29
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,349.2	4,220.4
	Balance gas as Nitrogen, grains/dscf	223.49	216.88

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

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.56	0.59
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.56	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	1.30	160.00
	Methyl Mercaptan Rate, lb/hr	0.02	2.72
	Methyl Mercaptan Rate, grains/dscf	0.001	0.140
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.56	1.90
	Ethyl Mercaptan Rate, lb/hr	0.01	0.04
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.002
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,100.00	1,100.00
	Dimethyl Sulfide Rate, lb/hr	24.17	24.17
	Dimethyl Sulfide Rate, grains/dscf	1.242	1.242
CS_2	Carbon Disulfide Concentration, ppmd	1.40	1.40
	Carbon Disulfide Rate, lb/hr	0.04	0.04
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	180.00	100.00
	Dimethyl Disulfide Rate, lb/hr	6.00	3.33
	Dimethyl Disulfide Rate, grains/dscf	0.308	0.171
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,400.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	31.72	33.98
	TRS-->SO2 Emission Rate, grains/dscf	1.630	1.746
	TPY =	138.93	148.85

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 78-35
08/30/2016

Fleetzoom Total = 330 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		8/30/16
Time	Start	13:09	13:17
***%CH_4**	Methane, %	54.20	50.30
***%CO_2**	Carbon Dioxide, %	34.50	38.40
***'%O_2**	Oxygen, %	1.30	1.20
***%Balance**	Assumed as Nitrogen, %	10.00	10.10
P_g	Flue Gas Static Pressure, inches of H_2O	1.20	0.99
t_s	Blower Outlet LFG Temperature, °F	108.50	105.20
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	313	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	330	
LFG_{CH4}	Methane, lb/hr	424.2	393.7
	Methane, grains/dscf	158.02	146.65
LFG_{CO2}	Carbon Dioxide, lb/hr	740.8	824.5
	Carbon Dioxide, grains/dscf	275.93	307.12
LFG_{O2}	Oxygen, lb/hr	20.3	18.7
	Oxygen, grains/dscf	7.56	6.98
LFG_{N2}	Balance gas as Nitrogen, lb/hr	136.7	138.0
	Balance gas as Nitrogen, grains/dscf	50.91	51.42

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	29.00	0.59
	Hydrogen Sulfide Rate, lb/hr	0.05	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.018	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	3.00	0.59
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	10.00	9.90
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.011	0.011
CS_2	Carbon Disulfide Concentration, ppmd	0.59	0.59
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.59	0.78
	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	43.00	11.00
	TRS-->SO2 Emission Rate, lb/hr	0.13	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.050	0.013
	TPY =	0.59	0.15

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.

September 7, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H083102-01/04

Enclosed are results for sample(s) received 8/31/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 9/06/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

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

BILLING

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS					
	Canister ID	Sample Start	Sample End	Lab Receive												
H083102-01	1613	-20.1	-4.5	-4	NQ OU 1	8/30/2016	1309	C	LFG	NA	X					
-02	1539	-20.4	-5	-4	NQ OU 2	8/30/2016	1317	C	LFG	NA	X					
-03	1538	-20.2	-4.2	-3	SQ OU 1	8/30/2016	1330	C	LFG	NA	X					
-04	1615	-20.3	-5	-4	SQ OU 2	8/30/2016	1338	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services		DATE/TIME:
SAMPLED BY: Ryan Ayers		COMPANY: Republic Services		DATE/TIME
RELINQUISHED BY: Ryan Ayers	8-30-16 1415	DATE/ RECEIVED BY		DATE/TIME
RELINQUISHED BY: FED EX		DATE/ RECEIVED BY	8/31/16 1152	DATE/TIME
RELINQUISHED BY		DATE/ RECEIVED BY		DATE/TIME

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

COMMENTS

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/31/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H083102-01		H083102-02		H083102-03		H083102-04	
Client Sample I.D.:	NQ OU 1		NQ OU 2		SQ OU 1		SQ OU 2	
Date/Time Sampled:	8/30/16 13:09		8/30/16 13:17		8/30/16 13:30		8/30/16 13:38	
Date/Time Analyzed:	9/3/16 14:44		9/3/16 14:57		9/3/16 15:10		9/3/16 15:51	
QC Batch No.:	160903GC3A1		160903GC3A1		160903GC3A1		160903GC3A1	
Analyst Initials:	VM		VM		VM		VM	
Dilution Factor:	3.0		3.0		2.8		3.0	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	29	0.59	ND	0.59	ND	0.56	ND	0.59
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.56	ND	0.59
Methyl Mercaptan	3.0	0.59	ND	0.59	1.3	0.56	160 d	5.9
Ethyl Mercaptan	ND	0.59	ND	0.59	ND	0.56	1.9	0.59
Dimethyl Sulfide	10	0.59	9.9	0.59	1,100 d	56.0	1,100 d	59.0
Carbon Disulfide	ND	0.59	ND	0.59	1.4	0.56	1.4	0.59
Dimethyl Disulfide	ND	0.59	0.78	0.59	180 d	56.0	100 d	5.9
Total Reduced Sulfur	43	0.59	11	0.59	1,400	0.56	1,500	0.59

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

Reviewed/Approved By: _____ Date 9/6/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160903GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	9/3/16 13:40		9/3/16 13:11		9/3/16 13:25			
Analyst Initials:	VM		VM		VM			
Datafile:	03sep009		03sep007		03sep008			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	101	70-130%	101	70-130%	0.1	<30
Carbonyl Sulfide	ND	0.20	103	70-130%	103	70-130%	0.1	<30
Methyl Mercaptan	ND	0.20	105	70-130%	106	70-130%	0.6	<30
Ethyl Mercaptan	ND	0.20	103	70-130%	102	70-130%	0.3	<30
Dimethyl Sulfide	ND	0.20	91	70-130%	91	70-130%	0.2	<30
Carbon Disulfide	ND	0.20	104	70-130%	103	70-130%	0.5	<30
Dimethyl Disulfide	ND	0.20	84	70-130%	83	70-130%	1.1	<30

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

Reviewed/Approved By: _____ Date: 9/6/16
Mark J. Johnson
Operations Manager

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

Kurz FM =	**2,261** scfm
Fleetzoom Total =	**2,069** scfm

$\Delta =$ **-9.3%**

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 77-34
08/24/2016

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		8/24/16
Time	Start	10:13	10:35
***%CH_4**	Methane, %	9.40	10.10
***%CO_2**	Carbon Dioxide, %	38.90	41.10
***'%O_2**	Oxygen, %	7.10	6.90
***%Balance**	Assumed as Nitrogen, %	44.60	41.90
P_g	Flue Gas Static Pressure, inches of H_2O	18.50	21.43
t_s	Blower Outlet LFG Temperature, °F	104	106
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,148	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,261	
LFG_{CH4}	Methane, lb/hr	504.6	542.2
	Methane, grains/dscf	27.41	29.45
LFG_{CO2}	Carbon Dioxide, lb/hr	5,728.6	6,052.6
	Carbon Dioxide, grains/dscf	311.12	328.72
LFG_{O2}	Oxygen, lb/hr	760.2	738.8
	Oxygen, grains/dscf	41.29	40.13
LFG_{N2}	Balance gas as Nitrogen, lb/hr	4,180.7	3,927.6
	Balance gas as Nitrogen, grains/dscf	227.06	213.31

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

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.67	0.61
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.67	0.61
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	1.20	30.00
	Methyl Mercaptan Rate, lb/hr	0.02	0.48
	Methyl Mercaptan Rate, grains/dscf	0.001	0.026
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.67	0.61
	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	920.00	1,200.00
	Dimethyl Sulfide Rate, lb/hr	19.13	24.95
	Dimethyl Sulfide Rate, grains/dscf	1.039	1.355
CS_2	Carbon Disulfide Concentration, ppmd	1.20	1.20
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	130.00	170.00
	Dimethyl Disulfide Rate, lb/hr	4.10	5.36
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.291
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,200.00	1,600.00
	TRS-->SO2 Emission Rate, lb/hr	25.72	34.30
	TRS-->SO2 Emission Rate, grains/dscf	1.397	1.863
	TPY =	112.67	150.23

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 77-34
08/24/2016

Fleetzoom Total = 355 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		8/24/16
Time	Start	9:12	9:22
***%CH_4**	Methane, %	50.50	49.10
***%CO_2**	Carbon Dioxide, %	37.60	38.40
***'%O_2**	Oxygen, %	0.90	0.90
***%Balance**	Assumed as Nitrogen, %	11.00	11.60
P_g	Flue Gas Static Pressure, inches of H_2O	1.32	1.31
t_s	Blower Outlet LFG Temperature, °F	91.00	96.30
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	337	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	355	
LFG_{CH4}	Methane, lb/hr	425.1	413.4
	Methane, grains/dscf	147.23	143.15
LFG_{CO2}	Carbon Dioxide, lb/hr	868.4	886.8
	Carbon Dioxide, grains/dscf	300.73	307.12
LFG_{O2}	Oxygen, lb/hr	15.1	15.1
	Oxygen, grains/dscf	5.23	5.23
LFG_{N2}	Balance gas as Nitrogen, lb/hr	161.7	170.5
	Balance gas as Nitrogen, grains/dscf	56.00	59.06

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	0.59	0.59
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	0.59	0.59
	Methyl Mercaptan Rate, lb/hr	0.00	0.00
	Methyl Mercaptan Rate, grains/dscf	0.001	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	8.50	8.00
	Dimethyl Sulfide Rate, lb/hr	0.03	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.010	0.009
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	1.70	0.90
	Dimethyl Disulfide Rate, lb/hr	0.01	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.003	0.002
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	12.00	9.80
	TRS-->SO2 Emission Rate, lb/hr	0.04	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.014	0.011
	TPY =	0.18	0.14

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

AirTECHNOLOGY
Laboratories, Inc.

August 30, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H082501-01/04

Enclosed are results for sample(s) received 8/25/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 8/29/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

Air TECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 1 OF 1

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

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

BILLING

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS					
H082501-01	1534	-21.2	-3.5	-4	NQ OU A	8/24/2016	912	C	LFG	NA	X					
-02	1532	-19.8	-3.5	-4	NQ OU B	8/24/2016	922	C	LFG	NA	X					
-03	1612	-20.2	-5	-6	SQ OU A	8/24/2016	1013	C	LFG	NA	X					
-04	J1724	-19.6	-3.5	-4.9	SQ OU B	8/24/2016	1035	C	LFG	NA	X					

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

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

RELINQUISHED BY: R. Ayers — 8-24-16 — 1100 — DATE/TIME

RECEIVED BY: FEDEX — DATE/TIME

RELINQUISHED BY: — DATE/TIME

RECEIVED BY: [illegible] — 8/25/16 1049 — 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: 08/25/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H082501-01		H082501-02		H082501-03		H082501-04	
Client Sample I.D.:	NQ OU A		NQ OU B		SQ OU A		SQ OU B	
Date/Time Sampled:	8/24/16 9:12		8/24/16 9:22		8/24/16 10:13		8/24/16 10:35	
Date/Time Analyzed:	8/26/16 9:46		8/26/16 10:00		8/26/16 10:15		8/26/16 10:56	
QC Batch No.:	160826GC3A1		160826GC3A1		160826GC3A1		160826GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.0		3.0		3.4		3.1	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.59	ND	0.59	ND	0.67	ND	0.61
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.67	ND	0.61
Methyl Mercaptan	ND	0.59	ND	0.59	1.2	0.67	30	0.61
Ethyl Mercaptan	ND	0.59	ND	0.59	ND	0.67	ND	0.61
Dimethyl Sulfide	8.5	0.59	8.0	0.59	920 d	67.0	1,200 d	61.0
Carbon Disulfide	ND	0.59	ND	0.59	1.2	0.67	1.2	0.61
Dimethyl Disulfide	1.7	0.59	0.90	0.59	130 d	6.7	170 d	6.1
Total Reduced Sulfur	12	0.59	9.8	0.59	1,200	0.67	1,600	0.61

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

Reviewed/Approved By: _____ Date 8/29/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160826GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/26/16 9:33		8/26/16 8:55		8/26/16 9:08			
Analyst Initials:	AS		AS		AS			
Datafile:	26aug004		26aug001		26aug002			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	94	70-130%	97	70-130%	2.5	<30
Carbonyl Sulfide	ND	0.20	109	70-130%	109	70-130%	0.1	<30
Methyl Mercaptan	ND	0.20	87	70-130%	90	70-130%	3.0	<30
Ethyl Mercaptan	ND	0.20	114	70-130%	115	70-130%	0.7	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	96	70-130%	2.0	<30
Carbon Disulfide	ND	0.20	88	70-130%	90	70-130%	1.7	<30
Dimethyl Disulfide	ND	0.20	98	70-130%	117	70-130%	17.1	<30

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

Reviewed/Approved By: _____ Date: 8/29/16
Mark J. Johnson
Operations Manager

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

Kurz FM =	**2,614** scfm
Fleetzoom Total =	**2,584** scfm

$\Delta =$ **-1.1%**

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 76-33
08/17/2016

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL100)			
Date	Test Date		8/17/16
Time	Start	11:09	11:22
***%CH_4**	Methane, %	8.90	9.10
***%CO_2**	Carbon Dioxide, %	35.30	35.30
***'%O_2**	Oxygen, %	9.30	9.10
***%Balance**	Assumed as Nitrogen, %	46.50	46.50
P_g	Flue Gas Static Pressure, inches of H_2O	35.10	36.26
t_s	Blower Outlet LFG Temperature, °F	122	122
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,483	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,614	
LFG_{CH4}	Methane, lb/hr	552.2	564.6
	Methane, grains/dscf	25.95	26.53
LFG_{CO2}	Carbon Dioxide, lb/hr	6,008.5	6,008.5
	Carbon Dioxide, grains/dscf	282.33	282.33
LFG_{O2}	Oxygen, lb/hr	1,151.0	1,126.2
	Oxygen, grains/dscf	54.08	52.92
LFG_{N2}	Balance gas as Nitrogen, lb/hr	5,038.1	5,038.1
	Balance gas as Nitrogen, grains/dscf	236.73	236.73

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

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.67	0.65
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.67	0.65
	Carboynl Sulfide Rate, lb/hr	0.02	0.02
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	9.80	0.65
	Methyl Mercaptan Rate, lb/hr	0.18	0.01
	Methyl Mercaptan Rate, grains/dscf	0.009	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.67	0.65
	Ethyl Mercaptan Rate, lb/hr	0.02	0.02
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	960.00	1,100.00
	Dimethyl Sulfide Rate, lb/hr	23.07	26.43
	Dimethyl Sulfide Rate, grains/dscf	1.084	1.242
CS_2	Carbon Disulfide Concentration, ppmd	1.40	1.20
	Carbon Disulfide Rate, lb/hr	0.04	0.04
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	130.00	230.00
	Dimethyl Disulfide Rate, lb/hr	4.74	8.38
	Dimethyl Disulfide Rate, grains/dscf	0.223	0.394
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,200.00	1,500.00
	TRS-->SO2 Emission Rate, lb/hr	29.73	37.17
	TRS-->SO2 Emission Rate, grains/dscf	1.397	1.746
	TPY =	130.23	162.79

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 76-33
08/17/2016

Fleetzoom Total = 314 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		8/17/16
Time	Start	11:46	11:54
***%CH_4**	Methane, %	51.30	50.80
***%CO_2**	Carbon Dioxide, %	39.30	39.00
***'%O_2**	Oxygen, %	0.90	1.00
***%Balance**	Assumed as Nitrogen, %	8.50	9.20
P_g	Flue Gas Static Pressure, inches of H_2O	0.84	1.11
t_s	Blower Outlet LFG Temperature, °F	105.60	109.20
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	299	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	314	
LFG_{CH4}	Methane, lb/hr	382.7	379.0
	Methane, grains/dscf	149.56	148.11
LFG_{CO2}	Carbon Dioxide, lb/hr	804.3	798.1
	Carbon Dioxide, grains/dscf	314.32	311.92
LFG_{O2}	Oxygen, lb/hr	13.4	14.9
	Oxygen, grains/dscf	5.23	5.82
LFG_{N2}	Balance gas as Nitrogen, lb/hr	110.7	119.8
	Balance gas as Nitrogen, grains/dscf	43.27	46.84

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	23.00	0.67
	Hydrogen Sulfide Rate, lb/hr	0.04	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.014	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.63	0.67
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.60	1.60
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.002	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.63	0.67
	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	8.50	9.40
	Dimethyl Sulfide Rate, lb/hr	0.02	0.03
	Dimethyl Sulfide Rate, grains/dscf	0.010	0.011
CS_2	Carbon Disulfide Concentration, ppmd	0.63	0.67
	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	0.67
	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	34.00	11.00
	TRS-->SO2 Emission Rate, lb/hr	0.10	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.040	0.013
	TPY =	0.44	0.14

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.

August 23, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H081804-01/04

Enclosed are results for sample(s) received 8/18/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 8/22/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

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

BILLING

P.O. No.:	PO~~4862452~~ 5881099
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	EPA 15/16 + TRS
H081804-01	J1717	-19.93	-4	-6	SQ Outlet A	8/17/2016	1109	C	LFG	NA	X
-02	J1726	-20	-3.9	-5.5	SQ Outlet B	8/17/2016	1122	C	LFG	NA	X
-03	1613	-19.9	-4	-5	NQ Outlet A	8/17/2016	1146	C	LFG	NA	X
-04	1615	-19.8	-4	-6	NQ Outlet B	8/17/2016	1154	C	LFG	NA	X

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Ryan Ayers	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: R Ayers	DATE: 8-17-16 1330	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE:	RECEIVED BY: 8/18/16	DATE/TIME 0900

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: 08/18/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H081804-01		H081804-02		H081804-03		H081804-04	
Client Sample I.D.:	SQ Outlet A		SQ Outlet B		NQ Outlet A		NQ Outlet B	
Date/Time Sampled:	8/17/16 11:09		8/17/16 11:22		8/17/16 11:46		8/17/16 11:54	
Date/Time Analyzed:	8/19/16 9:15		8/19/16 9:53		8/19/16 10:32		8/19/16 11:00	
QC Batch No.:	160819GC3A1		160819GC3A1		160819GC3A1		160819GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.3		3.2		3.4	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	ND	0.67	ND	0.65	23 d	6.3	ND	0.67
Carbonyl Sulfide	ND	0.67	ND	0.65	ND	0.63	ND	0.67
Methyl Mercaptan	9.8	0.67	ND	0.65	2.6	0.63	1.6	0.67
Ethyl Mercaptan	ND	0.67	ND	0.65	ND	0.63	ND	0.67
Dimethyl Sulfide	960 d	67.0	1,100 d	65.0	8.5	0.63	9.4	0.67
Carbon Disulfide	1.4	0.67	1.2	0.65	ND	0.63	ND	0.67
Dimethyl Disulfide	130 d	6.7	230 d	6.5	ND	0.63	ND	0.67
Total Reduced Sulfur	1,200	0.67	1,500	0.65	34	0.63	11	0.67

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

Reviewed/Approved By: _____ Date 8/22/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160819GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/19/16 9:02		8/19/16 8:37		8/19/16 8:49			
Analyst Initials:	AS		AS		AS			
Datafile:	19aug004		19aug002		19aug003			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	85	70-130%	85	70-130%	0.4	<30
Carbonyl Sulfide	ND	0.20	107	70-130%	105	70-130%	1.5	<30
Methyl Mercaptan	ND	0.20	87	70-130%	84	70-130%	2.7	<30
Ethyl Mercaptan	ND	0.20	116	70-130%	113	70-130%	2.5	<30
Dimethyl Sulfide	ND	0.20	95	70-130%	94	70-130%	1.0	<30
Carbon Disulfide	ND	0.20	91	70-130%	89	70-130%	2.7	<30
Dimethyl Disulfide	ND	0.20	103	70-130%	101	70-130%	1.7	<30

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

Reviewed/Approved By: _____ Date: 8/22/16
Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 75-32
08/09/2016

	PARAMETER	Blower Out
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120)		
Date	Test Date	8/9/16
Start	Run Start Time	8:36
	Run Finish Time	9:44
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	1:07:10
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.60
% H_2O	Moisture Content of LFG, %	10.31
% RH	Relative Humidity, %	74.80
M_{fd}	Dry Mole Fraction	0.897
%CH_4	Methane, %	10.10
%CO_2	Carbon Dioxide, %	39.25
%O_2	Oxygen, %	6.80
%Balance	Assumed as Nitrogen, %	30.65
%H_2	Hydrogen, %	11.40
%CO	Carbon Monoxide, %	0.11
M_d	Dry Molecular Weight, lb/lb-Mole	30.56
M_s	Wet Molecular weight, lb/lb-Mole	29.27
P_g	Flue Gas Static Pressure, inches of H_2O	29.20
P_s	Absolute Flue Gas Pressure, inches of Mercury	31.73
t_s	Average Stack Gas Temperature, °F	122
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.163
v_s	Average LFG Velocity, feet/second	27.03
A_s	Stack Crossectional Area, square feet	1.35
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	1,894
Q_s	Standard Volumetric Flow Rate, scfm	2,090
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	2,194
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	9,015
NHV	Net Heating Value, Btu/scf	159
LFG_{CH4}	Methane, lb/hr	478.1
	Methane, grains/dscf	29.45
LFG_{CO2}	Carbon Dioxide, lb/hr	5,097.4
	Carbon Dioxide, grains/dscf	313.92
LFG_{O2}	Oxygen, lb/hr	642.1
	Oxygen, grains/dscf	39.54
LFG_{N2}	Balance gas as Nitrogen, lb/hr	2,533.7
	Balance gas as Nitrogen, grains/dscf	156.04
LFG_{H4}	Hydrogen, lb/hr	67.8
	Hydrogen, grains/dscf	4.18
LFG_{CO}	Carbon Monoxide, lb/hr	9.1
	Carbon Monoxide, grains/dscf	0.56

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	8.10	2.60
	Hydrogen Sulfide Rate, lb/hr	0.08	0.03
	Hydrogen Sulfide Rate, grains/dscf	0.005	0.002
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboyl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	230.00	250.00
	Methyl Mercaptan Rate, lb/hr	3.27	3.55
	Methyl Mercaptan Rate, grains/dscf	0.201	0.219
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	2.60	3.50
	Ethyl Mercaptan Rate, lb/hr	0.05	0.06
	Ethyl Mercaptan Rate, grains/dscf	0.003	0.004
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	1,700.00	1,400.00
	Dimethyl Sulfide Rate, lb/hr	31.17	25.67
	Dimethyl Sulfide Rate, grains/dscf	1.920	1.581
CS_2	Carbon Disulfide Concentration, ppmd	1.40	1.40
	Carbon Disulfide Rate, lb/hr	0.03	0.03
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	120.00	140.00
	Dimethyl Disulfide Rate, lb/hr	3.34	3.15
	Dimethyl Disulfide Rate, grains/dscf	0.205	0.194

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	2,200.00	1,900.00
	TRS-->SO2 Emission Rate, lb/hr	41.59	35.92
	TRS-->SO2 Emission Rate, grains/dscf	2.561	2.212

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, August 09, 2016

LOCATION	TIME	FLOW -SCFM			Method 2 vs. Fleetzoom	Method 2 vs Kurz	Kurz vs Fleetzoom
		Method 2	FleetZoom	Kurz FM			
BLOWER OUT	**8:36**	**2,090**	**2,066**	**2,261**	**1.1%**	**-8.2%**	**8.6%**

Bridgeton Landfill, LLC
Weekly TRS
Monthly Method 2C
Event 75-327
08/09/2016

	PARAMETER	Blower Out
	EP14 NORTH QUARRY LFG ONLY	
Date	Test Date	8/9/16
Start	Run Start Time	10:04
	Run Finish Time	10:49
	Net Traversing Points	8 (2 x 4)
Θ	Net Run Time, minutes	0:45:10
C_p	Pitot Tube Coeficient	0.99
P_{Br}	Barometric Pressure, inches of Mercury	29.63
% H_2O	Moisture Content of LFG, %	5.77
% RH	Relative Humidity, %	88.40
M_{fd}	Dry Mole Fraction	0.942
%CH_4	Methane, %	51.25
%CO_2	Carbon Dioxide, %	38.45
%O_2	Oxygen, %	1.75
%Balance	Assumed as Nitrogen, %	7.80
%H_2	Hydrogen, %	3.15
%CO	Carbon Monoxide, %	0.0032
M_d	Dry Molecular Weight, lb/lb-Mole	27.33
M_s	Wet Molecular weight, lb/lb-Mole	26.79
P_g	Flue Gas Static Pressure, inches of H_2O	0.10
P_s	Absolute Flue Gas Pressure, inches of Mercury	29.69
t_s	Average Stack Gas Temperature, °F	99
ΔP_{avg}	Average Velocity Head, inches of H_2O	0.019
v_s	Average LFG Velocity, feet/second	9.86
A_s	Stack Crossectional Area, square feet	0.51
Q_{sd}	Dry Volumetric Flow Rate, dry scfm	268
Q_s	Standard Volumetric Flow Rate, scfm	283
Q_{aw}	Actual Wet Volumetric Flue Gas Flow Rate, acfm	304
$Q_{lb/hr}$	Dry Air Flow Rate at Standard Conditions, lb/hr	1,140
NHV	Net Heating Value, Btu/scf	466
LFG_{CH4}	Methane, lb/hr	343.2
	Methane, grains/dscf	149.42
LFG_{CO2}	Carbon Dioxide, lb/hr	706.3
	Carbon Dioxide, grains/dscf	307.52
LFG_{O2}	Oxygen, lb/hr	23.4
	Oxygen, grains/dscf	10.18
LFG_{N2}	Balance gas as Nitrogen, lb/hr	91.2
	Balance gas as Nitrogen, grains/dscf	39.71
LFG_{H4}	Hydrogen, lb/hr	2.7
	Hydrogen, grains/dscf	1.15
LFG_{CO}	Carbon Monoxide, lb/hr	0.0
	Carbon Monoxide, grains/dscf	0.02

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	43.00	67.00
	Hydrogen Sulfide Rate, lb/hr	0.06	0.10
	Hydrogen Sulfide Rate, grains/dscf	0.027	0.041
COS	Carbonyl Sulfide Concentration, ppmd	0.61	0.63
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	2.10	2.70
	Methyl Mercaptan Rate, lb/hr	0.00	0.01
	Methyl Mercaptan Rate, grains/dscf	0.002	0.002
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.20	1.30
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	5.40	5.30
	Dimethyl Sulfide Rate, lb/hr	0.01	0.01
	Dimethyl Sulfide Rate, grains/dscf	0.006	0.006
CS_2	Carbon Disulfide Concentration, ppmd	0.61	0.63
	Carbon Disulfide Rate, lb/hr	0.00	0.00
	Carbon Disulfide Rate, grains/dscf	0.001	0.001
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	0.61	0.63
	Dimethyl Disulfide Rate, lb/hr	0.00	0.00
	Dimethyl Disulfide Rate, grains/dscf	0.001	0.001

❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	52.00	76.00
	TRS-->SO2 Emission Rate, lb/hr	0.14	0.20
	TRS-->SO2 Emission Rate, grains/dscf	0.061	0.088

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, August 09, 2016

LOCATION	TIME	FLOW -SCFM		Method 2 vs. Fleetzoom
		Method 2	FleetZoom	
EP14 NQ LFG	10:04	283	297	-4.8%

Air TECHNOLOGY Laboratories, Inc.

August 12, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H081001-01/04

Enclosed are results for sample(s) received 8/04/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- The reporting limits for ethyl mercaptan and dimethyl sulfide were elevated from 0.20 ppmv to 0.40 ppmv due to background interference.
- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 8/11/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

CHAIN OF CUSTODY RECORD

Air TECHNOLOGY Laboratories, Inc.

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

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

Project No.:	
Project Name:	Bridgeton LF Monthly Permit Flare LFG Testing
Report To:	Nick Bauers/Ryans Ayers/David Randall
Company:	Republic Services
Street:	13570 St. Charles Rock Rd.
City/State/Zip:	Bridgeton , MO 63044
Phone& Fax:	314-683-3921
e-mail:	NBauer@republicservices.com

BILLING

P.O. No.:	PO5881099
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS	ASTM 1946 +H2 + CO & BTU/SCF		ASTM 1946 +H2 + CO & BTU/SCF (by CH4 ONLY)		
	Canister ID	Sample Start	Sample End	Lab Receive												
H081001-01	6013	-19.88	-2.64	-4	Blower Outlet A	8/9/2016	835	C -6L	LFG	He	X	X				
-02	6014	-19.93	-2.41	-4	Blower Outlet B	8/9/2016	901	C -6L	LFG	He	X	X				
-03	6058	-20.04	-3.17	-4.5	NQ EP14 A	8/9/2016	1004	C -6L	LFG	He	X			X		
-04	5951	-20.22	-3.52	-5	NQ EP14 B	8/9/2016	1030	C -6L	LFG	He	X			X		

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS: Canister 4435 had low initial pressure. No sample taken.**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey McMillen	DATE: 8/9/16	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY: DHL - 8/10/16 0851	DATE/TIME
RELINQUISHED BY	DATE:	RECEIVED BY	DATE/TIME

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

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/10/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H081001-01		H081001-02		H081001-03		H081001-04	
Client Sample I.D.:	Blower Outlet A		Blower Outlet B		NQ EP14 A		NQ EP14 B	
Date/Time Sampled:	8/9/16 8:35		8/9/16 9:01		8/9/16 10:04		8/9/16 10:30	
Date/Time Analyzed:	8/10/16 18:31		8/10/16 19:24		8/10/16 20:03		8/10/16 20:29	
QC Batch No.:	160810GC3A2		160810GC3A2		160810GC3A2		160810GC3A2	
Analyst Initials:	MJ		MJ		MJ		MJ	
Dilution Factor:	3.0		3.0		3.1		3.2	
ANALYTE	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv	Result ppmv	RL ppmv
Hydrogen Sulfide	8.1	0.59	2.6	0.59	43 d	6.1	67 d	6.3
Carbonyl Sulfide	ND	0.59	ND	0.59	ND	0.61	ND	0.63
Methyl Mercaptan	230 d	5.9	250 d	5.9	2.1	0.61	2.7	0.63
Ethyl Mercaptan	2.6	1.2	3.5	1.2	ND	1.2	ND	1.3
Dimethyl Sulfide	1,700 d	120.0	1,400 d	120.0	5.4	1.2	5.3	1.3
Carbon Disulfide	1.4	0.59	1.4	0.59	ND	0.61	ND	0.63
Dimethyl Disulfide	120 d	5.9	140 d	5.9	ND	0.61	ND	0.63
Total Reduced Sulfur	2,200	0.59	1,900	0.59	52	0.61	76	0.63

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

Reviewed/Approved By: _____ Date 8/11/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160810GC3A2
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/10/16 18:19		8/10/16 12:19		8/10/16 12:31			
Analyst Initials:	AS		AS		AS			
Datafile:	10aug041		10aug019		10aug020			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	79	70-130%	83	70-130%	4.6	<30
Carbonyl Sulfide	ND	0.20	102	70-130%	99	70-130%	2.8	<30
Methyl Mercaptan	ND	0.20	91	70-130%	86	70-130%	5.3	<30
Ethyl Mercaptan	ND	0.40	124	70-130%	126	70-130%	2.1	<30
Dimethyl Sulfide	ND	0.40	109	70-130%	107	70-130%	1.5	<30
Carbon Disulfide	ND	0.20	93	70-130%	95	70-130%	2.2	<30
Dimethyl Disulfide	ND	0.20	99	70-130%	97	70-130%	2.0	<30

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

Reviewed/Approved By: _____ Date: 8/11/16
Mark J. Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081001-01		H081001-02					
Client Sample I.D.:	Blower Outlet A		Blower Outlet B					
Date/Time Sampled:	8/9/16 8:35		8/9/16 9:01					
Date/Time Analyzed:	8/10/16 14:09		8/10/16 14:24					
QC Batch No.:	160810GC8A1		160810GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.0		3.0					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	11.0	3.0	11.8	3.0				
Carbon Dioxide	38.7	0.030	39.8	0.030				
Oxygen/Argon	7.0	1.5	6.6	1.5				
Nitrogen	31.2	3.0	30.1	3.0				
Methane	10.4	0.0030	9.8	0.0030				
Carbon Monoxide	0.11	0.0030	0.11	0.0030				
Net Heating Value (BTU/ft3)	157.5	3.0	160.9	3.0				
Gross Heating Value (BTU/ft3)	178.3	3.0	182.2	3.0				

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

Reviewed/Approved By: _____ Date 8/10/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/10/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081001-03		H081001-04					
Client Sample I.D.:	NQ EP14 A		NQ EP14 B					
Date/Time Sampled:	8/9/16 10:04		8/9/16 10:30					
Date/Time Analyzed:	8/10/16 14:38		8/10/16 14:53					
QC Batch No.:	160810GC8A1		160810GC8A1					
Analyst Initials:	AS		AS					
Dilution Factor:	3.1		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	ND	3.1	ND	3.2				
Carbon Dioxide	39.1	0.031	37.8	0.032				
Oxygen/Argon	ND	1.5	2.0	1.6				
Nitrogen	6.6	3.1	9.0	3.2				
Methane	52.1	0.0031	50.4	0.0032				
Carbon Monoxide	ND	0.0031	ND	0.0032				
Net Heating Value (BTU/ft3) methane only	473.6	3.1	458.8	3.2				
Gross Heating Value (BTU/ft3) methane only	526.0	3.1	509.5	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 8/11/16
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160810GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/10/16 13:53		8/10/16 13:09		8/10/16 13:23			
Analyst Initials:	AS		AS		AS			
Datafile:	10aug003		10aug.ru		10aug001			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	100	70-130%	101	70-130%	1.3	<30
Carbon Dioxide	ND	0.010	89	70-130%	88	70-130%	1.1	<30
Oxygen/Argon	ND	0.50	93	70-130%	92	70-130%	1.1	<30
Nitrogen	ND	1.0	91	70-130%	90	70-130%	1.1	<30
Methane	ND	0.0010	108	70-130%	107	70-130%	0.7	<30
Carbon Monoxide	ND	0.0010	108	70-130%	107	70-130%	0.7	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 8/11/16

Mark J. Johnson
Operations Manager

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 74-31
08/03/2016

Kurz FM =	**2,297**	**scfm**
Fleetzoom Total =	**2,100**	**scfm**

Δ = **-9.4%**

	PARAMETER	Outlet A	Outlet B
SOUTH QUARRY LFG ONLY - MAIN FLARE COMPOUND BLOWER OUTLET (FL120 & FL140)			
Date	Test Date		8/3/16
Time	Start	13:33	13:42
***%CH_4**	Methane, %	11.60	11.20
***%CO_2**	Carbon Dioxide, %	42.00	41.90
***'%O_2**	Oxygen, %	6.30	6.30
***%Balance**	Assumed as Nitrogen, %	40.10	40.60
P_g	Flue Gas Static Pressure, inches of H_2O	29.49	28.21
t_s	Blower Outlet LFG Temperature, °F	127	127
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	2,182	
Q_s	Kurz FM, Standard Volumetric Flow Rate, scfm	2,297	
LFG_{CH4}	Methane, lb/hr	632.6	610.8
	Methane, grains/dscf	33.82	32.65
LFG_{CO2}	Carbon Dioxide, lb/hr	6,283.3	6,268.3
	Carbon Dioxide, grains/dscf	335.92	335.12
LFG_{O2}	Oxygen, lb/hr	685.3	685.3
	Oxygen, grains/dscf	36.64	36.64
LFG_{N2}	Balance gas as Nitrogen, lb/hr	3,818.6	3,866.2
	Balance gas as Nitrogen, grains/dscf	204.15	206.69

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

		Outlet A	Outlet B
H_2S	Hydrogen Sulfide Concentration, ppmd	0.63	0.59
	Hydrogen Sulfide Rate, lb/hr	0.01	0.01
	Hydrogen Sulfide Rate, grains/dscf	0.000	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.66	0.62
	Carboynl Sulfide Rate, lb/hr	0.01	0.01
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	96.00	0.59
	Methyl Mercaptan Rate, lb/hr	1.57	0.01
	Methyl Mercaptan Rate, grains/dscf	0.084	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	1.20	0.59
	Ethyl Mercaptan Rate, lb/hr	0.03	0.01
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	940.00	960.00
	Dimethyl Sulfide Rate, lb/hr	19.85	20.28
	Dimethyl Sulfide Rate, grains/dscf	1.061	1.084
CS_2	Carbon Disulfide Concentration, ppmd	1.20	1.40
	Carbon Disulfide Rate, lb/hr	0.03	0.04
	Carbon Disulfide Rate, grains/dscf	0.002	0.002
$C_2H_6S_2$	Dimethyl Disulfide Concentration, ppmd	89.00	200.00
	Dimethyl Disulfide Rate, lb/hr	2.85	6.40
	Dimethyl Disulfide Rate, grains/dscf	0.152	0.342
❶$E_{TRS-SO2}$	TRS-->SO2 Emission Concentration, ppmd	1,200.00	1,400.00
	TRS-->SO2 Emission Rate, lb/hr	26.13	30.49
	TRS-->SO2 Emission Rate, grains/dscf	1.397	1.630
	TPY =	114.46	133.54

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

Bridgeton Landfill, LLC.
Weekly TRS Sampling Summary
Event 74-31
08/03/2016

Fleetzoom Total = 274 scfm

	PARAMETER	EP14 NQ	EP14 NQ-2
EP14 NORTH QUARRY LFG ONLY			
Date	Test Date		8/3/16
Time	Start	14:23	14:32
***%CH_4**	Methane, %	53.80	54.30
***%CO_2**	Carbon Dioxide, %	40.60	38.50
***'%O_2**	Oxygen, %	0.60	0.50
***%Balance**	Assumed as Nitrogen, %	5.00	6.70
P_g	Flue Gas Static Pressure, inches of H_2O	0.93	0.91
t_s	Blower Outlet LFG Temperature, °F	101.30	102.70
Q_{sd}	Dry Volumetric Flow Rate, dry scfm (assumes 5%H2O)	260	
Q_s	Fleetzoom Standard Volumetric Flow Rate, scfm	274	
LFG_{CH4}	Methane, lb/hr	350.2	353.5
	Methane, grains/dscf	156.85	158.31
LFG_{CO2}	Carbon Dioxide, lb/hr	725.0	687.5
	Carbon Dioxide, grains/dscf	324.72	307.92
LFG_{O2}	Oxygen, lb/hr	7.8	6.5
	Oxygen, grains/dscf	3.49	2.91
LFG_{N2}	Balance gas as Nitrogen, lb/hr	56.8	76.2
	Balance gas as Nitrogen, grains/dscf	25.45	34.11

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

		EP14 NQ	EP14 NQ-2
H_2S	Hydrogen Sulfide Concentration, ppmd	2.00	0.59
	Hydrogen Sulfide Rate, lb/hr	0.00	0.00
	Hydrogen Sulfide Rate, grains/dscf	0.001	0.000
COS	Carbonyl Sulfide Concentration, ppmd	0.59	0.59
	Carboynl Sulfide Rate, lb/hr	0.00	0.00
	Carbonyl Sulfide Rate, grains/dscf	0.001	0.001
CH_4S	Methyl Mercaptan Concentration, ppmd	3.10	0.59
	Methyl Mercaptan Rate, lb/hr	0.01	0.00
	Methyl Mercaptan Rate, grains/dscf	0.003	0.001
C_2H_6S	Ethyl Mercaptan Concentration, ppmd	0.59	0.59
	Ethyl Mercaptan Rate, lb/hr	0.00	0.00
	Ethyl Mercaptan Rate, grains/dscf	0.001	0.001
$(CH_3)_2S$	Dimethyl Sulfide Concentration, ppmd	7.30	7.30
	Dimethyl Sulfide Rate, lb/hr	0.02	0.02
	Dimethyl Sulfide Rate, grains/dscf	0.008	0.008
CS_2	Carbon Disulfide Concentration, ppmd	0.59	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	0.64	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	15.00	9.70
	TRS-->SO2 Emission Rate, lb/hr	0.04	0.03
	TRS-->SO2 Emission Rate, grains/dscf	0.017	0.011
	TPY =	0.17	0.11

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.

August 8, 2016

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

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

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

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H080402-01/04

Enclosed are results for sample(s) received 8/04/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 8/08/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

Air TECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

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

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

BILLING	
P.O. No.:	~~PO4862452~~ 5881099
Bill to:	Republic Services
	Attn: Nick Bauer
	13570 St. Charles Rock Rd.
	Bridgeton, MO 63044

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: EPA 15/16 + TRS					
	Canister ID	Sample Start	Sample End	Lab Receive												
H080402-01	1614	-20	-3.5	-5	South Quary Outlet 1	8/3/2016	1333	C	LFG	NA	X					
-02	1538	-20	-3.5	-4	South Quary Outlet 2	8/3/2016	1342	C	LFG	NA	X					
-03	J1721	-20.2	-3.5	-4	North Quary Outlet 1	8/3/2016	1423	C	LFG	NA	X					
-04	J1718	-20	-3.5	-4	North Quary Outlet 2	8/3/2016	1432	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer		COMPANY: Republic Services		DATE/TIME:
SAMPLED BY: Corey McMillen		COMPANY: Republic Services		DATE/TIME
RELINQUISHED BY: Corey Mcmillen	8/3/16	DATE: RECEIVED BY		DATE/TIME
RELINQUISHED BY: Fed Ex	8-4-16	DATE: RECEIVED BY	8-4-16 9:04	DATE/TIME
RELINQUISHED BY		DATE: RECEIVED BY		DATE/TIME

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

COMMENTS

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

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/04/16
Matrix: Air
Reporting Units: ppmv

EPA 15/16

Lab No.:	H080402-01		H080402-02		H080402-03		H080402-04	
Client Sample I.D.:	South Quarry Outlet 1		South Quarry Outlet 2		North Quarry Outlet 1		North Quarry Outlet 2	
Date/Time Sampled:	8/3/16 13:33		8/3/16 13:42		8/3/16 14:23		8/3/16 14:32	
Date/Time Analyzed:	8/4/16 13:05		8/4/16 13:58		8/4/16 14:39		8/4/16 14:55	
QC Batch No.:	160804GC3A1		160804GC3A1		160804GC3A1		160804GC3A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.2		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	ND	0.63	ND	0.59	2.0	0.59	ND	0.59
Carbonyl Sulfide	0.66	0.63	0.62	0.59	ND	0.59	ND	0.59
Methyl Mercaptan	96 d	6.3	ND	0.59	3.1	0.59	ND	0.59
Ethyl Mercaptan	1.2	0.63	ND	0.59	ND	0.59	ND	0.59
Dimethyl Sulfide	940 d	63.0	960 d	59.0	7.3	0.59	7.3	0.59
Carbon Disulfide	1.2	0.63	1.4	0.59	ND	0.59	ND	0.59
Dimethyl Disulfide	89 d	6.3	200 d	5.9	0.64	0.59	0.63	0.59
Total Reduced Sulfur	1,200	0.63	1,400	0.59	15	0.59	9.7	0.59

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

Reviewed/Approved By: _____ Date 8-8-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No.: 160804GC3A1
Matrix: Air
Units: ppmv

QC for Sulfur Compounds by EPA 15/16

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/4/16 10:29		8/4/16 9:39		8/4/16 10:17			
Analyst Initials:	AS		AS		AS			
Datafile:	04aug005		04aug001		04aug004			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen Sulfide	ND	0.20	100	70-130%	84	70-130%	17.4	<30
Carbonyl Sulfide	ND	0.20	110	70-130%	106	70-130%	4.2	<30
Methyl Mercaptan	ND	0.20	89	70-130%	86	70-130%	2.9	<30
Ethyl Mercaptan	ND	0.20	115	70-130%	114	70-130%	0.4	<30
Dimethyl Sulfide	ND	0.20	98	70-130%	93	70-130%	5.6	<30
Carbon Disulfide	ND	0.20	80	70-130%	90	70-130%	11.7	<30
Dimethyl Disulfide	ND	0.20	84	70-130%	92	70-130%	9.4	<30

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

Reviewed/Approved By: _____ Date: 8-8-16
Mark J. Johnson
Operations Manager

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

ATTACHMENT C

GAS WELL ANALYSIS MAPS

LEGEND

< = Well Location

Hydrogen

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

NOTES:

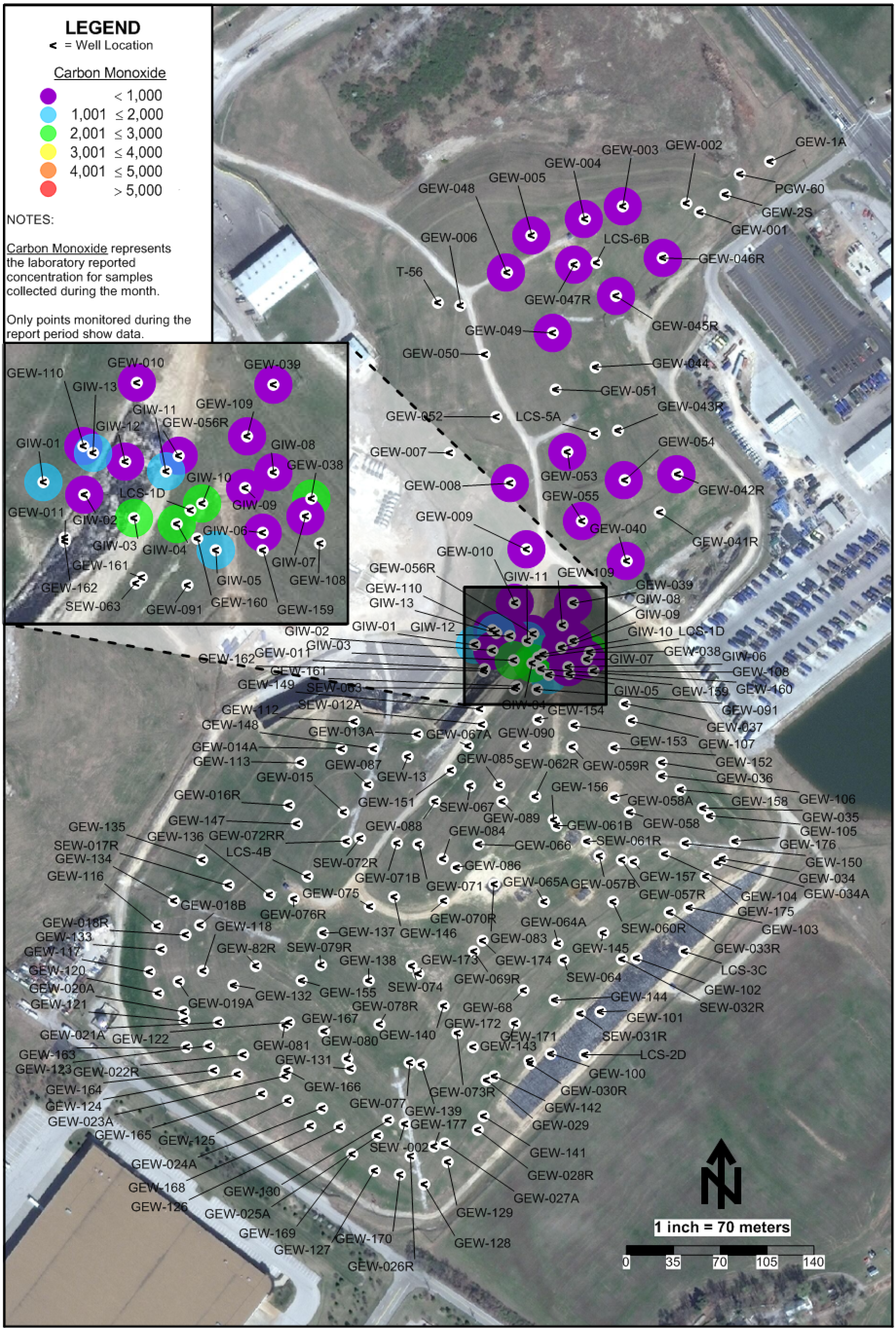
Hydrogen represents the laboratory reported concentration for samples collected during the month.

Only points monitored during the report period show data.

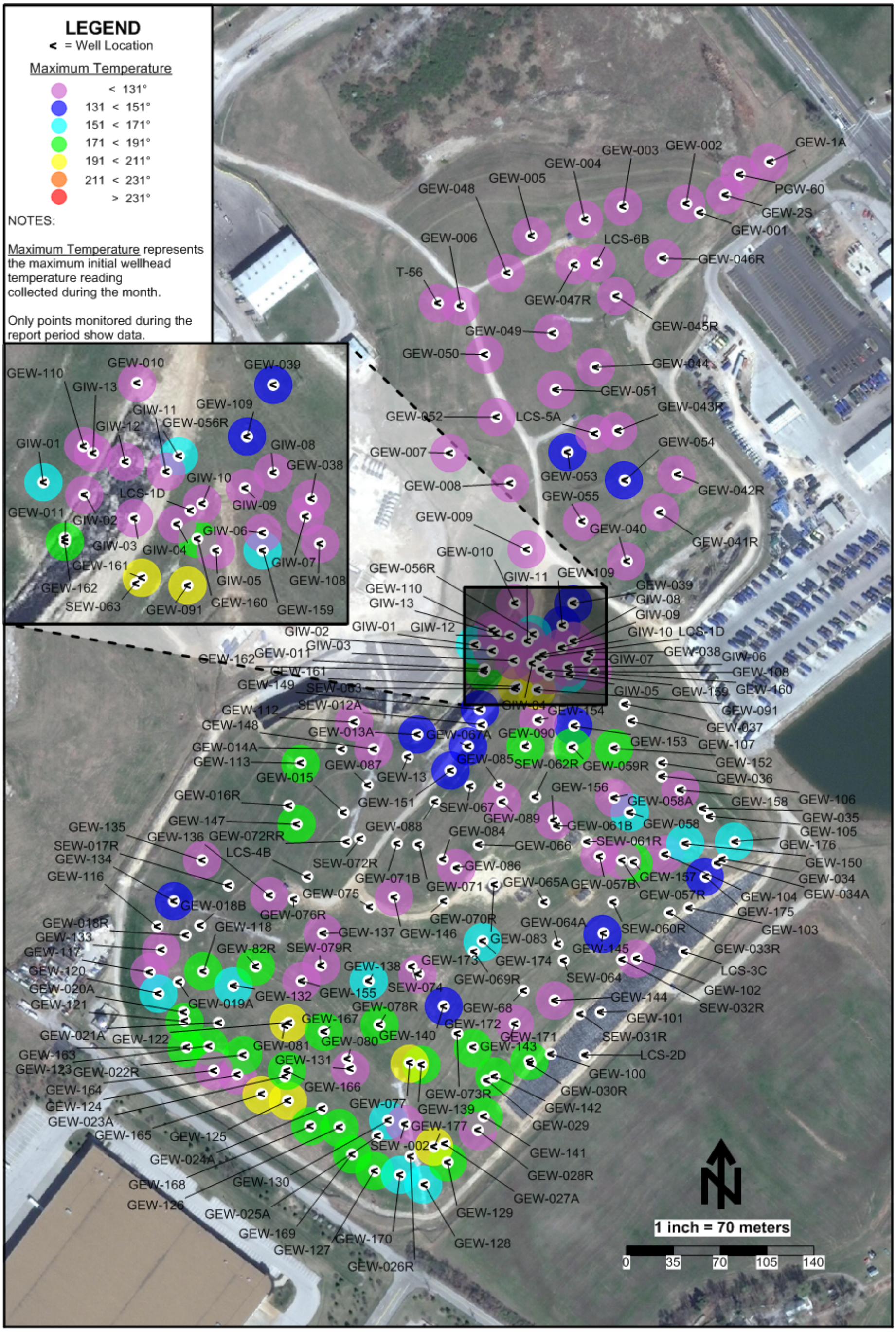
1 inch = 70 meters

0 35 70 105 140

Hydrogen Data Map - August 2016 - Bridgeton Landfill



Carbon Monoxide Data Map - August 2016 - Bridgeton Landfill



Initial Temperature Maximums - August 2016 - Bridgeton Landfill

ATTACHMENT D

LABORATORY DATA

ATTACHMENT D-1

LAB ANALYSIS SUMMARY

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
North Quarry								
GEW-002	4/14/2016	54	42	ND	3.6	ND	ND	
GEW-002	5/13/2016	52	39	2	6.8	ND	ND	See Note 3
GEW-002	6/8/2016	54	42	ND	ND	ND	ND	
GEW-02S	5/13/2016	60	37	ND	ND	ND	ND	
GEW-02S	7/11/2016	62	35	ND	ND	ND	ND	
GEW-003	4/14/2016	45	37	1.9	16	0.1	ND	See Note 3
GEW-003	5/13/2016	52	39	ND	8.2	0.1	ND	
GEW-003	6/8/2016	51	40	ND	8.8	0.1	ND	
GEW-003	7/11/2016	52	39	ND	7.9	0.1	ND	
GEW-003	8/10/2016	55.6	39.9	ND	3.8	0.1	ND	
GEW-004	4/14/2016	51	39	ND	8.3	0.1	ND	
GEW-004	5/13/2016	50	39	ND	11	0.1	ND	
GEW-004	6/8/2016	52	39	ND	7.5	0.04	ND	
GEW-004	7/11/2016	54	40	ND	4.9	0.1	ND	
GEW-004	8/10/2016	55.3	40.8	ND	3.4	0.1	ND	
GEW-005	4/14/2016	50	37	ND	12	0.1	ND	
GEW-005	5/13/2016	31	27	4	38	0.03	ND	See Note 3
GEW-005	6/8/2016	51	38	ND	9.7	0.05	ND	
GEW-005	7/11/2016	46	35	ND	17	ND	ND	
GEW-005	8/10/2016	50.3	36.6	ND	12.5	0.04	ND	
GEW-006	5/12/2016	50	37	ND	13	ND	ND	
GEW-006	7/12/2016	55	38	ND	6.4	ND	ND	
GEW-007	5/12/2016	55	39	ND	4.5	ND	ND	
GEW-007	7/12/2016	57	40	ND	ND	ND	ND	
GEW-008	4/18/2016	49	46	ND	ND	ND	ND	
GEW-008	5/12/2016	50	47	ND	ND	1	ND	
GEW-008	6/9/2016	50	46	ND	ND	1	ND	
GEW-008	7/12/2016	50	47	ND	ND	1.1	ND	
GEW-008	8/10/2016	50.5	45.6	ND	ND	0.9	ND	
GEW-009	4/18/2016	50	42	ND	5.7	ND	ND	
GEW-009	5/12/2016	54	42	ND	ND	0.7	ND	
GEW-009	6/9/2016	52	42	ND	5.1	0.7	ND	
GEW-009	7/12/2016	53	43	ND	ND	0.5	ND	
GEW-009	8/10/2016	53.3	43	ND	ND	0.6	ND	
GEW-040	4/14/2016	57	40	ND	ND	ND	ND	
GEW-040	5/9/2016	58	40	ND	ND	ND	ND	
GEW-040	6/7/2016	57	40	ND	ND	ND	ND	
GEW-040	7/11/2016	57	40	ND	ND	ND	ND	
GEW-040	8/10/2016	56.3	39.7	ND	ND	ND	ND	
GEW-041R	5/9/2016	57	40	ND	ND	ND	ND	
GEW-041R	7/11/2016	52	36	2.3	9.5	ND	ND	See Note 3
GEW-042R	4/14/2016	55	43	ND	ND	ND	ND	
GEW-042R	5/18/2016	55	42	ND	ND	ND	ND	
GEW-042R	6/7/2016	56	42	ND	ND	ND	ND	
GEW-042R	7/11/2016	56	42	ND	ND	ND	ND	
GEW-042R	8/10/2016	55.4	40.8	ND	ND	ND	ND	
GEW-043R	5/9/2016	55	41	ND	3.3	0.2	ND	
GEW-043R	7/11/2016	55	42	ND	ND	0.3	ND	
GEW-044	5/9/2016	51	35	ND	ND	ND	ND	
GEW-044	7/11/2016	57	40	ND	ND	ND	ND	
GEW-045R	4/14/2016	53	43	ND	3.3	ND	ND	
GEW-045R	5/9/2016	53	40	ND	5.5	ND	ND	
GEW-045R	6/7/2016	54	41	ND	4.2	ND	ND	
GEW-045R	7/11/2016	55	41	ND	ND	ND	ND	
GEW-045R	8/10/2016	54.2	41.2	ND	3.5	ND	ND	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-046R	4/14/2016	50	39	ND	10	0.1	ND	
GEW-046R	5/13/2016	52	39	ND	7.9	0.1	ND	
GEW-046R	6/7/2016	54	40	ND	4.6	0.1	ND	
GEW-046R	7/11/2016	41	30	5.5	23	0.1	ND	See Note 3
GEW-046R	8/10/2016	54.4	40.4	ND	4.4	0.1	ND	
GEW-047R	4/14/2016	54	42	ND	ND	0.1	ND	
GEW-047R	5/13/2016	41	33	3.1	23	0.1	ND	See Note 3
GEW-047R	6/8/2016	51	39	ND	8	ND	ND	
GEW-047R	7/11/2016	49	38	ND	11	0.1	ND	
GEW-047R	8/10/2016	52.3	39.9	ND	7.2	0.1	ND	
GEW-048	4/14/2016	53	38	ND	8.5	ND	ND	
GEW-048	5/13/2016	53	39	ND	7.3	0.04	ND	
GEW-048	6/8/2016	55	39	ND	4.9	ND	ND	
GEW-048	7/12/2016	55	39	ND	4.8	0.03	ND	
GEW-048	8/10/2016	56.7	40.6	ND	ND	ND	ND	
GEW-049	4/14/2016	55	38	ND	5.3	0.1	ND	
GEW-049	5/13/2016	48	36	ND	15	0.05	ND	
GEW-049	6/8/2016	51	37	ND	11	0.05	ND	
GEW-049	7/12/2016	46	36	ND	16	ND	ND	
GEW-049	8/10/2016	56.1	39.7	ND	3.6	0.1	ND	
GEW-050	5/12/2016	54	37	ND	7.5	ND	ND	
GEW-050	7/12/2016	57	39	ND	3.5	0.1	ND	
GEW-051	5/13/2016	55	41	ND	ND	1.1	ND	
GEW-051	7/12/2016	56	42	ND	ND	0.9	ND	
GEW-052	5/12/2016	54	38	ND	7	0.04	ND	
GEW-052	7/12/2016	54	40	ND	6	ND	ND	
GEW-053	4/14/2016	49	42	ND	ND	6.1	81	
GEW-053	5/13/2016	50	42	ND	ND	4.7	66	
GEW-053	6/8/2016	50	42	ND	ND	5.6	68	
GEW-053	7/12/2016	48	45	ND	ND	5.5	65	
GEW-053	8/10/2016	49.6	42.9	ND	ND	4.8	61	
GEW-054	4/14/2016	51	42	ND	ND	4.9	41	
GEW-054	5/13/2016	49	42	ND	ND	5	42	
GEW-054	6/8/2016	51	42	ND	ND	4.9	42	
GEW-054	7/12/2016	52	42	ND	ND	4.2	33	
GEW-054	8/10/2016	52.5	41.9	ND	ND	2.7	ND	
GEW-055	4/14/2016	52	41	ND	4.1	1.2	ND	
GEW-055	5/13/2016	53	43	ND	ND	1.4	ND	
GEW-055	6/8/2016	53	42	ND	ND	1.4	ND	
GEW-055	7/12/2016	53	43	ND	ND	1.4	ND	
GEW-055	8/10/2016	52.9	43.5	ND	ND	1.8	ND	

Notes: (1) Based on the comparison of field to laboratory readings, oxygen to balance gas ratios, and historical concentrations, the sample was determined to be suspect due to oxygen introduction which likely occurred during sample collection or laboratory analytical methods. (2) MDNR also collected duplicate LFG samples at these locations during this sampling period. (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak.

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
South Quarry								
GEW-010	4/13/2016	41	53	ND	4.3	1	110	
GEW-010	5/12/2016	44	49	ND	5.1	0.6	76	
GEW-010	6/6/2016	53	43	ND	ND	0.2	ND	
GEW-010	7/11/2016	46	49	ND	3.3	0.3	37	
GEW-010	8/10/2016	46.9	42.6	2	8.2	0.2	ND	See Note 4
GEW-022R	5/10/2016	0.4	56	3.4	12	26	4,000	
GEW-028R	5/10/2016	0.1	45	4.6	17	31	3,800	
GEW-028R	7/14/2016	0.2	50	2.5	9.2	33	3,800	See Note 4
GEW-038	4/13/2016	0.4	35	9.6	35	19	2,200	See Note 4
GEW-038	5/12/2016	0.5	49	4.6	17	27	3,100	See Note 4
GEW-038	6/6/2016	0.5	57	3.7	13	24	3,300	See Note 4
GEW-038	7/11/2016	0.5	51	4.3	16	27	2,700	See Note 4
GEW-038	8/8/2016	0.5	50.4	4.3	15.6	27.3	2,700	See Note 4
GEW-039	4/13/2016	37	59	ND	ND	2.8	230	
GEW-039	5/12/2016	35	52	ND	10	1.3	120	
GEW-039	6/6/2016	42	54	ND	ND	1.1	91	
GEW-039	7/11/2016	36	53	ND	8.7	1.5	110	
GEW-039	8/10/2016	24.3	35.5	4	35.7	0.5	75	See Note 4
GEW-056R	4/13/2016	12	39	ND	35	13	750	
GEW-056R	5/12/2016	12	39	ND	36	11	640	
GEW-056R	6/6/2016	16	49	ND	24	9	680	
GEW-056R	7/11/2016	13	49	ND	19	17	770	
GEW-056R	8/10/2016	18.9	50.8	ND	13.4	15.6	600	
GEW-057R	5/9/2016	10	48	3.9	24	13	1,400	See Note 4
GEW-057R	7/14/2016	14	34	3.8	44	4.3	320	See Note 4
GEW-058	5/9/2016	5	51	1.7	6.9	34	2,200	See Note 4
GEW-058	7/17/2016	1.7	48	2.5	12	33	1,800	See Note 4
GEW-058A	5/9/2016	0.4	38	6.3	23	32	2,000	See Note 4
GEW-058A	7/14/2016	15	42	3.2	14	24	1,400	See Note 4
GEW-059R	5/9/2016	0.9	50	ND	ND	45	2,600	
GEW-059R	7/14/2016	3.8	50	ND	ND	41	1,600	
GEW-065A	5/9/2016	1.1	17	14	57	9.9	760	See Note 4
GEW-082R	5/10/2016	14	49	ND	ND	33	1,300	
GEW-082R	7/14/2016	2.3	48	1.8	6.4	40	1,800	See Note 3
GEW-086	5/10/2016	5.7	48	ND	3.7	41	2,300	
GEW-086	7/14/2016	8.2	49	ND	ND	38	1,300	
GEW-090	5/10/2016	0.9	56	ND	4.1	36	2,100	
GEW-090	7/14/2016	15	46	ND	ND	35	1,600	
GEW-102	5/9/2016	2.4	54	1.7	6	33	1,300	
GEW-107	5/10/2016	0.4	60	ND	3.8	33	3,000	
GEW-109	4/13/2016	10	52	ND	9.7	26	1,600	
GEW-109	5/12/2016	11	53	ND	13	22	1,100	
GEW-109	6/6/2016	11	63	ND	3.3	20	1,600	
GEW-109	7/11/2016	6.3	32	8.5	37	15	720	See Note 3
GEW-109	8/8/2016	10	42.5	ND	30.2	15.5	540	
GEW-110	4/13/2016	9.7	35	5	38	11	870	See Note 4
GEW-110	5/12/2016	1	12	16	67	4.6	340	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-110	6/6/2016	15	36	3.2	42	2.9	300	See Note 4
GEW-110	7/11/2016	12	34	3.6	43	6.9	410	See Note 4
GEW-110	8/10/2016	1.5	10.8	17.5	64.3	5.8	380	See Note 4
GEW-116	5/10/2016	3.3	61	2.3	8.4	24	2,200	See Note 4
GEW-117	5/10/2016	7.5	63	ND	4.8	22	2,300	
GEW-117	7/14/2016	5.6	66	ND	ND	23	2,100	
GEW-118	5/10/2016	1.6	49	1.8	6.2	40	2,200	See Note 3
GEW-118	7/14/2016	1.7	52	2.2	9.6	32	1,500	See Note 4
GEW-120	5/11/2016	16	59	1.9	14	7.7	470	See Note 4
GEW-120	7/12/2016	15	57	ND	21	6.2	300	
GEW-121	5/11/2016	6.6	56	ND	4.6	30	2,200	
GEW-121	7/12/2016	6.9	57	ND	4.8	29	1,800	
GEW-122	5/11/2016	14	53	ND	8.7	23	2,100	
GEW-122	7/12/2016	11	53	ND	3.2	30	2,200	
GEW-123	5/11/2016	4	59	ND	ND	31	3,400	
GEW-123	7/12/2016	5	60	ND	ND	30	2,700	
GEW-124	5/11/2016	0.1	5.9	20	71	2.1	220	See Note 4
GEW-124	7/12/2016	10	61	ND	ND	23	1,900	
GEW-125	5/11/2016	0.5	60	ND	ND	36	3,300	
GEW-125	7/13/2016	0.6	58	ND	ND	37	2,800	
GEW-126	5/10/2016	11	54	ND	4.3	28	3,200	
GEW-126	7/13/2016	15	51	ND	3.8	27	2,600	
GEW-127	5/10/2016	0.8	65	ND	ND	30	5,100	
GEW-127	7/13/2016	1.9	65	ND	ND	28	3,900	
GEW-128	5/10/2016	3.4	61	ND	ND	32	3,400	
GEW-128	7/13/2016	8.2	63	ND	ND	25	2,600	
GEW-129	5/10/2016	1.8	58	ND	5.8	31	3,400	
GEW-129	7/13/2016	2	57	2.5	8.8	29	2,800	See Note 3
GEW-130	5/10/2016	0.3	58	ND	ND	38	4,400	
GEW-130	7/13/2016	3.6	53	3.6	13	25	3,000	See Note 4
GEW-131	5/11/2016	20	49	ND	ND	28	2,300	
GEW-131	7/13/2016	0.3	54	ND	ND	42	3,400	
GEW-132	5/11/2016	8.7	45	4.3	29	12	880	
GEW-132	7/12/2016	10	46	3.3	24	15	890	See Note 4
GEW-133	5/11/2016	0.2	12	17	62	8.6	750	See Note 4
GEW-134	5/12/2016	5.7	25	13	52	4.8	400	See Note 4
GEW-134	7/7/2016	7	30	8.4	49	5.1	330	See Note 4
GEW-135	5/12/2016	4.1	31	9	40	15	910	See Note 4
GEW-135	7/7/2016	5.2	46	4.2	17	26	1,200	See Note 4
GEW-136	5/12/2016	3.8	23	12	55	5.9	360	See Note 4
GEW-137	5/12/2016	11	31	2.2	56	0.1	ND	See Note 3
GEW-137	7/7/2016	16	35	1.7	47	0.1	ND	See Note 3
GEW-138	5/12/2016	5.1	29	5.0	58	2.5	320	See Note 4
GEW-138	7/12/2016	3.1	26	5.9	57	6.9	520	See Note 4

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-139	5/12/2016	1.1	41	6.7	26	25	2,700	See Note 4
GEW-139	7/13/2016	2.7	52	2.3	9.2	32	3,000	See Note 4
GEW-140	5/12/2016	7.6	39	6.8	29	17	1,600	See Note 4
GEW-141	5/10/2016	0.4	59	ND	ND	34	3,800	
GEW-141	7/14/2016	0.2	54	2.5	8.7	33	3,400	See Note 3
GEW-143	5/18/2016	0.2	37	7.3	27	28	2,800	See Note 4
GEW-144	5/18/2016	0.7	51	3.3	12	31	2,900	See Note 4
GEW-145	5/18/2016	1.3	54	ND	4.6	37	2,900	
GEW-146	5/12/2016	2.8	14	13	69	0.6	97	See Note 4
GEW-147	5/12/2016	8.9	50	1.9	8.7	30	1,700	See Note 3
GEW-147	7/7/2016	9.9	48	2.6	9.5	29	1,400	See Note 4
GEW-148	5/12/2016	3.5	46	4.4	16	29	2,400	See Note 3
GEW-149	5/12/2016	8	43	5.6	27	15	1,400	See Note 4
GEW-150	5/12/2016	10	55	2.9	12	19	1,800	See Note 4
GEW-150	7/12/2016	12	46	5.4	23	12	920	See Note 4
GEW-151	5/12/2016	0.2	6.9	19	68	6.3	570	See Note 4
GEW-151	7/6/2016	11	36	5.5	39	8.5	550	See Note 4
GEW-152	5/18/2016	7.4	50	ND	5	36	3,100	
GEW-152	7/12/2016	11	51	ND	ND	33	2,200	
GEW-153	5/13/2016	21	47	ND	7.7	23	1,100	
GEW-153	7/12/2016	29	43	ND	12	13	430	
GEW-154	5/12/2016	11	27	9.9	40	12	840	See Note 4
GEW-155	5/12/2016	4.3	34	6.1	41	4.3	700	See Note 3
GEW-155	5/18/2016	4.4	48	ND	19	27	1,300	
GEW-156	5/12/2016	6.3	20	12	60	1.5	230	See Note 4
GEW-157	7/12/2016	0.7	56	ND	ND	39	3,100	
GEW-158	5/18/2016	0.8	45	4.9	19	30	1,900	See Note 4
GEW-158	7/12/2016	21	56	ND	ND	19	1,100	
GEW-159	5/13/2016	16	51	ND	22	8.2	590	
GEW-159	7/14/2016	19	55	ND	16	8.1	500	
GEW-160	5/12/2016	3	54	1.8	6.6	33	2,800	See Note 3
GEW-160	7/6/2016	4.1	57	ND	3.4	33	2,400	
GEW-161	5/12/2016	1.3	28	4.3	25	40	3,000	See Note 4
GEW-161	7/6/2016	0.5	54	ND	3.5	39	2,700	
GEW-162	5/12/2016	15	56	3.6	13	11	940	See Note 3
GEW-162	7/6/2016	22	65	2.2	8.3	1.5	140	See Note 4
GEW-163	5/11/2016	6.8	47	6.2	27	11	1,300	See Note 4
GEW-163	7/12/2016	7.7	48	5.7	26	12	1,000	See Note 4
GEW-164	5/11/2016	6.3	73	1.8	6.6	11	1,800	See Note 4
GEW-164	7/12/2016	3.7	72	ND	3.5	19	2,200	
GEW-165	5/11/2016	1	69	ND	3.9	22	4,400	
GEW-165	7/12/2016	1.1	67	ND	ND	27	3,300	
GEW-166	5/11/2016	1.4	56	1.8	7	31	3,800	See Note 4
GEW-166	7/12/2016	7.5	48	3.1	17	23	2,200	See Note 4
GEW-167	5/11/2016	4.2	35	7.9	34	18	1,600	See Note 4

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Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GEW-167	7/13/2016	5.3	38	5.4	34	17	1,300	See Note 4
GEW-168	5/11/2016	0.4	67	ND	ND	27	4,400	
GEW-168	7/13/2016	0.4	59	ND	ND	35	3,600	
GEW-169	5/10/2016	0.2	63	ND	3.9	30	5,000	
GEW-169	7/13/2016	6	61	1.6	6.1	24	3,100	See Note 4
GEW-170	5/10/2016	0.8	65	ND	ND	30	4,500	
GEW-170	7/13/2016	6.9	59	2.3	8.8	22	2,900	See Note 4
GEW-171	5/18/2016	1.3	47	5.2	19	27	2,800	See Note 4
GEW-171	7/14/2016	5.5	60	ND	ND	30	2,700	
GEW-172	5/18/2016	0.2	47	2.3	8	41	3,500	See Note 4
GEW-172	7/14/2016	0.2	53	ND	ND	41	3,500	
GEW-173	5/12/2016	12	47	2.9	22	15	1,800	See Note 4
GEW-173	7/13/2016	9.6	34	6.2	42	7.4	780	See Note 4
GEW-174	5/12/2016	10	50	ND	17	21	1,700	
GEW-174	7/12/2016	9.2	38	5.2	32	15	1,100	See Note 4
GEW-175	5/18/2016	16	50	4.2	19	11	980	See Note 4
GEW-175	7/12/2016	20	56	1.8	9.5	11	770	See Note 4
GEW-176	5/18/2016	6.5	61	ND	ND	30	2,700	
GEW-176	7/12/2016	12	63	ND	ND	21	1,400	
GIW-01	4/13/2016	2	68	ND	ND	26	2,800	
GIW-01	5/10/2016	2.2	67	ND	ND	26	2,700	
GIW-01	6/6/2016	1.7	60	2.7	9.4	25	2,900	See Note 4
GIW-01	7/11/2016	1.6	59	3.3	12	23	2,300	See Note 4
GIW-01	8/10/2016	1	31.1	12.1	43.4	11.8	1,300	See Note 4
GIW-02	4/13/2016	5.5	35	9.2	42	8.6	660	See Note 4
GIW-02	5/10/2016	5.1	42	6.7	31	14	1,200	See Note 4
GIW-02	6/6/2016	7.7	53	3.2	17	19	1,300	See Note 4
GIW-02	7/11/2016	7.2	48	4.8	26	13	890	See Note 4
GIW-02	8/10/2016	6.9	36.7	9.4	39.1	7.6	470	See Note 4
GIW-03	4/13/2016	0.6	65	ND	ND	32	3,400	
GIW-03	5/10/2016	0.5	58	3.1	11	26	3,300	See Note 4
GIW-03	6/6/2016	0.5	66	ND	ND	31	4,000	
GIW-03	7/11/2016	0.6	57	3.5	12	26	2,500	See Note 4
GIW-03	8/8/2016	0.7	60.7	2.3	8.2	26.8	2,600	See Note 4
GIW-04	4/13/2016	0.2	13	17	60	10	690	See Note 4
GIW-04	5/10/2016	0.6	36	6.2	23	33	1,900	See Note 4
GIW-04	6/6/2016	0.4	35	7.7	28	28	2,100	See Note 4
GIW-04	7/11/2016	0.8	57	ND	ND	38	2,700	
GIW-04	8/8/2016	0.7	56.2	ND	3.7	37.7	2,600	
GIW-05	4/13/2016	4.9	56	ND	5.5	31	1,500	
GIW-05	5/10/2016	1.6	59	ND	ND	36	1,700	
GIW-05	6/6/2016	1.6	59	ND	ND	35	1,800	
GIW-05	7/11/2016	4.1	42	6.7	24	22	870	See Note 3
GIW-05	8/8/2016	2.4	57.3	ND	5.6	32.6	1,400	
GIW-06	4/13/2016	1.2	58	ND	4.8	34	1,300	
GIW-06	5/11/2016	1	49	3.6	13	32	1,200	See Note 4
GIW-06	6/6/2016	1.2	56	ND	5.8	34	1,500	
GIW-06	7/11/2016	2.9	52	2.9	15	26	910	See Note 4
GIW-06	8/8/2016	3.2	52.7	ND	17.4	24.3	840	
GIW-07	4/13/2016	9.3	42	8.1	30	11	1,300	See Note 4
GIW-07	5/12/2016	9	37	9.8	36	7.5	890	See Note 4
GIW-07	6/6/2016	9.6	60	2.8	10	17	1,800	See Note 4
GIW-07	7/11/2016	7.7	57	5.3	19	10	1,000	See Note 4
GIW-07	8/10/2016	7.2	40.1	10.2	36.9	5.3	590	See Note 4
GIW-08	4/13/2016	17	51	ND	28	1.6	250	

Laboratory Analysis - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2/Argon	Nitrogen	Hydrogen	Carbon Monoxide	Comments
		(%)					(ppm)	
GIW-08	5/12/2016	16	70	ND	6.7	6.3	690	
GIW-08	6/6/2016	2.5	51	8.5	31	8.8	1,400	See Note 3
GIW-08	7/11/2016	2.6	52	7.3	26	11	1,200	See Note 4
GIW-08	8/8/2016	15.1	62.4	ND	19.8	1.6	190	
GIW-09	4/13/2016	1.4	9.9	17	68	2.7	270	See Note 4
GIW-09	5/12/2016	1.5	25	11	56	5.9	480	See Note 4
GIW-09	6/6/2016	2	20	14	56	7.5	570	See Note 4
GIW-09	7/11/2016	1.2	47	6.7	26	18	1,300	See Note 4
GIW-09	8/8/2016	2.8	26.8	6.1	61.6	2.5	190	See Note 4
GIW-10	4/13/2016	6.8	49	ND	14	29	2,000	
GIW-10	5/12/2016	3.1	50	ND	11	35	2,100	
GIW-10	6/6/2016	0.5	52	ND	ND	44	2,700	
GIW-10	7/11/2016	0.4	53	ND	ND	43	2,400	
GIW-10	8/8/2016	0.8	54.4	ND	3.8	39.7	2,300	
GIW-11	4/13/2016	4.7	49	4.3	23	18	2,100	See Note 4
GIW-11	5/12/2016	5.5	48	4.3	24	17	1,900	See Note 4
GIW-11	6/6/2016	2.8	64	ND	ND	30	3,100	
GIW-11	7/11/2016	5.4	59	2	12	20	2,000	See Note 4
GIW-11	8/8/2016	6.5	60.7	1.9	11.1	19	2,000	See Note 4
GIW-12	4/13/2016	8.5	31	6.4	46	6.9	570	See Note 4
GIW-12	5/12/2016	0.7	38	9.5	35	16	1,800	See Note 4
GIW-12	6/6/2016	1.3	56	2.8	13	26	2,500	See Note 4
GIW-12	7/11/2016	5.8	36	8.1	40	9.3	740	See Note 4
GIW-12	8/8/2016	6.2	34	7.7	42.8	8.9	670	See Note 4
GIW-13	4/13/2016	9.9	62	ND	7.7	20	1,600	
GIW-13	5/12/2016	9.5	64	ND	4.6	21	1,500	
GIW-13	6/6/2016	5.7	66	ND	ND	26	2,000	
GIW-13	7/11/2016	11	64	ND	ND	20	1,300	
GIW-13	8/8/2016	10.1	66.2	ND	ND	20.1	1,300	
Flare Station[2]	4/12/2016	8.2	37	8.1	35	10.5	1,050	See Note 6
Flare Station[2]	5/3/2016	9.2	41.3	6.3	29.5	12.4	1,200	See Note 6
Flare Station[2]	6/7/2016	8.8	40.3	6.9	30.5	12.1	1,200	See Note 6
Flare Station[2]	7/6/2016	9.5	41.2	6.5	29	12.1	1,100	See Note 7
Flare Station[2]	8/9/2016	10.1	39.3	6.8	30.7	11.4	1,100	See Note 6
Flare Station[2]	9/7/2016	8.7	39.4	6.9	31.9	11.4	940	See Note 6

Notes: (3) Based on the oxygen verification readings taken with an Envision meter, it was determined there is a sample train leak. (4) Based on the oxygen verification readings taken with an Envision meter, it was determined that the readings are accurate. (5) Flare station gas concentration data is an average of FL-100, FL-120, and FL-140. (6) Flare station gas concentration data is an average of Outlets 1 & 2 (A & B). (7) Flare station gas concentration based on data from Outlet B.

ND = Analyte not detected in sample.

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

ATTACHMENT D-2

LAB ANALYSIS REPORTS

Air TECHNOLOGY Laboratories, Inc.

August 18, 2016

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP
ADE-1461
EPA Methods TO3, TO14A, TO15 SIM & SCAN
ASTM D1946

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

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

LABORATORY TEST RESULTS

Project Reference: Bridgeton Landfill
Lab Number: H081202-01/34

Enclosed are results for sample(s) received 8/12/16 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Nick Bauer, Mike Lambrich and Ryan Ayers; David Randall, Dustin Thoenen and Don Murphy, Weaver Consultants Group, on 8/18/16.

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

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 1 **OF** ~~12~~ 4

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

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

BILLING

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
H081202-01	5927	-20.3	-5		GIW-5	8/8/2016	831	C	LFG	NA	X					
-02	6130	-20.2	-5		GIW-4	8/8/2016	846	C	LFG	NA	X					
-03	5922	-20	-5		GIW-3	8/8/2016	856	C	LFG	NA	X					
-04	A7795	-20.3	-5		GIW-6	8/8/2016	1047	C	LFG	NA	X					
-05	A8083	-20	-5		GIW-8	8/8/2016	1105	C	LFG	NA	X					
-06	A7814	-20	-5		GIW-13	8/8/2016	940	C	LFG	NA	X					
-07	A7781	-19.8	-5		GIW-12	8/8/2016	952	C	LFG	NA	X					
-08	A8067	-20.2	-5		GIW-11	8/8/2016	1002	C	LFG	NA	X					
-09	5836	-20.1	-5		GIW-10	8/8/2016	1012	C	LFG	NA	X					

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

SAMPLED BY: **Corey McMillen** COMPANY: **Republic Services** DATE/TIME

RELINQUISHED BY: Corey Mcmillen	8/11/16	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX		RECEIVED BY	8/12/16 DATE/TIME 0845
RELINQUISHED BY		RECEIVED BY	DATE/TIME

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

COMMENTS

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 2 OF ~~12~~ 4
Standard	☐	48 hours	☐	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	■	Level 4	☐	Chilled _____ deg C

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

BILLING

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
#981252-10	A8088	-20	-5		GIW-9	8/8/2016	1125	C	LFG	NA	X					
-11	5828	-20	-5		GEW-38	8/8/2016	1115	C	LFG	NA	X					
-12	A7804	-20.4	-5		GEW-109	8/8/2016	1134	C	LFG	NA	X					
-13	A7775	-20.2	-5		GIW-7	8/10/2016	826	C	LFG	NA	X					
-14	5823	-20.2	-5		GEW-39	8/10/2016	837	C	LFG	NA	X					
-15	A7643	-20.2	-5		GIW-2	8/10/2016	901	C	LFG	NA	X					
-16	5907	-20.3	-5		GIW-1	8/10/2016	918	C	LFG	NA	X					
-17	A7760	-20.2	-5		GEW-110	8/10/2016	952	C	LFG	NA	X					
-18	A7666	-20.1	-5		GEW-10	8/10/2016	1010	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey Mcmillen	DATE: 8/11/16 RECEIVED BY	DATE/TIME	
RELINQUISHED BY: FedEx	DATE: RECEIVED BY	DATE/TIME	
RELINQUISHED BY	DATE: RECEIVED BY: 8/12/16 0846	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*

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: 3 OF ~~12~~4
Standard	☐	48 hours	☐	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:		5 day	■	Level 4	☐	Chilled _____ deg C

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

BILLING

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

LAB USE ONLY	Canister Pressures ("hg)				SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	ANALYSIS REQUEST: D1946 + CO, H2					
	Canister ID	Sample Start	Sample End	Lab Receive												
H081202-19	A8076	-20	-5		GEW-56R	8/10/2016	1054	C	LFG	NA	X					
-20	A8100	-19.8	-5		GEW-53	8/10/2016	1327	C	LFG	NA	X					
-21	A7798	-20.2	-5		GEW-54	8/10/2016	1345	C	LFG	NA	X					
-22	A7803	-20.6	-5		GEW-40	8/10/2016	950	C	LFG	NA	X					
-23	3126	-20.6	-5		GEW-42R	8/10/2016	1020	C	LFG	NA	X					
-24	A7667	-20.6	-5		GEW-45R	8/10/2016	1108	C	LFG	NA	X					
-25	A7773	-20.6	-5		GEW-46R	8/10/2016	1126	C	LFG	NA	X					
-26	4658	-20.5	-5		GEW-3	8/10/2016	1341	C	LFG	NA	X					
-27	3124	-20.1	-5		GEW-4	8/10/2016	1352	C	LFG	NA	X					

AUTHORIZATION TO PERFORM WORK: Dave Penoyer	COMPANY: Republic Services	DATE/TIME:	**COMMENTS**
SAMPLED BY: Corey McMillen	COMPANY: Republic Services	DATE/TIME	
RELINQUISHED BY: Corey Mcmillen	DATE: 8/11/16	RECEIVED BY	DATE/TIME
RELINQUISHED BY: FED EX	DATE:	RECEIVED BY: DTT	DATE/TIME: 8/12/16 0846
RELINQUISHED BY	DATE:	RECEIVED BY	DATE/TIME

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

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

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

AirTECHNOLOGY Laboratories, Inc.

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

CHAIN OF CUSTODY RECORD

TURNAROUND TIME

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

DELIVERABLES

EDD	☐
EDF	☐
Level 3	☐
Level 4	☐

PAGE: 4 **OF** ~~12~~ 4

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

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

BILLING

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

ANALYSIS REQUEST

LAB USE ONLY	Canister Pressures ("hg) Canister ID	Sample Start	Sample End	Lab Receive	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	D1946 + CO, H2					
H081202-28	5813	-20.2	-5		GEW-47R	8/10/2016	1457	C	LFG	NA	X					
-29	5820	-20.1	-5		GEW-5	8/10/2016	1547	C	LFG	NA	X					
-30	4644	-20	-5		GEW-48	8/10/2016	1557	C	LFG	NA	X					
-31	3162	-20	-5		GEW-49	8/10/2016	1637	C	LFG	NA	X					
-32	5914	-20	-5		GEW-55	8/10/2016	1646	C	LFG	NA	X					
-33	3130	-19.9	-5		GEW-8	8/10/2016	1654	C	LFG	NA	X					
-34	6144	-20.1	-5		GEW-9	8/10/2016	1703	C	LFG	NA	X					
								C	LFG	NA	X					
								C	LFG	NA	X					

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

SAMPLED BY: **Corey McMillen** COMPANY: **Republic Services** DATE/TIME

RELINQUISHED BY: Corey McMillen 8/11/16 DATE/TIME RECEIVED BY: DATE/TIME

RELINQUISHED BY: FedEx DATE/TIME RECEIVED BY: 8/12/16 0846 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 *Rev. 03 - 5/7/09*

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/12/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081202-01		H081202-02		H081202-03		H081202-04	
Client Sample I.D.:	GIW-5		GIW-4		GIW-3		GIW-6	
Date/Time Sampled:	8/8/16 8:31		8/8/16 8:46		8/8/16 8:56		8/8/16 10:47	
Date/Time Analyzed:	8/15/16 10:07		8/15/16 10:21		8/15/16 10:36		8/15/16 10:51	
QC Batch No.:	160815GC8A1		160815GC8A1		160815GC8A1		160815GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	32.6	3.4	37.7	3.4	26.8	3.4	24.3	3.4
Carbon Dioxide	57.3	0.034	56.2	0.034	60.7	0.034	52.7	0.034
Oxygen/Argon	ND	1.7	ND	1.7	2.3	1.7	ND	1.7
Nitrogen	5.6	3.4	3.7	3.4	8.2	3.4	17.4	3.4
Methane	2.4	0.0034	0.73	0.0034	0.68	0.0034	3.2	0.0034
Carbon Monoxide	0.14	0.0034	0.26	0.0034	0.26	0.0034	0.084	0.0034

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

Reviewed/Approved By: _____ Date 8-18-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**08/12/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H081202-05		H081202-06		H081202-07		H081202-08	
Client Sample I.D.:	GIW-8		GIW-13		GIW-12		GIW-11	
Date/Time Sampled:	8/8/16 11:05		8/8/16 9:40		8/8/16 9:52		8/8/16 10:02	
Date/Time Analyzed:	8/15/16 11:05		8/15/16 11:20		8/15/16 11:34		8/15/16 11:49	
QC Batch No.:	160815GC8A1		160815GC8A1		160815GC8A1		160815GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**
Hydrogen	**1.6** d	0.034	**20.1**	3.4	**8.9**	3.4	**19.0**	3.4
Carbon Dioxide	**62.4**	0.034	**66.2**	0.034	**34.0**	0.034	**60.7**	0.034
Oxygen/Argon	**ND**	1.7	**ND**	1.7	**7.7**	1.7	**1.9**	1.7
Nitrogen	**19.8**	3.4	**ND**	3.4	**42.8**	3.4	**11.1**	3.4
Methane	**15.1**	0.0034	**10.1**	0.0034	**6.2**	0.0034	**6.5**	0.0034
Carbon Monoxide	**0.019**	0.0034	**0.13**	0.0034	**0.067**	0.0034	**0.20**	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ **Date** 8-18-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**08/12/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H081202-09		H081202-10		H081202-11		H081202-12	
Client Sample I.D.:	GIW-10		GIW-9		GEW-38		GEW-109	
Date/Time Sampled:	8/8/16 10:12		8/8/16 11:25		8/8/16 11:15		8/8/16 11:34	
Date/Time Analyzed:	8/15/16 12:04		8/15/16 12:18		8/15/16 12:33		8/15/16 12:48	
QC Batch No.:	160815GC8A1		160815GC8A1		160815GC8A1		160815GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**	**Result % v/v**	**RL % v/v**
Hydrogen	**39.7**	3.4	**2.5 d**	0.034	**27.3**	3.4	**15.5**	3.4
Carbon Dioxide	**54.4**	0.034	**26.8**	0.034	**50.4**	0.034	**42.5**	0.034
Oxygen/Argon	**ND**	1.7	**6.1**	1.7	**4.3**	1.7	**ND**	1.7
Nitrogen	**3.8**	3.4	**61.6**	3.4	**15.6**	3.4	**30.2**	3.4
Methane	**0.82**	0.0034	**2.8**	0.0034	**0.54**	0.0034	**10.0**	0.0034
Carbon Monoxide	**0.23**	0.0034	**0.019**	0.0034	**0.27**	0.0034	**0.054**	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ **Date** 8-18-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/12/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081202-13		H081202-14		H081202-15		H081202-16	
Client Sample I.D.:	GIW-7		GEW-39		GIW-2		GIW-1	
Date/Time Sampled:	8/10/16 8:26		8/10/16 8:37		8/10/16 9:01		8/10/16 9:18	
Date/Time Analyzed:	8/15/16 13:02		8/15/16 13:17		8/15/16 13:32		8/15/16 14:04	
QC Batch No.:	160815GC8A1		160815GC8A1		160815GC8A1		160815GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.4		3.4		3.4		3.4	
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v	Result % v/v	RL % v/v
Hydrogen	**5.3**	3.4	**0.46** d	0.034	**7.6**	3.4	**11.8**	3.4
Carbon Dioxide	**40.1**	0.034	**35.5**	0.034	**36.7**	0.034	**31.1**	0.034
Oxygen/Argon	**10.2**	1.7	**4.0**	1.7	**9.4**	1.7	**12.1**	1.7
Nitrogen	**36.9**	3.4	**35.7**	3.4	**39.1**	3.4	**43.4**	3.4
Methane	**7.2**	0.0034	**24.3**	0.0034	**6.9**	0.0034	**0.96**	0.0034
Carbon Monoxide	**0.059**	0.0034	**0.0075**	0.0034	**0.047**	0.0034	**0.13**	0.0034

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ **Date** 8-18-16

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**08/12/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H081202-17		H081202-18		H081202-19		H081202-20	
Client Sample I.D.:	GEW-110		GEW-10		GEW-56R		GEW-53	
Date/Time Sampled:	8/10/16 9:52		8/10/16 10:10		8/10/16 10:54		8/10/16 13:27	
Date/Time Analyzed:	8/15/16 14:18		8/15/16 14:33		8/15/16 14:48		8/15/16 15:02	
QC Batch No.:	160815GC8A1		160815GC8A1		160815GC8A1		160815GC8A1	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.5		3.5		3.5		3.6	
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	**5.8**	3.5	**0.15 d**	0.035	**15.6**	3.5	**4.8**	3.6
Carbon Dioxide	**10.8**	0.035	**42.6**	0.035	**50.8**	0.035	**42.9**	0.036
Oxygen/Argon	**17.5**	1.7	**2.0**	1.7	**ND**	1.7	**ND**	1.8
Nitrogen	**64.3**	3.5	**8.2**	3.5	**13.4**	3.5	**ND**	3.6
Methane	**1.5**	0.0035	**46.9**	0.0035	**18.9**	0.0035	**49.6**	0.0036
Carbon Monoxide	**0.038**	0.0035	**ND**	0.0035	**0.060**	0.0035	**0.0061**	0.0036

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ **Date** 8-18-16

Mark Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/12/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081202-21		H081202-22		H081202-23		H081202-24	
Client Sample I.D.:	GEW-54		GEW-40		GEW-42R		GEW-45R	
Date/Time Sampled:	8/10/16 13:45		8/10/16 9:50		8/10/16 10:20		8/10/16 11:08	
Date/Time Analyzed:	8/15/16 17:33		8/15/16 17:47		8/15/16 18:02		8/15/16 21:29	
QC Batch No.:	160815GC8A2		160815GC8A2		160815GC8A2		160815GC8A2	
Analyst Initials:	AS		AS		AS		AS	
Dilution Factor:	3.6		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	2.7 d	0.036	ND d	0.032	ND d	0.032	ND d	0.032
Carbon Dioxide	41.9	0.036	39.7	0.032	40.8	0.032	41.2	0.032
Oxygen/Argon	ND	1.8	ND	1.6	ND	1.6	ND	1.6
Nitrogen	ND	3.6	ND	3.2	ND	3.2	3.5	3.2
Methane	52.5	0.0036	56.3	0.0032	55.4	0.0032	54.2	0.0032
Carbon Monoxide	ND	0.0036	ND	0.0032	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ Date 8-18-16

Mark Johnson
Operations Manager

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

Client:	**Republic Services**
Attn:	**Nick Bauer**
Project Name:	**Bridgeton Landfill**
Project No.:	**NA**
Date Received:	**08/12/16**
Matrix:	**Air**
Reporting Units:	**% v/v**

ASTM D1946

Lab No.:	H081202-25		H081202-26		H081202-27		H081202-28	
Client Sample I.D.:	GEW-46R		GEW-3		GEW-4		GEW-47R	
Date/Time Sampled:	8/10/16 11:26		8/10/16 13:41		8/10/16 13:52		8/10/16 14:57	
Date/Time Analyzed:	8/15/16 21:44		8/16/16 7:18		8/16/16 7:32		8/15/16 22:33	
QC Batch No.:	160815GC8A2		160815GC8A2		160815GC8A2		160815GC8A2	
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	**0.11** d	0.032	**0.11** d	0.032	**0.086** d	0.032	**0.079** d	0.032
Carbon Dioxide	**40.4**	0.032	**39.9**	0.032	**40.8**	0.032	**39.9**	0.032
Oxygen/Argon	**ND**	1.6	**ND**	1.6	**ND**	1.6	**ND**	1.6
Nitrogen	**4.4**	3.2	**3.8**	3.2	**3.4**	3.2	**7.2**	3.2
Methane	**54.4**	0.0032	**55.6**	0.0032	**55.3**	0.0032	**52.3**	0.0032
Carbon Monoxide	**ND**	0.0032	**ND**	0.0032	**ND**	0.0032	**ND**	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ **Date** 8-18-16

Mark Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/12/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081202-29		H081202-30		H081202-31		H081202-32	
Client Sample I.D.:	GEW-5		GEW-48		GEW-49		GEW-55	
Date/Time Sampled:	8/10/16 15:47		8/10/16 15:57		8/10/16 16:37		8/10/16 16:46	
Date/Time Analyzed:	8/15/16 22:48		8/15/16 23:03		8/15/16 23:18		8/15/16 23:32	
QC Batch No.:	160815GC8A2		160815GC8A2		160815GC8A2		160815GC8A2	
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	0.037 d	0.032	ND d	0.032	0.069 d	0.032	1.8 d	0.032
Carbon Dioxide	36.6	0.032	40.6	0.032	39.7	0.032	43.5	0.032
Oxygen/Argon	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Nitrogen	12.5	3.2	ND	3.2	3.6	3.2	ND	3.2
Methane	50.3	0.0032	56.7	0.0032	56.1	0.0032	52.9	0.0032
Carbon Monoxide	ND	0.0032	ND	0.0032	ND	0.0032	ND	0.0032

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ Date 8-18-16

Mark Johnson
Operations Manager

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

Client: Republic Services
Attn: Nick Bauer
Project Name: Bridgeton Landfill
Project No.: NA
Date Received: 08/12/16
Matrix: Air
Reporting Units: % v/v

ASTM D1946

Lab No.:	H081202-33		H081202-34					
Client Sample I.D.:	GEW-8		GEW-9					
Date/Time Sampled:	8/10/16 16:54		8/10/16 17:03					
Date/Time Analyzed:	8/15/16 23:47		8/16/16 0:02					
QC Batch No.:	160815GC8A2		160815GC8A2					
Analyst Initials:	AS		AS					
Dilution Factor:	3.2		3.2					
ANALYTE	Result % v/v	RL % v/v	Result % v/v	RL % v/v				
Hydrogen	0.90 d	0.032	0.64 d	0.032				
Carbon Dioxide	45.6	0.032	43.0	0.032				
Oxygen/Argon	ND	1.6	ND	1.6				
Nitrogen	ND	3.2	ND	3.2				
Methane	50.5	0.0032	53.3	0.0032				
Carbon Monoxide	ND	0.0032	ND	0.0032				

Results normalized including non-methane hydrocarbons
ND = Not Detected (below RL)
RL = Reporting Limit
d = Reported from a secondary dilution. QC Batch: 160816GC8A2

Reviewed/Approved By: _____ Date 8-18-16

Mark Johnson
Operations Manager

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

QC Batch No.: 160815GC8A1
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/15/16 9:52		8/15/16 8:54		8/15/16 9:09			
Analyst Initials:	AS		AS		AS			
Datafile:	15aug007		15aug004		15aug005			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	80	70-130%	71	70-130%	11.8	<30
Carbon Dioxide	ND	0.010	85	70-130%	75	70-130%	12.3	<30
Oxygen/Argon	ND	0.50	103	70-130%	90	70-130%	12.5	<30
Nitrogen	ND	1.0	99	70-130%	87	70-130%	12.4	<30
Methane	ND	0.0010	118	70-130%	118	70-130%	0.2	<30
Carbon Monoxide	ND	0.0010	106	70-130%	106	70-130%	0.3	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 8-18-16

Mark J. Johnson
Operations Manager

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QC Batch No.: 160815GC8A2
Matrix: Air
Units: % v/v

QC for ASTM D1946

Lab No.:	Method Blank		LCS		LCSD			
Date/Time Analyzed:	8/15/16 16:15		8/15/16 17:03		8/15/16 17:18			
Analyst Initials:	AS		AS		AS			
Datafile:	15aug032		15aug035		15aug036			
Dilution Factor:	1.0		1.0		1.0			
ANALYTE	Results	RL	% Rec.	Criteria	% Rec.	Criteria	%RPD	Criteria
Hydrogen	ND	1.0	114	70-130%	114	70-130%	0.1	<30
Carbon Dioxide	ND	0.010	98	70-130%	97	70-130%	0.4	<30
Oxygen/Argon	ND	0.50	100	70-130%	99	70-130%	0.4	<30
Nitrogen	ND	1.0	97	70-130%	97	70-130%	0.3	<30
Methane	ND	0.0010	109	70-130%	109	70-130%	0.5	<30
Carbon Monoxide	ND	0.0010	110	70-130%	109	70-130%	0.5	<30

ND = Not Detected (Below RL)

Reviewed/Approved By: _____ Date: 8-18-16

Mark J. Johnson
Operations Manager

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QC Batch # 160816GC8A2
Matrix: Air
Units: % v/v

QC for Low Level Hydrogen Analysis

Lab No.:	Blank		LCS		LCSD			
Date Analyzed:	8/16/2016 15:28		8/16/2016 15:19		8/16/2016 15:23			
Analyst Initials:	AS		AS		AS			
Dilution Factor:	AS		1.0		1.0			
ANALYTE	Results	RL	%Rec	Criteria	%Rec	Criteria	RPD	Criteria
Hydrogen	ND	0.01	93	70-130	94	70-130	1.2	<20

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 8-18-16

Mark Johnson
Operations Manager

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ATTACHMENT E

GAS WELLFIELD DATA

ATTACHMENT E-1

WELLFIELD DATA TABLE

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-002	8/3/2016 16:33	57.0	40.3	0.0	2.7	124.5		67	60	-1.2	-1.0	-11.6
GEW-002	8/4/2016 9:01	59.9	38.6	0.0	1.5	123.2		25	19	-1.1	-1.2	-12.4
GEW-002	8/4/2016 9:06	57.7	39.6	0.0	2.7	120.5		35	34	-0.5	-0.5	-12.4
GEW-002	8/15/2016 9:04	56.4	39.5	0.0	4.1	116.3		18	17	-0.1	-0.1	-12.7
GEW-002	8/24/2016 14:05	44.5	34.1	0.2	21.2	121.8		24	23	-1.1	-1.1	-11.6
GEW-002	8/30/2016 8:20	50.5	39.8	1.3	8.4	112.8		0	0	0.6	0.6	-12.4
GEW-002	8/30/2016 8:22	51.1	40.4	1.1	7.4	118.9		20	14	0.3	0.3	-12.3
GEW-003	8/3/2016 9:44	55.4	39.9	0.1	4.6	118.3		14	14	-0.1	-0.1	-12.5
GEW-003	8/10/2016 13:35	55.0	39.0	0.0	6.0	118.8		15	12	-0.1	-0.1	-11.5
GEW-003	8/10/2016 13:42	54.9	40.1	0.1	4.9	118.9		0	0	-0.1	-0.1	-11.5
GEW-003	8/15/2016 9:08	55.5	39.3	0.0	5.2	114.6		28	27	-0.1	-0.1	-12.9
GEW-003	8/24/2016 14:09	52.2	39.1	0.2	8.5	117.1		29	25	-1.7	-1.7	-10.8
GEW-003	8/24/2016 14:13	51.5	39.4	0.3	8.8	115.8		36	35	-1.1	-1.2	-11.3
GEW-003	8/30/2016 8:25	51.5	40.2	0.1	8.2	115.5		10	9	0.0	0.0	-11.9
GEW-004	8/3/2016 9:48	54.2	41.1	0.1	4.6	121.0		15	14	-0.2	-0.2	-12.6
GEW-004	8/10/2016 13:45	54.6	39.0	0.0	6.4	121.3		14	16	-0.2	-0.2	-11.5
GEW-004	8/10/2016 13:52	54.5	40.9	0.1	4.5	121.2		0	0	-0.2	-0.2	-11.9
GEW-004	8/15/2016 9:13	54.5	39.7	0.0	5.8	117.0		7	10	-0.2	-0.2	-12.9
GEW-004	8/24/2016 14:16	51.2	38.9	0.2	9.7	120.7		18	17	-0.9	-0.9	-11.1
GEW-004	8/24/2016 14:18	51.5	39.0	0.2	9.3	119.7		40	41	-0.7	-0.7	-11.5
GEW-004	8/30/2016 8:29	52.6	40.5	0.1	6.8	116.5		10	10	0.0	0.0	-11.8
GEW-005	8/3/2016 9:59	47.6	36.7	0.1	15.6	96.0		14	15	-0.1	-0.1	-12.1
GEW-005	8/9/2016 17:04	48.9	36.5	0.0	14.6	97.2		33	35	-0.1	-0.2	-11.7
GEW-005	8/10/2016 15:40	49.7	36.5	0.1	13.7	96.8		14	14	0.0	0.0	-12.1
GEW-005	8/10/2016 15:47	49.8	36.2	0.1	13.9	96.8		17	17	0.0	0.0	-11.9
GEW-005	8/15/2016 9:26	48.3	36.7	0.0	15.0	95.3		17	17	-0.2	-0.2	-12.4
GEW-005	8/24/2016 14:31	43.5	35.7	0.2	20.6	94.6		17	17	-0.5	-0.5	-11.7
GEW-005	8/30/2016 8:41	51.8	38.6	0.1	9.5	95.7		0	0	0.1	0.1	-11.8
GEW-005	8/30/2016 8:43	52.0	38.5	0.1	9.4	97.8		0	0	0.1	0.1	-11.9
GEW-006	8/3/2016 10:56	59.8	34.8	0.2	5.2	91.5		14	14	-0.2	-0.2	-12.1
GEW-006	8/10/2016 8:54	58.2	37.7	0.0	4.1	91.7		16	16	-0.4	-0.4	-11.9
GEW-006	8/15/2016 9:38	57.4	38.2	0.0	4.4	90.7		7	13	-0.1	-0.1	-12.6
GEW-006	8/24/2016 14:37	56.1	38.6	0.3	5.0	92.1		18	17	-0.2	-0.2	-11.6
GEW-006	8/30/2016 8:49	54.5	38.9	0.1	6.5	91.9		0	0	-0.1	-0.1	-12.1
GEW-007	8/3/2016 11:53	56.5	41.8	0.3	1.4	100.2		6	6	-0.7	-0.7	-12.2
GEW-007	8/10/2016 9:06	57.7	40.0	0.0	2.3	99.9		8	8	-1.1	-1.1	-12.2
GEW-007	8/15/2016 10:52	57.0	39.2	0.0	3.8	97.0		7	9	-0.7	-0.7	-12.4
GEW-007	8/24/2016 15:15	56.0	41.3	0.4	2.3	101.4		5	0	-0.5	-0.5	-11.6
GEW-007	8/30/2016 10:27	55.8	40.4	0.3	3.5	100.7		8	7	-0.8	-0.8	-11.2
GEW-008	8/3/2016 11:49	51.8	43.5	0.3	4.4	114.0		12	15	-0.3	-0.3	-12.3
GEW-008	8/10/2016 16:49	50.4	44.9	0.2	4.5	114.3		31	31	-0.2	-0.2	-12.0
GEW-008	8/10/2016 16:55	50.6	45.3	0.2	3.9	114.5		19	17	-0.2	-0.2	-11.9
GEW-008	8/15/2016 10:58	51.0	42.6	0.1	6.3	110.4		9	8	-0.3	-0.3	-12.4

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-008	8/24/2016 15:12	52.0	43.2	0.4	4.4	114.8		33	34	-0.2	-0.2	-11.4
GEW-008	8/30/2016 10:31	51.0	44.1	0.3	4.6	113.2		14	13	-0.4	-0.4	-11.2
GEW-009	8/3/2016 11:44	53.4	41.6	0.3	4.7	125.8		11	8	-0.2	-0.2	-17.0
GEW-009	8/10/2016 16:58	52.5	42.6	0.2	4.7	126.7		16	11	-0.1	-0.1	-18.0
GEW-009	8/10/2016 17:03	53.0	42.9	0.2	3.9	126.7		16	15	-0.1	-0.1	-17.9
GEW-009	8/15/2016 11:03	52.8	41.6	0.1	5.5	123.2		26	25	-0.2	-0.2	-17.0
GEW-009	8/24/2016 15:09	52.4	41.7	0.4	5.5	126.7		29	27	-0.1	-0.1	-17.8
GEW-009	8/30/2016 10:34	51.5	42.6	0.3	5.6	124.0		10	10	-0.2	-0.2	-16.6
GEW-010	8/1/2016 14:20	45.8	44.0	1.0	9.2	98.5		4	4	-6.1	-6.2	-18.5
GEW-010	8/10/2016 10:06	48.7	43.0	1.2	7.1	100.5		2	3	-5.3	-5.3	-16.8
GEW-010	8/10/2016 10:15	48.6	42.7	1.2	7.5	101.1		3	3	-5.3	-5.3	-16.3
GEW-010	8/10/2016 16:12	44.2	45.9	1.4	8.5	107.2		2	2	-5.3	-5.2	-17.7
GEW-010	8/16/2016 9:37	43.0	41.0	3.0	13.0	82.9		3	3	-6.7	-6.7	-17.7
GEW-010	8/16/2016 9:39	43.9	39.6	2.9	13.6	82.1		3	3	-4.9	-4.9	-17.7
GEW-010	8/22/2016 9:56	57.2	39.9	0.2	2.7	83.2		3	3	-1.0	-1.0	-16.9
GEW-010	8/29/2016 11:51	58.3	40.5	0.5	0.7	109.9		4	3	-0.9	-0.9	-17.2
GEW-013A	8/19/2016 11:07	5.8	28.4	11.8	54.0	147.0		NFD		-2.8	-3.5	-15.8
GEW-013A	8/19/2016 11:09	6.1	27.4	11.8	54.7	146.7		NFD		-3.8	-3.2	-16.0
GEW-022R	8/24/2016 10:55	0.9	60.3	0.9	37.9	185.2		8	12	-13.7	-13.5	-14.0
GEW-022R	8/24/2016 10:57	0.9	61.1	0.9	37.1	185.7		6	6	-13.2	-13.3	-13.2
GEW-028R	8/22/2016 11:20	2.2	51.3	2.7	43.8	95.8		13	16	-9.7	-9.7	-10.0
GEW-028R	8/22/2016 11:24	1.2	49.2	2.6	47.0	94.6		7	7	-12.1	-12.1	-12.4
GEW-038	8/1/2016 11:22	0.6	49.8	5.8	43.8	92.5		5	11	-9.1	-9.1	-13.3
GEW-038	8/1/2016 11:23	0.3	49.0	5.8	44.9	92.8		2	2	-1.1	-1.1	-13.5
GEW-038	8/8/2016 11:11	0.9	52.1	4.2	42.8	96.1		8	8	-6.4	-6.4	-13.2
GEW-038	8/8/2016 11:17	0.1	43.6	4.6	51.7	95.8		10	5	-5.3	-5.4	-12.7
GEW-038	8/15/2016 14:04	0.6	44.0	6.6	48.8	85.7		10	13	-7.2	-7.2	-14.3
GEW-038	8/15/2016 14:09	0.5	56.4	2.7	40.4	85.7		9	12	-2.5	-2.5	-14.1
GEW-038	8/22/2016 8:21	0.7	49.3	4.4	45.6	88.2		6	9	-2.6	-2.7	-11.2
GEW-038	8/29/2016 9:26	0.6	53.7	2.6	43.1	98.1		3	3	-1.4	-1.4	-9.4
GEW-039	8/1/2016 14:23	28.0	39.2	1.8	31.0	134.3		41	41	-5.5	-5.2	-19.8
GEW-039	8/10/2016 8:34	24.8	36.5	3.2	35.5	134.0		40	38	-5.3	-5.3	-18.3
GEW-039	8/10/2016 8:39	25.0	33.9	3.2	37.9	134.0		40	39	-5.3	-5.3	-18.3
GEW-039	8/10/2016 16:15	28.2	37.5	1.4	32.9	134.7				-5.3	-5.3	-19.0
GEW-039	8/10/2016 16:18	26.8	35.3	1.4	36.5	134.7		34	33	-4.6	-4.6	-18.2
GEW-039	8/15/2016 13:54	28.4	38.0	1.9	31.7	130.2		36	39	-4.1	-4.1	-17.1
GEW-039	8/15/2016 13:56	28.6	38.8	1.7	30.9	125.4		16	11	-0.4	-0.4	-17.4
GEW-039	8/22/2016 8:25	43.6	51.9	0.0	4.5	125.4		13	14	-0.2	-0.2	-18.8
GEW-039	8/29/2016 9:34	43.0	53.9	0.2	2.9	127.2		10	8	-0.3	-0.3	-17.5
GEW-040	8/3/2016 9:00	59.2	38.4	0.0	2.4	93.9		14	13	-0.8	-0.8	-12.2
GEW-040	8/10/2016 9:43	57.2	40.7	0.1	2.0	95.6		10	10	-0.9	-0.9	-12.2
GEW-040	8/10/2016 9:52	57.6	40.5	0.1	1.8	95.8		9	8	-0.8	-0.8	-12.2
GEW-040	8/15/2016 8:30	57.1	39.0	0.0	3.9	92.7		7	7	-0.7	-0.7	-12.4

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-040	8/24/2016 13:17	57.4	40.2	0.1	2.3	96.4		15	14	-0.6	-0.6	-11.5
GEW-040	8/30/2016 7:51	56.5	41.1	0.0	2.4	95.8		9	9	-0.7	-0.7	-12.1
GEW-041R	8/3/2016 9:04	56.2	39.4	0.5	3.9	105.8		15	17	-0.5	-0.5	-10.6
GEW-041R	8/9/2016 16:22	56.5	35.3	0.3	7.9	107.0		21	18	-0.4	-0.5	-8.4
GEW-041R	8/15/2016 8:35	56.2	39.1	0.0	4.7	105.2		20	20	-0.5	-0.5	-10.7
GEW-041R	8/24/2016 13:22	55.3	39.4	0.3	5.0	106.2		17	19	-0.4	-0.4	-8.3
GEW-041R	8/30/2016 7:55	55.0	39.1	0.4	5.5	105.2		11	11	-0.6	-0.6	-9.6
GEW-042R	8/3/2016 9:10	55.7	42.5	0.0	1.8	108.3		32	31	-0.4	-0.3	-1.5
GEW-042R	8/10/2016 10:13	56.7	40.6	0.2	2.5	115.5		6	16	-1.9	-2.0	-2.0
GEW-042R	8/10/2016 10:21	56.5	41.7	0.2	1.6	114.4		0	11	-1.2	-1.2	-1.9
GEW-042R	8/15/2016 8:39	56.9	38.4	0.0	4.7	108.6		12	12	-0.9	-0.9	-2.1
GEW-042R	8/30/2016 8:00	55.3	42.1	0.0	2.6	93.4		8	7	0.5	0.5	0.7
GEW-042R	8/30/2016 8:01	54.9	42.4	0.0	2.7	94.3		8	7	0.5	0.5	0.7
GEW-043R	8/3/2016 9:14	54.7	42.0	0.3	3.0	122.9		16	10	-0.6	-0.6	-12.7
GEW-043R	8/9/2016 16:27	56.1	37.0	0.1	6.8	123.9		0	0	-0.2	-0.2	-12.0
GEW-043R	8/15/2016 8:44	55.2	40.4	0.0	4.4	120.5		16	13	-0.4	-0.4	-12.9
GEW-043R	8/24/2016 13:27	53.4	41.1	0.2	5.3	129.1		39	35	-1.8	-1.8	-11.4
GEW-043R	8/24/2016 13:29	53.2	41.8	0.2	4.8	128.9		35	31	-1.6	-1.6	-11.7
GEW-043R	8/30/2016 8:05	52.8	41.6	0.2	5.4	127.5		30	28	-1.7	-1.8	-12.1
GEW-043R	8/30/2016 8:07	52.9	42.1	0.2	4.8	127.2		26	23	-1.4	-1.4	-11.6
GEW-044	8/3/2016 9:19	57.6	40.9	0.1	1.4	88.4		0	0	-0.6	-0.5	-4.0
GEW-044	8/9/2016 16:33	56.8	38.9	0.0	4.3	93.9		11	9	-0.3	-0.3	-3.7
GEW-044	8/15/2016 8:49	56.7	40.2	0.0	3.1	86.7		4	3	-0.2	-0.3	-4.7
GEW-044	8/24/2016 13:34	56.1	40.8	0.1	3.0	93.3		10	10	-0.4	-0.4	-2.2
GEW-044	8/30/2016 8:10	56.0	40.9	0.0	3.1	91.4		7	5	-0.5	-0.5	-2.9
GEW-045R	8/3/2016 9:23	55.6	42.3	0.1	2.0	94.3		8	9	-0.6	-0.6	-12.6
GEW-045R	8/10/2016 11:02	54.9	40.2	0.4	4.5	99.4		9	7	-0.6	-0.6	-11.7
GEW-045R	8/10/2016 11:16	54.6	41.5	0.4	3.5	100.1		5	5	-0.1	-0.1	-11.8
GEW-045R	8/15/2016 8:53	56.5	39.1	0.0	4.4	91.9		4	4	0.3	0.3	-13.0
GEW-045R	8/15/2016 8:56	54.8	40.9	0.0	4.3	92.7		5	3	-0.3	-0.3	-12.9
GEW-045R	8/24/2016 13:37	54.4	41.7	0.1	3.8	100.6		9	10	0.4	0.4	-11.1
GEW-045R	8/24/2016 13:38	54.2	42.4	0.2	3.2	100.7		12	9	-0.2	-0.2	-11.1
GEW-046R	8/3/2016 9:27	54.7	40.9	0.1	4.3	101.6		30	30	-0.3	-0.3	-12.9
GEW-046R	8/10/2016 11:20	54.0	40.9	0.3	4.8	101.8		12	13	-0.4	-0.4	-12.1
GEW-046R	8/10/2016 11:27	54.5	41.0	0.3	4.2	101.8		0	0	-0.4	-0.4	-11.9
GEW-046R	8/15/2016 9:01	55.0	39.7	0.0	5.3	99.6		11	10	-0.1	-0.1	-13.0
GEW-046R	8/24/2016 13:42	53.5	40.5	0.2	5.8	96.9		0	0	-0.7	-0.7	-11.5
GEW-046R	8/30/2016 8:15	55.4	40.3	0.0	4.3	99.8		9	10	0.1	0.1	-12.2
GEW-046R	8/30/2016 8:17	55.0	41.2	0.0	3.8	101.4		0	0	0.0	0.0	-12.4
GEW-047R	8/3/2016 9:55	50.0	39.8	0.1	10.1	114.8		16	11	-0.2	-0.2	-12.2
GEW-047R	8/10/2016 14:52	51.8	39.1	0.2	8.9	115.7		14	14	-0.1	-0.1	-11.8
GEW-047R	8/10/2016 14:58	51.8	40.0	0.2	8.0	115.6		18	8	-0.1	-0.1	-11.8
GEW-047R	8/15/2016 9:21	51.7	38.9	0.0	9.4	111.9		30	28	-0.3	-0.2	-12.4

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-047R	8/24/2016 14:25	41.6	36.3	0.3	21.8	113.2		44	31	-1.8	-1.8	-10.7
GEW-047R	8/24/2016 14:28	44.0	36.4	0.3	19.3	113.2		29	28	-0.8	-0.8	-11.3
GEW-047R	8/30/2016 8:36	54.2	42.5	0.1	3.2	96.9		7	7	0.2	0.2	-11.8
GEW-047R	8/30/2016 8:38	54.3	42.3	0.1	3.3	93.6		10	9	0.1	0.1	-11.8
GEW-048	8/3/2016 10:05	56.1	39.7	0.2	4.0	105.7		5	12	-0.1	-0.1	-9.2
GEW-048	8/10/2016 15:52	55.6	40.2	0.2	4.0	106.1		12	13	0.0	0.0	-8.6
GEW-048	8/10/2016 15:59	56.1	39.9	0.2	3.8	106.5		0	0	0.0	0.0	-7.3
GEW-048	8/15/2016 9:32	56.2	39.0	0.0	4.8	103.6		13	13	-0.2	-0.2	-9.6
GEW-048	8/24/2016 14:34	56.5	39.6	0.3	3.6	106.1		12	8	-0.4	-0.4	-7.8
GEW-048	8/30/2016 8:46	53.9	40.0	0.1	6.0	104.6		15	7	-0.2	-0.1	-9.9
GEW-049	8/3/2016 11:16	52.5	39.0	0.2	8.3	111.0		12	8	-0.1	-0.1	-4.2
GEW-049	8/10/2016 16:31	56.1	40.2	0.2	3.5	112.2		35	35	0.0	0.0	-4.7
GEW-049	8/10/2016 16:37	56.4	39.1	0.1	4.4	112.5		13	14	-0.1	-0.1	-5.1
GEW-049	8/15/2016 9:49	53.8	38.0	0.0	8.2	107.6		8	8	-0.1	-0.1	-4.8
GEW-049	8/24/2016 14:48	49.6	37.8	0.3	12.3	110.1		11	14	-0.1	-0.1	-2.3
GEW-049	8/30/2016 8:56	52.2	38.4	0.1	9.3	109.9		31	29	0.0	-0.1	-2.6
GEW-050	8/3/2016 11:08	57.7	37.7	0.2	4.4	109.2		34	36	-0.2	-0.2	-6.9
GEW-050	8/10/2016 8:59	57.4	39.7	0.0	2.9	109.0		11	18	-0.5	-0.4	-8.0
GEW-050	8/15/2016 10:44	57.2	38.8	0.1	3.9	106.5		17	11	-0.3	-0.3	-8.3
GEW-050	8/24/2016 14:41	57.9	38.7	0.3	3.1	109.2		0	0	-0.2	-0.2	-4.3
GEW-050	8/30/2016 10:21	56.6	39.0	0.2	4.2	108.3		0	0	-0.3	-0.3	-4.3
GEW-051	8/3/2016 11:19	55.2	41.0	0.2	3.6	128.4		30	30	-0.2	-0.2	-12.0
GEW-051	8/10/2016 9:12	55.3	40.7	0.1	3.9	128.6		5	14	-0.4	-0.4	-12.2
GEW-051	8/15/2016 9:54	54.7	40.6	0.0	4.7	125.7		26	27	-0.1	-0.1	-12.2
GEW-051	8/24/2016 14:51	55.1	40.8	0.3	3.8	128.9		31	30	-0.1	0.0	-11.5
GEW-051	8/30/2016 8:59	54.8	41.3	0.1	3.8	126.9		0	0	-0.3	-0.3	-11.2
GEW-052	8/3/2016 11:12	55.0	39.7	0.2	5.1	115.6		18	12	-0.2	-0.2	-12.1
GEW-052	8/10/2016 9:02	55.9	38.9	0.0	5.2	115.0		42	41	-0.4	-0.3	-12.4
GEW-052	8/15/2016 10:48	55.2	38.9	0.0	5.9	112.9		15	13	-0.2	-0.2	-12.4
GEW-052	8/24/2016 14:44	56.4	40.2	0.3	3.1	116.0		20	21	-0.2	-0.2	-11.6
GEW-052	8/30/2016 10:24	54.4	40.4	0.3	4.9	113.8		8	14	-0.3	-0.3	-11.3
GEW-053	8/3/2016 11:25	49.4	44.0	0.3	6.3	142.2		7	12	-0.2	-0.2	-12.1
GEW-053	8/3/2016 11:26	49.3	44.2	0.3	6.2	142.2		6	14	-0.2	-0.3	-11.8
GEW-053	8/10/2016 13:23	50.0	42.7	0.0	7.3	140.4		28	29	-0.2	-0.1	-11.7
GEW-053	8/10/2016 13:32	49.6	41.6	0.0	8.8	140.4		30	31	-0.1	-0.1	-11.8
GEW-053	8/15/2016 10:02	50.0	42.0	0.0	8.0	140.0		7	12	-0.2	-0.2	-12.3
GEW-053	8/15/2016 10:03	49.6	42.5	0.0	7.9	140.4		27	28	-0.2	-0.2	-12.5
GEW-053	8/24/2016 14:55	49.8	42.6	0.4	7.2	142.9		33	33	0.0	-0.1	-11.6
GEW-053	8/24/2016 14:56	49.3	43.5	0.4	6.8	142.9		31	31	-0.1	-0.1	-11.4
GEW-053	8/30/2016 7:41	50.9	40.9	0.0	8.2	141.5		17	17	-0.6	-0.7	-12.1
GEW-053	8/30/2016 7:42	49.9	43.1	0.0	7.0	141.8		37	37	-0.6	-0.7	-11.9
GEW-054	8/3/2016 11:34	52.7	40.8	0.2	6.3	147.3		45	44	-2.8	-2.8	-9.3
GEW-054	8/3/2016 11:35	52.0	42.1	0.3	5.6	147.3		54	39	-2.7	-2.8	-9.2

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-054	8/4/2016 9:12	51.8	42.7	0.0	5.5	147.3		44	51	-2.8	-2.8	-9.3
GEW-054	8/4/2016 9:16	51.5	43.3	0.0	5.2	147.1		45	30	-3.2	-3.2	-9.4
GEW-054	8/5/2016 9:05	50.9	42.8	0.1	6.2	147.0		51	50	-3.4	-3.4	-10.1
GEW-054	8/10/2016 13:41	52.2	42.3	0.1	5.4	144.0		39	30	-3.1	-3.1	-8.8
GEW-054	8/10/2016 13:49	52.1	42.6	0.1	5.2	144.0		42	40	-3.5	-3.3	-8.7
GEW-054	8/15/2016 10:07	52.2	41.2	0.0	6.6	142.2		41	47	-3.8	-4.0	-10.3
GEW-054	8/15/2016 10:08	52.1	41.1	0.0	6.8	142.2		38	44	-3.9	-3.9	-10.7
GEW-054	8/24/2016 15:01	53.0	40.6	0.3	6.1	146.6		43	46	-3.0	-3.0	-8.6
GEW-054	8/24/2016 15:02	51.9	42.1	0.4	5.6	146.6		28	44	-2.9	-3.0	-8.0
GEW-054	8/25/2016 11:51	57.7	42.1	0.2	0.0	146.2		42	39	-3.4	-3.4	-9.3
GEW-054	8/25/2016 11:56	57.0	41.0	0.2	1.8	146.6		45	43	-4.2	-4.2	-8.1
GEW-054	8/26/2016 8:14	53.0	41.5	0.0	5.5	145.9		58	56	-4.9	-5.0	-9.9
GEW-054	8/26/2016 8:15	52.3	42.1	0.0	5.6	146.3		54	48	-4.9	-4.9	-9.9
GEW-054	8/29/2016 8:21	52.7	43.2	0.0	4.1	146.2		39	42	-4.7	-4.7	-9.4
GEW-054	8/29/2016 8:22	52.3	43.4	0.0	4.3	146.6		40	49	-4.8	-4.8	-9.5
GEW-054	8/30/2016 7:44	52.0	43.1	0.0	4.9	146.2		45	39	-4.9	-4.7	-9.7
GEW-054	8/30/2016 7:45	52.2	42.9	0.0	4.9	146.6		50	51	-4.7	-4.7	-8.3
GEW-055	8/3/2016 11:39	52.6	42.1	0.3	5.0	128.0		9	8	-0.1	-0.1	-10.3
GEW-055	8/10/2016 16:41	52.1	42.4	0.2	5.3	128.5		0	0	-0.1	-0.1	-9.6
GEW-055	8/10/2016 16:46	52.2	43.1	0.2	4.5	128.3		0	0	-0.1	-0.1	-9.7
GEW-055	8/15/2016 10:13	52.3	41.8	0.0	5.9	123.4		24	18	-0.2	-0.2	-10.0
GEW-055	8/24/2016 15:05	52.5	42.3	0.4	4.8	128.3		20	19	0.0	0.0	-9.0
GEW-055	8/24/2016 15:06	52.6	42.4	0.4	4.6	128.9		0	0	0.0	0.0	-8.8
GEW-055	8/30/2016 7:48	52.9	42.7	0.0	4.4	127.5		35	34	-0.5	-0.5	-9.4
GEW-056R	8/1/2016 14:13	13.4	49.5	0.0	37.1	152.1		6	4	-1.8	-1.8	-17.3
GEW-056R	8/1/2016 14:15	15.4	47.0	0.0	37.6	152.1		6	6	-1.8	-1.8	-17.7
GEW-056R	8/10/2016 10:50	18.8	51.3	0.4	29.5	163.6		8	9	-3.1	-3.1	-16.5
GEW-056R	8/10/2016 10:59	19.5	49.5	0.5	30.5	163.6		10	24	-3.6	-3.7	-16.5
GEW-056R	8/10/2016 16:06	18.9	48.8	0.3	32.0	156.5				-7.2	-9.6	-17.3
GEW-056R	8/10/2016 16:08	18.9	49.2	0.3	31.6	159.4				-4.7	-4.7	-18.0
GEW-056R	8/16/2016 9:33	17.9	46.8	0.1	35.2	122.6		25	24	-3.0	-3.1	-17.7
GEW-056R	8/22/2016 10:51	1.5	53.2	0.2	45.1	100.4		3	5	-1.7	-1.7	-17.0
GEW-056R	8/29/2016 11:42	2.0	56.5	0.5	41.0	113.4		1	2	-1.2	-1.2	-16.7
GEW-057B	8/19/2016 9:00	3.7	53.3	0.2	42.8	93.9		14	27	-13.6	-13.5	-14.0
GEW-057R	8/19/2016 8:53	4.3	19.1	9.8	66.8	119.0		13	8	-11.6	-9.7	-14.5
GEW-057R	8/19/2016 8:55	4.8	17.1	9.8	68.3	118.6		14	12	-9.9	-10.2	-12.9
GEW-058	8/19/2016 8:46	1.7	31.1	10.2	57.0	148.8		10	8	-16.7	-16.5	-17.1
GEW-058	8/19/2016 8:48	1.4	29.1	10.1	59.4	152.9		15	11	-13.2	-13.5	-17.5
GEW-058A	8/19/2016 8:38	19.2	37.5	4.4	38.9	122.4		5	3	-6.6	-6.6	-9.4
GEW-058A	8/19/2016 8:42	19.2	41.3	3.5	36.0	112.5		2	2	-0.4	-0.4	-8.9
GEW-059R	8/19/2016 8:24	4.1	47.5	2.5	45.9	180.9		19	10	-16.0	-15.6	-17.3
GEW-059R	8/19/2016 8:26	3.7	45.5	2.5	48.3	182.1		16	19	-14.8	-15.6	-16.0
GEW-067A	8/19/2016 9:34	4.1	30.2	10.1	55.6	135.6		17	18	-11.4	-11.7	-16.7

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-067A	8/19/2016 9:36	4.3	29.5	10.4	55.8	136.6		12	13	-8.3	-8.3	-16.6
GEW-077	8/19/2016 14:11	2.7	58.9	0.1	38.3	192.9		NFD		-15.1	-14.8	-14.9
GEW-077	8/19/2016 14:14	3.0	60.6	0.2	36.2	192.9		NFD		-14.8	-14.6	-14.7
GEW-078R	8/19/2016 14:06	13.2	53.0	0.1	33.7	180.9		13	14	-10.2	-10.2	-13.6
GEW-078R	8/19/2016 14:07	14.2	53.9	0.1	31.8	180.9		7	18	-10.0	-10.2	-13.9
GEW-080	8/19/2016 14:20	4.7	10.1	15.1	70.1	96.2		5	7	-14.8	-14.8	-14.7
GEW-080	8/19/2016 14:23	8.6	14.1	12.7	64.6	96.1		3	4	-14.6	-14.7	-14.3
GEW-082R	8/19/2016 10:24	5.4	50.5	0.1	44.0	184.5		3	8	-12.9	-13.1	-11.8
GEW-082R	8/19/2016 10:25	5.4	53.6	0.1	40.9	185.1		11	12	-13.0	-13.5	-12.2
GEW-086	8/19/2016 9:17	17.1	47.0	0.7	35.2	82.5		19	16	-3.5	-4.2	-16.6
GEW-086	8/19/2016 9:19	17.6	49.8	0.2	32.4	81.9		11	11	-11.1	-15.6	-10.8
GEW-089	8/19/2016 9:09	4.5	15.6	16.2	63.7	85.3		3	4	-3.1	-3.1	-16.7
GEW-089	8/19/2016 9:10	4.4	14.9	16.2	64.5	85.0		3	4	-3.1	-3.0	-16.2
GEW-090	8/19/2016 9:26	14.0	48.8	0.2	37.0	174.7		2	15	-16.2	-16.2	-16.7
GEW-090	8/19/2016 9:29	15.2	50.2	0.1	34.5	175.8		11	13	-16.2	-16.3	-16.7
GEW-091	8/19/2016 9:41	3.4	56.4	0.2	40.0	194.3		37	33	-14.2	-14.2	-18.1
GEW-091	8/19/2016 9:43	4.9	61.6	0.1	33.4	195.0		25	30	-15.2	-13.7	-17.4
GEW-102	8/22/2016 11:11	0.1	2.4	19.9	77.6	96.9		NFD		-12.1	-12.3	-12.3
GEW-102	8/22/2016 11:13	0.1	1.5	20.1	78.3	97.7		NFD		-13.2	-13.2	-13.3
GEW-104	8/22/2016 13:04	2.2	61.2	0.1	36.5	95.4		4	4	19.9	20.1	19.7
GEW-104	8/22/2016 13:05	4.6	61.5	0.2	33.7	95.6		6	6	22.4	21.0	22.0
GEW-108	8/19/2016 8:31	0.7	5.3	20.3	73.7	81.5		4	11	-16.2	-17.0	-16.7
GEW-108	8/19/2016 8:33	0.9	4.9	20.1	74.1	81.5		7	4	-16.7	-17.0	-17.1
GEW-109	8/1/2016 14:25	12.0	45.0	0.0	43.0	114.2		8	4	-9.6	-9.8	-18.8
GEW-109	8/8/2016 11:30	12.0	42.8	0.1	45.1	108.1		3	4	-9.4	-9.4	-17.5
GEW-109	8/8/2016 11:36	12.5	43.2	0.2	44.1	108.1		13	1	-9.3	-9.6	-17.9
GEW-109	8/15/2016 14:01	9.6	48.3	0.2	41.9	96.1		3	3	-8.5	-8.3	-18.6
GEW-109	8/22/2016 8:31	13.3	50.6	0.1	36.0	114.0		6	6	-7.3	-7.2	-17.4
GEW-109	8/29/2016 9:29	20.1	55.7	0.4	23.8	137.3		6	5	-17.5	-18.0	-17.5
GEW-109	8/29/2016 9:31	21.4	53.3	0.4	24.9	137.3		9	10	-17.5	-17.5	-17.2
GEW-110	8/1/2016 14:00	1.5	21.8	16.2	60.5	112.3		8	9	0.0	0.0	-17.7
GEW-110	8/1/2016 14:02	1.5	16.6	16.5	65.4	112.4		7	10	0.0	0.0	-18.3
GEW-110	8/10/2016 9:46	1.8	10.4	18.1	69.7	106.5		5	7	0.0	0.0	-16.9
GEW-110	8/10/2016 9:58	1.8	10.4	17.6	70.2	108.8		6	6	0.0	-0.1	-16.2
GEW-110	8/16/2016 8:46	1.3	10.9	18.4	69.4	94.6		7	8	0.0	0.0	-17.7
GEW-110	8/16/2016 8:47	1.4	9.8	18.7	70.1	94.4		8	5	0.0	0.0	-17.8
GEW-110	8/22/2016 9:47	2.6	12.2	17.3	67.9	97.2		7	9	0.0	0.0	-17.1
GEW-110	8/22/2016 9:48	2.5	10.0	17.5	70.0	97.3		6	8	0.0	0.0	-17.0
GEW-110	8/29/2016 11:46	3.6	11.8	17.3	67.3	112.8		8	7	0.0	0.0	-16.5
GEW-110	8/29/2016 11:47	3.7	9.3	17.4	69.6	113.0		6	6	0.0	0.0	-16.2
GEW-110	8/31/2016 14:43	3.0	11.1	16.7	69.2	104.1		7	5	0.0	0.0	-18.2
GEW-110	8/31/2016 14:44	3.0	10.9	16.3	69.8	104.1		7	6	0.0	0.0	-18.1
GEW-112	8/19/2016 9:54	2.0	39.8	5.9	52.3	91.0		NFD		-12.7	-12.7	-14.2

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-112	8/19/2016 9:56	2.1	42.7	5.3	49.9	91.5		NFD		-12.9	-12.8	-14.3
GEW-113	8/19/2016 10:01	11.0	51.1	1.5	36.4	172.6		NFD		-7.1	-7.0	-16.1
GEW-113	8/19/2016 10:02	12.0	50.0	1.6	36.4	172.6		NFD		-7.0	-7.0	-15.6
GEW-117	8/19/2016 10:40	8.1	61.6	0.5	29.8	98.7		NFD		-13.7	-13.7	-14.2
GEW-118	8/19/2016 10:32	3.1	53.5	1.5	41.9	188.1		53	61	-8.3	-9.3	-11.4
GEW-118	8/19/2016 10:33	3.1	54.9	1.8	40.2	188.3		66	64	-9.8	-9.7	-14.4
GEW-120	8/12/2016 8:38	18.4	57.2	0.3	24.1	152.5		NFD		-13.3	-13.6	-13.3
GEW-120	8/12/2016 8:39	18.4	58.6	0.3	22.7	152.5		NFD		-13.1	-13.3	-13.3
GEW-120	8/25/2016 11:19	20.4	56.7	0.3	22.6	150.1		NFD		-12.9	-13.2	-13.2
GEW-120	8/25/2016 11:21	20.5	57.5	0.3	21.7	150.1		NFD		-13.3	-13.7	-13.8
GEW-121	8/12/2016 8:14	11.3	59.3	0.3	29.1	163.6		17	9	-12.5	-12.3	-12.9
GEW-121	8/12/2016 8:16	11.9	59.5	0.3	28.3	163.2		18	18	-13.1	-12.2	-13.2
GEW-121	8/25/2016 11:31	10.7	54.6	0.3	34.4	175.2		28	25	-12.3	-12.3	-13.1
GEW-121	8/25/2016 11:32	11.8	57.2	0.3	30.7	175.7		23	20	-11.8	-11.8	-12.0
GEW-122	8/11/2016 11:01	8.4	57.4	0.5	33.7	192.5		14	12	-2.6	-2.6	-9.1
GEW-122	8/11/2016 11:02	8.9	57.4	0.5	33.2	192.5		7	6	-2.7	-2.8	-9.2
GEW-122	8/25/2016 13:32	12.8	55.6	0.2	31.4	187.9		17	14	-4.9	-4.7	-14.6
GEW-122	8/25/2016 13:34	13.3	55.9	0.2	30.6	187.9		18	19	-4.7	-4.8	-13.7
GEW-123	8/12/2016 8:00	6.1	62.0	0.4	31.5	186.3		13	16	-12.5	-12.8	-12.7
GEW-123	8/12/2016 8:01	6.5	62.1	0.4	31.0	185.7		13	13	-14.0	-14.2	-13.6
GEW-123	8/25/2016 11:41	25.1	60.0	1.1	13.8	105.4		4	11	-14.1	-14.0	-13.8
GEW-124	8/11/2016 14:21	3.3	27.6	14.1	55.0	105.6		9	8	-12.6	-12.2	-12.2
GEW-124	8/11/2016 14:25	7.0	44.1	6.5	42.4	107.4		3	3	-13.1	-13.1	-11.2
GEW-124	8/25/2016 13:12	2.9	37.3	7.8	52.0	103.6		8	11	-9.1	-8.8	-13.4
GEW-124	8/25/2016 13:15	3.5	45.0	4.8	46.7	105.4		3	7	-9.3	-9.6	-12.7
GEW-125	8/11/2016 10:04	1.1	61.7	0.5	36.7	192.5		34	32	-8.2	-8.4	-12.1
GEW-125	8/11/2016 10:05	1.3	61.4	0.5	36.8	192.6		38	35	-8.3	-8.9	-12.9
GEW-125	8/26/2016 8:52	0.8	58.2	0.0	41.0	191.6		39	36	-9.8	-10.0	-14.9
GEW-125	8/26/2016 8:53	0.9	57.4	0.0	41.7	191.8		33	31	-10.3	-10.1	-14.8
GEW-126	8/11/2016 9:42	12.0	56.5	0.4	31.1	184.6		6	6	-9.7	-9.7	-11.8
GEW-126	8/11/2016 9:43	12.2	56.3	0.4	31.1	184.7		9	6	-9.3	-9.7	-9.8
GEW-126	8/26/2016 9:06	14.4	54.5	0.0	31.1	175.8		4	4	-11.8	-11.5	-12.1
GEW-126	8/26/2016 9:08	14.5	54.8	0.0	30.7	174.7		3	4	-11.5	-11.8	-11.9
GEW-127	8/11/2016 8:33	2.9	64.4	0.4	32.3	188.5		34	39	-11.9	-12.2	-12.5
GEW-127	8/11/2016 8:34	3.0	66.1	0.4	30.5	188.5		32	31	-12.0	-11.7	-12.4
GEW-127	8/26/2016 10:09	3.6	63.7	0.1	32.6	184.5		20	27	-10.4	-10.6	-10.7
GEW-127	8/26/2016 10:11	3.8	63.9	0.1	32.2	184.6		27	32	-11.3	-12.9	-12.1
GEW-128	8/11/2016 7:58	7.0	61.7	0.1	31.2	162.7		26	34	-13.2	-12.2	-12.7
GEW-128	8/11/2016 7:59	6.6	64.9	0.0	28.5	162.9		24	37	-13.7	-13.7	-14.0
GEW-128	8/26/2016 10:23	6.3	51.1	4.7	37.9	167.1		23	24	-11.1	-11.0	-12.6
GEW-128	8/26/2016 10:25	6.8	50.7	4.6	37.9	167.1		25	24	-9.3	-8.9	-14.0
GEW-129	8/11/2016 8:05	1.8	61.0	0.1	37.1	175.7		8	5	-12.6	-13.2	-12.9
GEW-129	8/11/2016 8:09	2.2	66.9	0.2	30.7	177.7		10	18	-5.1	-5.4	-12.6

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-129	8/26/2016 10:30	2.4	61.7	0.1	35.8	178.0		12	8	-11.2	-10.5	-13.5
GEW-129	8/26/2016 10:32	2.7	60.9	0.1	36.3	178.0		17	12	-11.2	-10.8	-13.5
GEW-130	8/11/2016 9:07	3.9	41.8	7.7	46.6	170.4		82	81	-6.8	-6.4	-11.4
GEW-130	8/11/2016 9:11	4.1	41.5	7.8	46.6	170.8		77	77	-6.4	-6.2	-12.1
GEW-130	8/26/2016 10:01	3.7	36.7	8.7	50.9	167.1		80	87	-7.4	-7.4	-14.3
GEW-130	8/26/2016 10:03	3.6	36.6	8.5	51.3	168.1		76	77	-6.4	-6.4	-14.7
GEW-131	8/11/2016 9:35	0.3	53.5	0.3	45.9	111.5		NFD		9.3	9.3	9.3
GEW-131	8/11/2016 9:36	0.4	54.0	0.3	45.3	111.6		NFD		9.3	9.3	9.2
GEW-131	8/26/2016 9:19	0.5	50.7	0.0	48.8	82.8		NFD		4.8	4.8	5.0
GEW-131	8/26/2016 9:21	0.4	51.0	0.0	48.6	83.0		NFD		4.6	4.6	4.8
GEW-132	8/12/2016 8:31	10.7	42.6	3.6	43.1	167.3		NFD		-4.8	-4.9	-11.2
GEW-132	8/12/2016 8:34	10.9	42.9	3.6	42.6	167.3		NFD		-4.3	-4.4	-12.6
GEW-132	8/25/2016 11:25	11.5	41.7	4.4	42.4	166.4		NFD		-4.4	-4.4	-10.1
GEW-132	8/25/2016 11:27	11.6	40.7	4.4	43.3	166.6		NFD		-4.5	-4.5	-13.3
GEW-133	8/12/2016 8:45	0.3	17.7	16.8	65.2	90.2		1	2	-13.7	-13.6	-13.8
GEW-133	8/12/2016 8:46	0.5	17.6	16.5	65.4	90.1		7	3	-13.1	-13.2	-12.9
GEW-133	8/25/2016 11:13	0.4	23.1	13.6	62.9	99.4		5	9	-13.7	-13.7	-13.3
GEW-133	8/25/2016 11:15	0.5	26.3	12.8	60.4	98.9		6	6	-13.8	-13.8	-13.6
GEW-134	8/12/2016 8:50	11.7	47.2	1.2	39.9	140.4		NFD		-11.8	-11.8	-13.1
GEW-134	8/12/2016 8:52	11.8	48.4	1.2	38.6	141.1		NFD		-11.8	-12.2	-13.3
GEW-134	8/25/2016 10:26	10.1	40.4	1.4	48.1	142.9		NFD		-12.3	-11.9	-14.1
GEW-134	8/25/2016 10:28	10.1	42.3	1.3	46.3	147.8		NFD		-12.3	-12.4	-14.3
GEW-135	8/12/2016 8:57	0.0	0.9	22.0	77.1	90.1				-7.8	-7.8	-7.5
GEW-135	8/12/2016 8:59	0.0	0.2	22.1	77.7	90.5				-7.3	-7.3	-7.1
GEW-135	8/25/2016 10:18	0.1	1.3	20.9	77.7	98.3		9	11	-6.2	-6.1	-6.0
GEW-135	8/25/2016 10:21	0.0	0.8	21.1	78.1	99.0		8	10	-6.3	-6.4	-5.8
GEW-136	8/12/2016 9:14	3.7	21.4	14.7	60.2	124.2		30	27	-4.3	-4.1	-12.9
GEW-136	8/12/2016 9:17	3.6	19.1	14.9	62.4	123.7		21	23	-3.4	-3.4	-14.0
GEW-136	8/25/2016 10:06	3.7	19.7	14.3	62.3	123.4		20	25	-3.4	-3.6	-12.6
GEW-136	8/25/2016 10:08	3.4	17.6	14.7	64.3	122.8		15	18	-2.0	-2.2	-11.8
GEW-137	8/12/2016 9:23	14.3	29.7	1.4	54.6	96.3		6	8	-11.7	-10.7	-11.4
GEW-137	8/25/2016 10:01	20.4	32.7	0.5	46.4	94.0		6	3	-0.5	-0.5	-10.5
GEW-138	8/12/2016 9:28	3.3	19.9	11.4	65.4	154.1		22	23	-2.7	-2.6	-13.2
GEW-138	8/12/2016 9:29	3.4	19.3	11.6	65.7	154.1		17	18	-1.4	-1.6	-12.4
GEW-138	8/25/2016 10:58	3.8	20.3	10.4	65.5	154.6		16	13	-1.3	-1.2	-11.9
GEW-138	8/25/2016 11:00	3.6	20.7	10.4	65.3	154.9		20	16	-1.6	-1.5	-16.1
GEW-139	8/11/2016 9:18	2.7	41.9	5.8	49.6	178.3		36	34	-9.7	-9.8	-14.1
GEW-139	8/11/2016 9:29	3.1	42.0	5.6	49.3	178.2		30	33	-8.7	-8.7	-14.8
GEW-139	8/26/2016 9:28	5.3	37.3	6.2	51.2	146.3		28	27	-12.4	-12.5	-16.1
GEW-139	8/26/2016 9:31	5.3	37.4	6.2	51.1	147.3		22	22	-11.0	-10.9	-15.6
GEW-140	8/12/2016 13:38	13.0	34.4	4.6	48.0	147.0		21	24	-7.3	-7.3	-11.5
GEW-140	8/12/2016 13:40	13.1	34.9	4.7	47.3	146.3		23	21	-6.3	-5.8	-11.3
GEW-140	8/26/2016 10:54	0.6	54.5	0.1	44.8	139.0		10	8	-10.6	-10.3	-10.7

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-140	8/26/2016 10:56	0.7	58.3	0.1	40.9	140.9		20	3	-9.9	-10.0	-10.1
GEW-141	8/12/2016 14:24	0.4	62.7	0.5	36.4	182.5		4	8	-10.2	-10.7	-10.2
GEW-141	8/12/2016 14:26	0.4	60.7	0.4	38.5	181.9		4	12	-11.2	-10.3	-11.2
GEW-141	8/26/2016 11:07	1.3	59.9	0.1	38.7	185.7		6	7	-11.9	-11.9	-12.0
GEW-141	8/26/2016 11:08	1.7	59.7	0.1	38.5	185.7		7	5	-11.8	-11.6	-11.9
GEW-142	8/12/2016 14:17	1.2	62.7	0.4	35.7	174.6		6	25	-10.3	-10.3	-11.0
GEW-142	8/12/2016 14:19	0.9	63.5	0.4	35.2	175.2		10	10	-7.3	-10.7	-7.3
GEW-142	8/26/2016 11:12	2.1	58.9	1.4	37.6	125.9		2	8	-11.3	-11.3	-11.3
GEW-142	8/26/2016 11:14	2.6	57.7	1.4	38.3	131.6		3	6	-10.9	-10.8	-11.0
GEW-143	8/12/2016 13:54	0.0	31.4	7.9	60.7	101.9		4	4	-10.7	-11.2	-10.8
GEW-143	8/12/2016 13:56	0.0	34.2	7.6	58.2	103.2		2	4	-11.1	-9.8	-10.8
GEW-143	8/26/2016 11:23	4.8	48.2	2.9	44.1	98.4		7	5	-11.8	-11.8	-11.8
GEW-143	8/26/2016 11:24	4.6	52.0	1.8	41.6	98.2		9	4	-12.3	-11.8	-12.1
GEW-144	8/12/2016 13:48	0.0	55.2	1.5	43.3	99.2		4	9	-11.7	-10.7	-11.7
GEW-144	8/26/2016 11:28	11.0	57.3	0.6	31.1	96.2		7	7	-11.8	-11.8	-11.9
GEW-144	8/26/2016 11:30	14.4	58.7	0.6	26.3	97.0		10	4	-10.8	-11.3	-11.0
GEW-145	8/12/2016 13:17	2.8	58.0	0.2	39.0	134.3		2	1	-13.1	-12.7	-12.9
GEW-145	8/12/2016 13:19	2.9	60.8	0.3	36.0	135.0		9	11	-13.1	-13.2	-13.0
GEW-145	8/26/2016 11:46	16.6	55.7	0.7	27.0	136.2		8	3	-13.9	-14.9	-14.1
GEW-145	8/26/2016 11:47	17.1	55.7	0.7	26.5	136.8		16	10	-13.7	-14.3	-14.0
GEW-146	8/12/2016 9:35	6.3	22.9	7.1	63.7	106.7		22	24	-1.6	-1.5	-15.5
GEW-146	8/12/2016 9:37	6.3	24.2	7.0	62.5	106.5		20	20	-1.0	-1.0	-15.6
GEW-146	8/25/2016 9:56	2.8	17.9	11.1	68.2	105.2		18	7	-1.0	-1.1	-15.2
GEW-146	8/25/2016 9:57	2.9	15.3	11.3	70.5	105.2		20	11	-1.2	-1.0	-15.5
GEW-147	8/12/2016 9:04	13.3	54.1	0.2	32.4	186.8		NFD		-13.3	-13.7	-13.3
GEW-147	8/12/2016 9:05	12.9	56.0	0.3	30.8	186.8		NFD		-13.3	-14.1	-13.3
GEW-147	8/25/2016 10:12	14.1	46.5	0.3	39.1	168.1		NFD		-15.1	-15.1	-14.9
GEW-147	8/25/2016 10:13	14.6	53.3	0.2	31.9	168.8		NFD		-15.0	-14.9	-14.9
GEW-148	8/12/2016 9:51	8.3	49.3	4.0	38.4	94.0		5	7	-14.2	-14.2	-14.9
GEW-148	8/12/2016 9:52	8.7	50.0	4.0	37.3	94.2		5	6	-14.2	-14.6	-14.8
GEW-148	8/25/2016 9:50	5.8	49.5	2.7	42.0	100.2		6	3	-14.4	-14.3	-15.2
GEW-149	8/12/2016 9:58	12.6	38.7	6.2	42.5	116.3		18	20	-0.7	-0.6	-16.5
GEW-149	8/12/2016 9:59	13.1	37.6	6.1	43.2	116.3		17	17	-0.7	-0.7	-16.8
GEW-149	8/25/2016 9:34	9.8	35.3	7.0	47.9	144.4		19	17	-0.6	-0.5	-17.5
GEW-149	8/25/2016 9:35	10.3	33.2	6.9	49.6	144.7		17	17	-0.6	-0.6	-16.2
GEW-150	8/12/2016 11:31	9.6	40.8	7.3	42.3	166.9		22	27	-5.0	-4.7	-14.2
GEW-150	8/12/2016 11:33	9.7	41.0	7.2	42.1	166.9		25	23	-4.0	-3.9	-13.0
GEW-150	8/26/2016 13:42	20.1	43.0	5.9	31.0	162.4		24	24	-4.2	-4.1	-14.6
GEW-150	8/26/2016 13:43	18.7	43.4	5.9	32.0	162.4		17	9	-3.6	-3.5	-16.9
GEW-151	8/12/2016 9:43	8.8	33.3	7.1	50.8	133.7		37	33	-14.3	-14.6	-14.9
GEW-151	8/12/2016 9:44	8.6	33.8	7.2	50.4	134.3		35	32	-10.7	-10.7	-14.2
GEW-151	8/25/2016 9:40	8.6	32.5	7.8	51.1	124.3		38	22	-15.8	-15.3	-13.7
GEW-151	8/25/2016 9:42	8.6	32.8	7.8	50.8	123.7		17	15	-13.3	-14.2	-14.4

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-151	8/26/2016 8:23	9.0	30.6	8.4	52.0	149.0		15	26	-7.5	-7.2	-15.4
GEW-151	8/26/2016 8:25	8.3	32.9	8.2	50.6	150.6		35	35	-4.9	-4.9	-16.7
GEW-152	8/12/2016 11:05	16.6	53.5	0.4	29.5	180.4		11	11	-15.6	-15.6	-16.8
GEW-152	8/12/2016 11:07	17.3	53.0	0.4	29.3	180.8		13	10	-16.1	-16.1	-15.7
GEW-152	8/26/2016 14:07	32.5	50.5	0.1	16.9	175.8		9	7	-16.5	-16.5	-17.1
GEW-152	8/26/2016 14:08	34.5	51.4	0.0	14.1	176.6		11	9	-17.0	-16.5	-17.7
GEW-153	8/12/2016 10:58	30.7	45.2	0.4	23.7	147.7		11	15	-9.8	-10.2	-15.1
GEW-153	8/12/2016 11:00	32.4	45.7	0.3	21.6	147.7		14	14	-9.8	-9.8	-15.2
GEW-153	8/26/2016 14:12	47.0	43.0	0.0	10.0	145.1		17	14	-10.1	-10.0	-18.5
GEW-153	8/26/2016 14:14	48.3	42.8	0.0	8.9	145.6		15	13	-9.9	-10.0	-16.2
GEW-154	8/12/2016 10:10	8.8	22.6	12.5	56.1	126.0		12	9	-7.3	-7.3	-16.4
GEW-154	8/12/2016 10:12	9.1	20.7	12.6	57.6	125.2		7	7	-5.6	-5.8	-15.0
GEW-154	8/25/2016 9:21	2.8	7.3	15.3	74.6	113.1		10	14	-8.2	-6.5	-15.9
GEW-154	8/25/2016 9:23	3.0	8.6	15.2	73.2	114.3		5	8	-5.5	-6.9	-16.7
GEW-155	8/12/2016 8:23	1.0	13.8	14.5	70.7	130.5		20	27	-1.8	-1.9	-13.3
GEW-155	8/12/2016 8:24	1.0	12.2	14.6	72.2	130.2		17	24	-0.9	-1.4	-7.2
GEW-155	8/25/2016 11:04	1.2	11.5	14.7	72.6	127.5		24	24	-1.4	-1.3	-13.3
GEW-155	8/25/2016 11:06	1.3	10.3	14.6	73.8	128.1		15	29	-1.3	-1.4	-12.7
GEW-156	8/12/2016 11:44	5.7	11.0	14.7	68.6	121.5		20	21	-2.2	-2.2	-16.0
GEW-156	8/12/2016 11:47	6.5	9.8	14.6	69.1	121.7		17	16	-1.6	-1.6	-16.0
GEW-156	8/26/2016 13:32	17.7	8.4	14.4	59.5	123.9		13	17	-1.3	-1.3	-17.9
GEW-156	8/26/2016 13:34	15.9	8.6	14.4	61.1	124.5		15	14	-1.3	-1.3	-17.1
GEW-157	8/12/2016 11:38	9.9	54.3	0.4	35.4	182.4		20	2	3.2	4.4	3.2
GEW-157	8/12/2016 11:39	11.2	57.1	0.4	31.3	182.4		16	16	3.8	3.4	3.5
GEW-158	8/12/2016 11:13	2.3	50.9	2.9	43.9	97.3		10	5	-12.4	-13.7	-11.9
GEW-158	8/26/2016 14:01	5.8	45.2	6.2	42.8	96.5		16	16	-13.0	-13.5	-12.6
GEW-158	8/26/2016 14:02	5.8	47.3	5.4	41.5	97.1		13	15	-12.6	-12.6	-12.2
GEW-159	8/12/2016 10:52	20.0	49.0	0.4	30.6	157.1		19	26	-12.6	-13.8	-13.2
GEW-159	8/12/2016 10:53	19.8	49.5	0.6	30.1	157.0		16	13	-12.2	-11.7	-12.6
GEW-159	8/26/2016 14:19	39.7	46.9	0.0	13.4	158.5		14	13	-12.0	-11.6	-12.2
GEW-159	8/26/2016 14:20	39.2	48.5	0.0	12.3	159.0		6	9	-12.0	-11.6	-12.1
GEW-160	8/12/2016 10:17	3.6	59.9	0.4	36.1	187.9		22	18	-12.2	-12.1	-12.3
GEW-160	8/12/2016 10:19	3.5	61.7	0.4	34.4	187.9		14	27	-11.7	-11.7	-11.8
GEW-160	8/25/2016 9:10	3.5	55.8	0.2	40.5	184.1		15	14	-10.0	-10.0	-10.9
GEW-160	8/25/2016 9:12	3.0	60.0	0.1	36.9	184.1		20	15	-9.9	-10.0	-10.2
GEW-161	8/12/2016 10:23	0.6	60.3	0.4	38.7	192.1		19	21	-6.8	-7.3	-11.6
GEW-161	8/12/2016 10:24	0.6	61.3	0.5	37.6	191.9		9	21	-2.5	1.5	-12.7
GEW-161	8/25/2016 9:15	0.4	55.3	0.4	43.9	173.8		26	17	-2.5	-4.2	-10.9
GEW-161	8/25/2016 9:17	0.4	57.0	0.9	41.7	174.1		25	22	-7.9	-8.8	-9.5
GEW-162	8/12/2016 10:03	12.2	59.0	0.7	28.1	173.1		5	10	-15.0	-15.6	-15.2
GEW-162	8/12/2016 10:04	11.4	63.4	0.6	24.6	174.1		12	13	-15.5	-15.1	-15.4
GEW-162	8/25/2016 9:28	10.1	58.5	0.6	30.8	175.7		11	8	-16.3	-16.1	-16.7
GEW-162	8/25/2016 9:30	9.9	62.1	0.5	27.5	175.7		9	16	-15.9	-15.9	-16.3

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-163	8/12/2016 8:07	9.9	52.5	2.7	34.9	172.2		35	43	-7.8	-7.8	-13.4
GEW-163	8/12/2016 8:09	9.9	55.8	2.7	31.6	172.2		26	26	-5.8	-5.8	-12.4
GEW-163	8/25/2016 11:36	6.3	39.1	8.0	46.6	174.1		29	29	-1.5	-1.5	-13.1
GEW-163	8/25/2016 11:37	6.9	37.8	7.8	47.5	174.6		31	31	-1.4	-1.4	-13.7
GEW-164	8/12/2016 7:56	3.8	67.8	0.9	27.5	91.7		13	13	-13.6	-12.8	-13.0
GEW-164	8/25/2016 13:08	1.2	57.8	1.6	39.4	115.7		26	30	-13.8	-13.8	-13.9
GEW-165	8/11/2016 14:13	2.9	67.3	0.0	29.8	191.9		51	46	-5.8	-5.8	-11.8
GEW-165	8/11/2016 14:14	2.2	68.3	0.1	29.4	191.9		45	49	-5.3	-5.3	-11.8
GEW-165	8/25/2016 13:21	1.6	61.6	0.2	36.6	192.3		28	2	-12.4	-12.0	-13.4
GEW-165	8/25/2016 13:22	1.5	64.9	0.3	33.3	192.5		17	2	-12.0	-11.9	-13.2
GEW-166	8/11/2016 11:06	16.7	51.7	2.2	29.4	166.9		18	25	-2.2	-2.2	-1.8
GEW-166	8/11/2016 11:07	17.0	48.7	2.1	32.2	166.9		26	21	-2.0	-2.0	-1.9
GEW-166	8/25/2016 13:27	9.0	55.7	0.8	34.5	188.4		26	7	-0.6	-0.4	-1.2
GEW-166	8/25/2016 13:28	10.5	54.7	0.8	34.0	188.5		10	8	-0.5	-0.5	-1.2
GEW-167	8/11/2016 10:52	6.1	39.0	4.6	50.3	177.9		6	12	-1.6	-1.6	-15.0
GEW-167	8/11/2016 10:54	6.7	40.4	4.5	48.4	178.2		46	47	-1.4	-1.4	-13.6
GEW-167	8/26/2016 8:40	5.6	34.4	6.1	53.9	160.6		46	45	-2.0	-2.0	-15.9
GEW-167	8/26/2016 8:43	5.3	36.5	5.9	52.3	162.4		62	61	-1.7	-1.7	-16.0
GEW-168	8/11/2016 9:57	0.7	53.6	0.5	45.2	186.8		22	26	-9.3	-9.2	-9.1
GEW-168	8/11/2016 9:58	0.5	59.9	0.5	39.1	186.8		13	17	-9.2	-9.3	-9.0
GEW-168	8/26/2016 8:58	2.8	59.5	0.0	37.7	182.1		20	20	-10.7	-10.7	-11.0
GEW-168	8/26/2016 9:00	2.9	61.2	0.0	35.9	182.6		32	34	-10.8	-11.0	-11.0
GEW-169	8/11/2016 9:48	7.0	52.5	3.5	37.0	185.7		58	65	-10.7	-10.7	-11.0
GEW-169	8/11/2016 9:50	6.9	54.3	3.4	35.4	185.7		37	37	-12.2	-10.7	-11.9
GEW-169	8/26/2016 9:12	5.6	49.8	4.7	39.9	182.1		61	57	-13.0	-12.9	-13.6
GEW-169	8/26/2016 9:15	5.7	50.1	4.8	39.4	182.7		57	61	-13.0	-13.0	-13.9
GEW-170	8/11/2016 8:24	8.3	48.9	5.0	37.8	160.1		28	29	-10.2	-10.2	-12.2
GEW-170	8/11/2016 8:27	8.6	48.7	5.0	37.7	160.1		27	27	-9.8	-9.7	-12.8
GEW-170	8/26/2016 10:15	8.0	48.5	4.9	38.6	159.4		74	78	-9.6	-9.5	-13.2
GEW-170	8/26/2016 10:18	8.0	48.9	4.8	38.3	159.8		65	65	-8.7	-8.8	-13.3
GEW-171	8/12/2016 14:04	7.4	57.0	0.6	35.0	185.7		6	4	-9.9	-10.2	-9.8
GEW-171	8/12/2016 14:05	7.9	62.6	1.3	28.2	186.8		4	5	-11.2	-11.2	-11.1
GEW-171	8/26/2016 11:18	13.3	60.2	0.2	26.3	189.6		16	13	-11.8	-11.3	-12.1
GEW-171	8/26/2016 11:19	16.3	60.4	0.2	23.1	189.6		25	29	-11.3	-11.3	-11.4
GEW-172	8/12/2016 14:10	5.7	52.9	0.3	41.1	187.9		23	26	-6.8	-6.8	-11.1
GEW-172	8/12/2016 14:12	6.3	56.0	0.4	37.3	187.9		26	25	-7.3	-7.3	-10.8
GEW-172	8/26/2016 11:01	7.9	55.9	0.1	36.1	188.3		86	81	-4.8	-4.8	-11.3
GEW-172	8/26/2016 11:02	8.4	55.6	0.0	36.0	188.3		85	84	-4.5	-4.5	-10.7
GEW-173	8/12/2016 13:32	3.3	14.7	13.2	68.8	108.1		48	42	-2.8	-2.8	-14.4
GEW-173	8/12/2016 13:34	3.5	9.9	13.6	73.0	108.6		51	49	-2.8	-2.8	-14.4
GEW-173	8/26/2016 10:48	3.6	11.5	13.5	71.4	106.4		57	57	-2.5	-2.6	-16.5
GEW-173	8/26/2016 10:50	3.7	11.0	13.5	71.8	106.5		46	39	-2.3	-2.3	-16.3
GEW-174	8/12/2016 13:25	9.1	40.4	3.9	46.6	168.8		78	95	-2.6	-2.8	-8.1

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Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GEW-174	8/12/2016 13:27	9.1	38.7	3.7	48.5	170.2		79	62	-2.2	-2.0	-10.7
GEW-174	8/26/2016 11:36	17.3	33.0	6.1	43.6	167.6		73	86	-2.3	-2.3	-10.7
GEW-174	8/26/2016 11:38	20.4	31.8	6.2	41.6	167.6		68	84	-2.2	-2.3	-9.6
GEW-175	8/12/2016 11:24	19.2	52.2	2.4	26.2	150.1		156	155	-11.1	-10.3	-14.0
GEW-175	8/12/2016 11:26	19.6	51.7	2.4	26.3	149.7		145	154	-10.2	-10.3	-13.4
GEW-175	8/26/2016 13:48	30.9	46.4	2.8	19.9	145.9		169	167	-10.1	-10.1	-13.4
GEW-175	8/26/2016 13:50	30.9	46.5	2.8	19.8	145.9		177	162	-10.6	-10.0	-15.2
GEW-176	8/12/2016 11:18	16.9	57.6	2.0	23.5	161.1		75	70	-11.2	-11.5	-15.5
GEW-176	8/12/2016 11:20	18.2	58.1	2.0	21.7	161.0		74	64	-10.7	-10.7	-15.7
GEW-176	8/26/2016 13:54	29.4	54.1	2.2	14.3	152.5		33	31	-10.6	-11.0	-16.2
GEW-176	8/26/2016 13:56	29.1	54.0	2.3	14.6	152.1		28	24	-10.4	-10.7	-15.7
GEW-177	8/11/2016 8:16	1.3	59.5	0.2	39.0	191.9		40	46	-8.8	-8.8	-13.5
GEW-177	8/11/2016 8:17	1.3	61.7	0.2	36.8	191.9		35	43	-8.3	-8.7	-12.2
GEW-177	8/26/2016 10:39	1.1	59.3	0.1	39.5	189.6		47	36	-9.0	-8.9	-14.5
GEW-177	8/26/2016 10:41	1.6	60.0	0.1	38.3	189.6		20	33	-9.4	-8.9	-13.1
GEW-1A	8/3/2016 9:34	13.9	11.8	15.4	58.9	80.2		3	10	0.3	0.0	0.7
GEW-1A	8/3/2016 9:35	23.3	15.8	12.6	48.3	81.0		7	8	0.0	-0.3	0.2
GEW-1A	8/9/2016 16:41	0.9	6.3	19.7	73.1	99.2		7	5	-8.2	-8.1	-12.1
GEW-1A	8/9/2016 16:42	2.0	1.8	19.6	76.6	100.9		4	3	-10.2	-10.1	-11.7
GEW-1A	8/15/2016 11:14	1.5	6.7	21.0	70.8	80.3		8	9	-9.6	-10.7	-12.7
GEW-1A	8/15/2016 11:16	16.7	9.6	15.7	58.0	80.9		1	4	-11.9	-11.6	-12.7
GEW-1A	8/24/2016 13:46	3.2	3.6	18.9	74.3	102.1		2	3	-9.7	-9.7	-11.1
GEW-1A	8/24/2016 13:51	22.7	14.8	12.4	50.1	106.3		2	2	-11.7	-11.6	-11.2
GEW-1A	8/29/2016 8:31	7.6	4.0	19.1	69.3	91.1		2	2	-11.8	-11.8	-12.2
GEW-1A	8/29/2016 8:33	6.9	3.6	19.2	70.3	90.9		2	1	-12.1	-12.1	-11.8
GEW-1A	8/30/2016 9:50	0.3	0.5	21.5	77.7	95.6		2	2	-8.3	-8.3	-11.3
GEW-1A	8/30/2016 9:51	3.4	0.8	20.5	75.3	95.6		1	1	-9.8	-9.8	-11.6
GEW-2S	8/3/2016 16:29	57.9	37.8	0.1	4.2	99.4		10	13	-4.0	-3.9	-8.2
GEW-2S	8/9/2016 16:48	56.0	37.9	0.4	5.7	101.8		10	21	-7.8	-7.8	-11.7
GEW-2S	8/15/2016 11:21	57.2	39.1	0.1	3.6	82.3		18	7	1.6	1.6	-8.8
GEW-2S	8/15/2016 11:23	56.2	39.6	0.1	4.1	83.6		12	9	-3.3	-3.2	-7.4
GEW-2S	8/24/2016 13:59	58.7	37.8	0.2	3.3	109.6		3	7	-1.6	-1.6	-6.7
GEW-2S	8/30/2016 9:54	58.8	37.4	0.1	3.7	108.3		4	4	-0.1	-0.1	-10.4
GIW-01	8/1/2016 13:53	0.6	27.4	14.6	57.4	149.3		19	0	-16.6	-17.3	-16.2
GIW-01	8/1/2016 13:55	0.6	26.7	14.3	58.4	148.5		22	32	-8.2	-8.5	-17.5
GIW-01	8/8/2016 9:13	0.9	32.2	12.8	54.1	152.9		23	18	-5.0	-5.0	-12.9
GIW-01	8/8/2016 9:14	1.0	31.7	12.7	54.6	152.1		26	30	-5.0	-5.5	-13.4
GIW-01	8/10/2016 9:12	1.0	33.5	12.4	53.1	158.3		36	29	-5.3	-5.3	-16.7
GIW-01	8/10/2016 9:25	1.2	33.6	12.3	52.9	158.8		0	20	-5.3	-5.3	-16.3
GIW-01	8/16/2016 8:40	0.7	27.0	14.7	57.6	139.8		22	23	-6.6	-6.8	-17.2
GIW-01	8/16/2016 8:42	0.9	33.8	12.1	53.2	140.4		26	26	-1.9	-1.9	-17.2
GIW-01	8/22/2016 9:36	1.4	43.3	7.6	47.7	152.1		30	30	-0.9	-1.1	-16.9
GIW-01	8/22/2016 9:38	1.4	44.4	7.6	46.6	151.3		0	0	-0.7	-1.1	-17.8

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GIW-02	8/1/2016 13:48	7.3	41.5	8.1	43.1	94.2		5	3	-0.4	-0.4	-16.9
GIW-02	8/1/2016 13:49	7.5	41.0	8.0	43.5	94.2		3	3	-0.4	-0.4	-17.9
GIW-02	8/8/2016 9:05	7.4	36.2	10.2	46.2	85.1		3	3	-0.5	-0.5	-17.3
GIW-02	8/8/2016 9:07	7.4	35.8	10.3	46.5	85.4		2	4	-0.5	-0.5	-17.3
GIW-02	8/10/2016 8:57	7.5	38.2	9.6	44.7	98.3		2	5	-0.4	-0.4	-16.8
GIW-02	8/10/2016 9:04	7.6	38.9	9.3	44.2	99.4		5	2	-0.4	-0.4	-16.7
GIW-02	8/16/2016 8:35	5.3	35.2	11.4	48.1	78.3		6	3	-0.5	-0.5	-16.8
GIW-02	8/16/2016 8:37	5.4	34.2	11.5	48.9	78.5		3	3	-0.5	-0.5	-17.8
GIW-02	8/22/2016 9:30	6.4	36.1	10.4	47.1	89.6		6	6	-0.4	-0.4	-16.3
GIW-02	8/22/2016 9:31	6.7	33.8	10.6	48.9	90.3		2	3	-0.4	-0.4	-17.0
GIW-02	8/29/2016 10:26	6.8	36.5	10.3	46.4	100.6		3	4	-0.4	-0.4	-16.8
GIW-02	8/29/2016 10:27	7.2	34.6	10.4	47.8	100.6		3	0	-0.4	-0.4	-16.8
GIW-03	8/1/2016 13:45	0.8	52.4	4.2	42.6	95.4		4	4	-3.7	-3.7	-12.6
GIW-03	8/8/2016 8:53	0.6	59.1	2.2	38.1	83.5		4	3	-0.8	-0.7	-12.5
GIW-03	8/8/2016 9:01	0.1	54.9	1.8	43.2	84.7		2	6	-0.5	-0.6	-12.9
GIW-03	8/16/2016 8:28	0.7	66.9	0.1	32.3	77.8		3	3	0.4	0.4	-13.9
GIW-03	8/16/2016 8:31	0.7	68.9	0.2	30.2	78.0		3	3	-0.8	-0.8	-12.8
GIW-03	8/22/2016 9:23	1.0	53.3	4.2	41.5	83.0		5	5	-2.4	-2.4	-10.4
GIW-03	8/22/2016 9:26	0.9	57.7	2.7	38.7	83.0		1	1	-0.7	-0.7	-10.7
GIW-03	8/29/2016 10:20	0.7	70.4	0.5	28.4	97.3		3	6	1.1	1.1	-10.5
GIW-03	8/29/2016 10:22	0.7	69.9	0.8	28.6	97.9		3	5	-0.6	-0.5	-10.2
GIW-04	8/1/2016 13:42	0.7	55.4	0.2	43.7	94.8		4	6	-10.5	-10.5	-14.3
GIW-04	8/8/2016 8:42	0.7	58.1	0.4	40.8	84.9		2	5	-9.7	-9.5	-12.4
GIW-04	8/8/2016 8:48	1.0	54.8	0.4	43.8	86.3		4	6	-9.8	-9.8	-13.0
GIW-04	8/16/2016 8:26	0.9	60.9	0.1	38.1	77.4		6	5	-10.3	-10.3	-13.0
GIW-04	8/22/2016 9:18	0.9	57.1	0.5	41.5	91.7		7	6	-8.3	-8.3	-11.1
GIW-04	8/29/2016 10:16	1.2	61.2	0.5	37.1	101.9		8	5	-8.2	-8.2	-10.3
GIW-05	8/1/2016 11:36	2.7	59.0	0.5	37.8	89.7		3	7	-5.4	-5.4	-12.9
GIW-05	8/8/2016 8:28	2.8	54.7	1.4	41.1	79.8		8	8	-5.8	-5.8	-13.8
GIW-05	8/8/2016 8:36	2.9	55.4	0.8	40.9	80.4		8	6	-5.7	-5.7	-13.6
GIW-05	8/16/2016 8:22	3.5	58.4	1.0	37.1	77.7		10	10	-5.9	-5.9	-13.6
GIW-05	8/22/2016 9:10	2.2	56.2	1.1	40.5	89.2		8	7	-4.4	-4.4	-10.5
GIW-05	8/22/2016 9:13	2.0	56.4	1.1	40.5	90.0		7	7	-2.8	-2.8	-10.8
GIW-05	8/29/2016 10:13	2.0	56.8	1.8	39.4	97.3		10	10	-2.5	-2.4	-9.0
GIW-06	8/1/2016 11:33	3.4	55.3	0.4	40.9	90.1		15	16	-13.3	-14.8	-12.6
GIW-06	8/8/2016 10:43	4.2	52.1	0.7	43.0	100.7		10	5	-13.2	-12.9	-13.3
GIW-06	8/8/2016 10:50	4.3	51.1	0.8	43.8	100.1		7	6	-12.1	-12.3	-11.9
GIW-06	8/15/2016 14:28	4.0	51.0	0.4	44.6	84.7		9	5	-13.5	-14.0	-13.7
GIW-06	8/22/2016 8:07	4.5	49.3	0.4	45.8	83.8		4	4	-11.7	-11.2	-11.4
GIW-06	8/29/2016 9:17	5.4	52.9	0.5	41.2	96.4		13	9	-10.7	-10.2	-10.1
GIW-07	8/1/2016 11:28	6.1	39.1	11.1	43.7	89.7		4	3	-3.5	-3.5	-12.6
GIW-07	8/1/2016 11:29	7.7	42.3	9.7	40.3	90.3		3	1	-3.5	-3.5	-12.8
GIW-07	8/8/2016 10:56	10.6	44.0	8.5	36.9	100.4		2	3	-3.7	-3.6	-12.1

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GIW-07	8/8/2016 10:58	10.6	43.2	8.6	37.6	99.4		1	2	-3.6	-3.6	-11.8
GIW-07	8/10/2016 8:22	9.3	47.5	8.1	35.1	96.9		2	2	-3.6	-3.6	-12.7
GIW-07	8/10/2016 8:30	6.2	29.1	12.8	51.9	97.9		3	2	-3.5	-3.5	-12.0
GIW-07	8/15/2016 14:19	4.9	33.5	11.3	50.3	84.0		1	2	-2.7	-2.7	-14.1
GIW-07	8/15/2016 14:23	5.4	37.3	10.6	46.7	83.8		2	2	-2.4	-2.4	-13.6
GIW-07	8/22/2016 8:12	1.0	8.4	18.7	71.9	91.1		3	3	-2.5	-2.5	-11.5
GIW-07	8/22/2016 8:13	1.2	10.1	18.1	70.6	92.1		1	1	-2.6	-2.6	-11.1
GIW-07	8/29/2016 9:19	0.7	9.8	19.2	70.3	98.5		2	1	-2.4	-2.4	-10.1
GIW-07	8/29/2016 9:21	1.0	7.9	19.0	72.1	99.8		1	0	-2.5	-2.5	-10.2
GIW-08	8/1/2016 11:19	15.1	56.9	0.0	28.0	91.0		5	3	-8.9	-8.4	-13.3
GIW-08	8/8/2016 11:02	17.3	55.6	0.2	26.9	98.9		2	4	-7.8	-7.9	-13.7
GIW-08	8/8/2016 11:07	16.7	51.9	0.2	31.2	99.4		4	4	-8.3	-8.3	-11.8
GIW-08	8/15/2016 14:13	16.0	55.7	0.2	28.1	84.9		8	4	-9.1	-9.1	-14.9
GIW-08	8/15/2016 14:15	16.2	54.5	0.2	29.1	85.3		4	2	-7.2	-7.2	-13.7
GIW-08	8/22/2016 8:18	17.0	55.1	0.1	27.8	88.4		3	2	-5.9	-5.8	-11.4
GIW-08	8/29/2016 9:24	17.3	59.3	0.2	23.2	96.1		2	5	-5.3	-5.3	-9.6
GIW-09	8/1/2016 11:13	3.5	32.1	5.6	58.8	90.6		NFD		-5.0	-5.0	-12.8
GIW-09	8/1/2016 11:14	3.4	33.2	5.6	57.8	90.5		NFD		-5.0	-5.0	-13.6
GIW-09	8/8/2016 11:21	3.2	28.3	5.3	63.2	94.4		NFD		-5.0	-5.0	-14.1
GIW-09	8/8/2016 11:27	3.3	24.8	5.4	66.5	95.0		NFD		-4.9	-4.9	-14.1
GIW-09	8/15/2016 13:48	3.8	22.5	5.5	68.2	85.1		NFD		-5.7	-5.7	-13.5
GIW-09	8/15/2016 13:49	3.9	22.8	5.3	68.0	84.7		NFD		-5.7	-5.7	-13.9
GIW-09	8/22/2016 8:34	1.9	18.0	11.3	68.8	88.8		NFD		-4.7	-4.7	-10.8
GIW-09	8/22/2016 8:36	2.0	15.9	11.5	70.6	89.0		NFD		-4.8	-4.8	-11.3
GIW-09	8/29/2016 9:37	2.8	20.2	9.3	67.7	96.2		NFD		-4.6	-4.6	-9.3
GIW-09	8/29/2016 9:39	2.6	18.5	9.4	69.5	96.4		NFD		-4.6	-4.7	-10.4
GIW-10	8/1/2016 13:40	0.8	50.7	0.0	48.5	96.1		4	4	-1.4	-1.4	-16.4
GIW-10	8/8/2016 10:09	0.9	55.0	0.1	44.0	101.1		1	1	-1.6	-1.6	-13.8
GIW-10	8/8/2016 10:14	0.6	41.5	0.1	57.8	100.8		2	3	-1.5	-1.5	-12.9
GIW-10	8/16/2016 9:02	0.8	57.4	0.1	41.7	79.7		3	3	-1.7	-1.7	-13.3
GIW-10	8/22/2016 10:10	1.0	56.5	0.1	42.4	88.6		3	1	-1.3	-1.3	-11.0
GIW-10	8/29/2016 10:40	1.4	58.6	0.4	39.6	102.8		2	2	-1.2	-1.2	-10.5
GIW-11	8/1/2016 14:10	6.9	54.9	1.6	36.6	93.2		NFD		-1.5	-1.5	-18.5
GIW-11	8/8/2016 9:59	7.3	55.0	1.7	36.0	93.1		NFD		-1.6	-1.5	-17.6
GIW-11	8/8/2016 10:05	6.1	54.4	1.6	37.9	101.0		NFD		-1.5	-1.5	-18.6
GIW-11	8/16/2016 8:58	6.8	57.0	1.9	34.3	79.9		NFD		-1.8	-1.8	-17.2
GIW-11	8/22/2016 10:06	7.3	55.7	1.2	35.8	86.8		NFD		-1.4	-1.4	-16.8
GIW-11	8/29/2016 10:37	7.3	62.2	1.4	29.1	98.1		NFD		-1.3	-1.4	-17.2
GIW-12	8/1/2016 14:05	5.6	33.6	8.1	52.7	93.6		NFD		-0.4	-0.4	-15.5
GIW-12	8/1/2016 14:07	5.4	33.9	8.1	52.6	93.6		NFD		-0.4	-0.4	-13.9
GIW-12	8/8/2016 9:49	6.8	35.6	7.5	50.1	98.0		NFD		-0.4	-0.4	-15.2
GIW-12	8/8/2016 9:55	7.3	32.1	7.6	53.0	97.5		NFD		-0.4	-0.4	-16.7
GIW-12	8/16/2016 8:54	5.6	34.0	9.3	51.1	79.0		NFD		-0.5	-0.5	-16.8

August 2016 Wellfield Monitoring Data - Bridgeton Landfill

Well Name	Date Sampled	Methane	CO_2	O_2	Balance Gas	Init Temp	Adj Temp	Init Flow	Adj Flow	Init Static Press	Adj Static Press	System Pressure
		(% vol)				°F		scfm		H_2O		
GIW-12	8/16/2016 8:55	5.7	32.7	9.4	52.2	79.1		NFD		-0.5	-0.5	-16.7
GIW-12	8/22/2016 10:00	13.6	39.8	5.0	41.6	83.5		NFD		-0.3	-0.3	-16.2
GIW-12	8/22/2016 10:02	12.3	41.7	5.0	41.0	83.6		NFD		-0.3	-0.3	-14.9
GIW-12	8/29/2016 10:32	13.1	45.8	5.7	35.4	97.3		NFD		-0.3	-0.3	-12.7
GIW-12	8/29/2016 10:34	13.4	45.2	5.8	35.6	97.6		NFD		-0.3	-0.3	-15.5
GIW-13	8/1/2016 13:58	10.7	25.8	0.1	63.4	94.0		NFD		-2.4	-2.4	-8.1
GIW-13	8/8/2016 9:37	11.5	60.9	0.1	27.5	87.2		NFD		-2.9	-2.9	-9.4
GIW-13	8/8/2016 9:43	10.8	58.1	0.1	31.0	89.7		NFD		-2.9	-2.9	-8.3
GIW-13	8/16/2016 8:50	10.9	64.5	0.2	24.4	78.6		NFD		-2.8	-2.8	-8.0
GIW-13	8/22/2016 9:43	13.5	57.2	0.2	29.1	88.6		NFD		-2.5	-2.5	-7.5
GIW-13	8/29/2016 10:30	14.7	59.3	0.5	25.5	99.6		NFD		-2.8	-2.8	-7.9
LCS-5A	8/3/2016 11:30	56.3	41.7	0.2	1.8	94.6		NFD		-11.7	-11.8	-11.6
LCS-5A	8/10/2016 9:16	58.0	39.9	0.1	2.0	95.6		NFD		-11.3	-11.4	-11.8
LCS-5A	8/15/2016 9:58	56.4	38.8	0.5	4.3	94.4		NFD		-12.3	-11.8	-11.9
LCS-5A	8/24/2016 14:58	57.2	41.0	0.3	1.5	96.2		NFD		-11.2	-11.7	-11.1
LCS-5A	8/30/2016 9:02	57.2	40.2	0.1	2.5	96.1		NFD		-10.9	-11.3	-10.7
LCS-6B	8/3/2016 9:52	53.6	41.5	0.1	4.8	93.9		5	5	-0.8	-0.8	-12.5
LCS-6B	8/9/2016 17:00	53.7	40.1	0.0	6.2	100.6		0	5	-0.9	-0.9	-12.1
LCS-6B	8/15/2016 9:17	52.7	39.8	0.0	7.5	84.7		6	6	-1.2	-1.2	-11.9
LCS-6B	8/24/2016 14:22	49.2	39.2	0.3	11.3	105.7		10	11	-1.6	-1.6	-11.2
LCS-6B	8/30/2016 8:32	51.6	40.4	0.3	7.7	114.5		8	6	-1.8	-1.8	-12.1
LCS-6B	8/30/2016 8:33	51.4	41.4	0.2	7.0	114.5		9	8	-1.2	-1.2	-12.1
PGW-60	8/3/2016 16:24	58.6	38.4	0.0	3.0	89.9		52	52	-8.2	-9.2	-7.3
PGW-60	8/15/2016 11:27	57.8	38.8	0.0	3.4	85.5		17	23	-8.5	-9.7	-8.8
PGW-60	8/30/2016 9:58	56.0	40.6	0.2	3.2	96.0		0	0	-7.8	-9.3	-7.9
SEW-002	8/22/2016 11:30	0.2	7.4	18.5	73.9	98.4		7	7	-10.7	-10.9	-9.9
SEW-002	8/22/2016 11:32	0.2	6.6	18.2	75.0	100.0		7	7	-11.7	-11.7	-13.4
T-56	8/3/2016 11:00	59.1	38.5	0.2	2.2	81.9		10	11	0.0	0.0	-12.2
T-56	8/3/2016 11:03	59.4	37.8	0.2	2.6	82.3		13	12	0.0	0.0	-12.1
T-56	8/15/2016 9:42	56.5	37.5	0.0	6.0	79.3		14	13	0.0	0.0	-12.4
T-56	8/15/2016 9:44	56.8	37.4	0.0	5.8	79.8		15	15	0.0	0.0	-12.1
T-56	8/30/2016 8:52	43.7	34.3	0.6	21.4	84.9		13	14	-0.1	-0.1	-11.5

Notes: NFD = No flow device installed

The remaining locations that do not have flow data do have flow monitoring devices, but the location data file in the Envision meter was marked as not having a flow meter. This has been corrected for the next monitoring event.

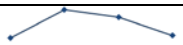
ATTACHMENT E-2

MAXIMUM WELLHEAD TEMPERATURE TABLE

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	May 2016	June 2016	July 2016	August 2016		
GEW-001	--	--	--	--		
GEW-002	128.1	127.8	123.9	124.5		
GEW-003	117.3	117.3	117.9	118.9		
GEW-004	122.0	122.6	121.8	121.3		
GEW-005	95.0	98.7	96.7	97.8		
GEW-006	90.8	93.9	91.5	92.1		
GEW-007	97.1	103.4	101.5	101.4		
GEW-008	114.3	114.9	114.8	114.8		
GEW-009	128.6	125.8	125.9	126.7		
GEW-010	98.9	97.5	107.9	109.9		
GEW-011	--	--	--	--		
GEW-013A	156.6	165.5	146.6	147		
GEW-014A	--	--	--	--		
GEW-015	--	--	--	--		
GEW-016R	--	--	--	--		
GEW-018B	--	--	--	--		
GEW-018R	--	--	--	--		
GEW-019A	--	--	--	--		
GEW-020A	--	--	--	--		
GEW-021A	--	--	--	--		
GEW-022R	190.2	193.7	--	185.7		
GEW-023A	--	--	--	--		
GEW-024A	--	--	--	--		
GEW-025A	--	--	--	--		
GEW-026R	--	--	--	--		
GEW-027A	--	--	--	--		
GEW-028R	83.4	84.0	96.5	95.8		
GEW-029	--	--	--	--		
GEW-030R	--	--	--	--		
GEW-033R	--	--	--	--		
GEW-034	--	--	--	--		
GEW-034A	--	--	--	--		
GEW-035	--	--	--	--		
GEW-036	--	--	--	--		
GEW-037	--	--	--	--		
GEW-038	105.2	110.6	103.9	98.1		
GEW-039	134.4	136.0	133.1	134.7		
GEW-040	91.7	97.1	98.9	96.4		
GEW-041R	107.1	108.0	107.6	107		
GEW-042R	113.7	114.8	112.8	115.5		
GEW-043R	131.0	124.5	124.1	129.1		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	May 2016	June 2016	July 2016	August 2016		
GEW-044	90.4	97.2	96.5	93.9		
GEW-045R	91.3	105.2	102.9	100.7		
GEW-046R	100.4	102.2	101.1	101.8		
GEW-047R	114.8	118.1	115.9	115.6		
GEW-048	105.5	107.5	106.5	106.5		
GEW-049	113.8	115.0	111.7	112.5		
GEW-050	107.3	110.3	109.5	109.2		
GEW-051	129.8	131.4	128.4	128.9		
GEW-052	117.1	117.0	116.3	116		
GEW-053	142.0	143.0	142.2	142.9		
GEW-054	155.0	154.0	148.6	147.3		
GEW-055	130.0	130.0	129.1	128.9		
GEW-056R	156.5	155.5	164.6	163.6		
GEW-057B	89.3	145.2	130.3	93.9		
GEW-057R	133.7	131.2	125	119		
GEW-058	179.8	148.0	186.4	152.9		
GEW-058A	79.2	99.8	148.8	122.4		
GEW-059R	189.6	192.9	189.2	182.1		
GEW-061B	--	--	--	--		
GEW-064A	--	--	--	--		
GEW-065A	81.9	98.4	103.7	--		
GEW-066	--	--	--	--		
GEW-067A	179.7	193.7	157.0	136.6		
GEW-068A	--	--	--	--		
GEW-069R	--	--	--	--		
GEW-070R	--	--	--	--		
GEW-071	--	--	--	--		
GEW-071B	--	--	--	--		
GEW-072RR	--	--	--	--		
GEW-073R	--	--	--	--		
GEW-075	--	--	--	--		
GEW-076R	--	--	--	--		
GEW-077	111.6	120.7	198.9	192.9		
GEW-078R	191.6	190.2	188.5	180.9		
GEW-080	95.0	82.3	98.5	96.2		
GEW-081	125.8	87.6	--	--		
GEW-082R	192.1	191.6	192.3	184.5		
GEW-083	--	--	--	--		
GEW-084	--	--	--	--		
GEW-085	--	--	--	--		
GEW-086	64.6	96.2	102.5	82.5		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	May 2016	June 2016	July 2016	August 2016		
GEW-087	--	--	--	--		
GEW-088	--	--	--	--		
GEW-089	71.7	99.2	109.5	85.3		
GEW-090	183.0	189.6	183.3	175.8		
GEW-091	--	--	--	195		
GEW-100	--	--	--	--		
GEW-101	--	--	--	--		
GEW-102	192.5	192.3	125.4	97.7		
GEW-103	--	--	--	--		
GEW-104	110.0	104.5	112.5	95.6		
GEW-105	69.6	178.7	--	--		
GEW-106	--	--	--	--		
GEW-107	77.8	92.3	--	--		
GEW-108	78.5	92.8	110.4	81.5		
GEW-109	103.8	111.8	110.9	137.3		
GEW-110	108.2	111.7	113.7	113.0		
GEW-112	75.5	93.6	110.4	91.5		
GEW-113	184.7	171.6	173.6	172.6		
GEW-116	71.4	90.8	--	--		
GEW-117	87.0	95.3	119.7	98.7		
GEW-118	194.8	200.1	195	188.3		
GEW-120	160.6	146.5	152.1	152.5		
GEW-121	197.9	184.6	180.8	175.7		
GEW-122	168.8	180.4	188.8	192.5		
GEW-123	187.9	187.9	185.2	186.3		
GEW-124	88.1	98.9	92.4	107.4		
GEW-125	190.5	196.0	191.3	192.6		
GEW-126	186.7	185.2	154.5	184.7		
GEW-127	184.1	189.0	187.9	188.5		
GEW-128	177.2	174.8	172.2	167.1		
GEW-129	176.7	104.7	147.4	178		
GEW-130	193.7	179.2	176.2	170.8		
GEW-131	181.9	187.7	110.2	111.6		
GEW-132	169.7	166.9	166.1	167.3		
GEW-133	98.3	98.1	96.9	99.4		
GEW-134	135.6	139.8	150.5	147.8		
GEW-135	166.4	176.4	175.7	99.0		
GEW-136	120.2	126.9	121.3	124.2		
GEW-137	103.3	107.5	87	94		
GEW-138	137.3	150.5	153.8	154.9		
GEW-139	185.2	180.8	179.3	178.3		

Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	May 2016	June 2016	July 2016	August 2016		
GEW-140	163.6	176.2	167.6	147.0		
GEW-141	104.3	152.1	119.7	185.7		
GEW-142	94.6	97.9	95.3	175.2		
GEW-143	91.1	104.0	92.7	103.2		
GEW-144	102.8	94.4	91.7	99.2		
GEW-145	163.6	166.1	97.7	136.8		
GEW-146	94.1	104.7	100.4	106.7		
GEW-147	189.6	190.2	187.4	186.8		
GEW-148	92.5	99.0	79.5	100.2		
GEW-149	167.4	167.2	141.8	144.7		
GEW-150	159.2	150.3	156.9	166.9		
GEW-151	93.1	157.1	147	150.6		
GEW-152	167.8	182.9	183.9	180.8		
GEW-153	157.9	155.6	143.6	147.7		
GEW-154	151.0	186.4	79.1	126		
GEW-155	185.1	127.8	124.9	130.5		
GEW-156	122.1	124.8	115.0	124.5		
GEW-157	93.6	164.3	178.6	182.4		
GEW-158	88.6	91.4	96.2	97.3		
GEW-159	154.1	154.3	150.4	159		
GEW-160	186.3	171.1	139.0	187.9		
GEW-161	96.7	109.7	155.4	192.1		
GEW-162	94.8	179.8	79.5	175.7		
GEW-163	170.0	169.9	173.4	174.6		
GEW-164	171.6	161.4	100.0	115.7		
GEW-165	191.6	195.7	192.6	192.5		
GEW-166	174.7	188.5	175.2	188.5		
GEW-167	179.8	180.3	178.2	178.2		
GEW-168	157.0	190.8	184.1	186.8		
GEW-169	191.4	193.6	183.5	185.7		
GEW-170	185.8	180.6	172.1	160.1		
GEW-171	100.4	187.4	176.7	189.6		
GEW-172	119.9	192.3	185.1	188.3		
GEW-173	102.6	106.1	120.2	108.6		
GEW-174	174.6	173.1	156.9	170.2		
GEW-175	127.8	163.3	139.6	150.1		
GEW-176	89.5	120.2	169.5	161.1		
GEW-177	--	--	193.7	191.9		
GEW-1A	95.9	113.5	109.5	106.3		
GEW-2S	99.9	108.0	115.8	109.6		
GIW-01	184.6	171.6	168.8	158.8		

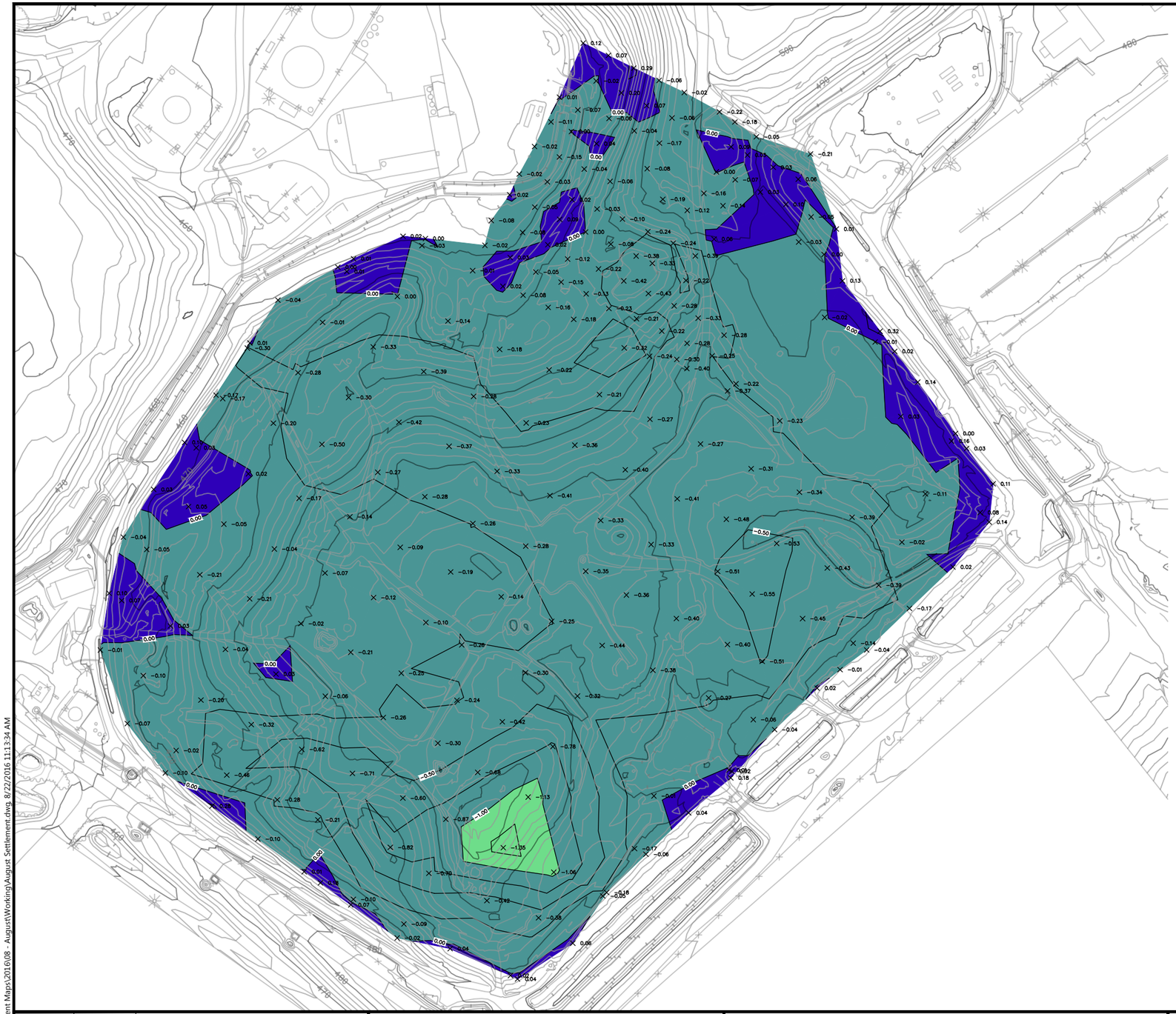
Wellfield Temperature - Bridgeton Landfill

Well Name	Maximum Initial Temperature From All Monthly Wellhead Readings (in °F)				Temp Trend ><30°F	Comments
	May 2016	June 2016	July 2016	August 2016		
GIW-02	98.4	103.8	100.2	100.6		
GIW-03	94.6	101.0	96.9	97.9		
GIW-04	99.1	106.5	96.6	101.9		
GIW-05	96.0	105.5	95.8	97.3		
GIW-06	99.7	103.5	91.5	100.7		
GIW-07	97.9	107.7	98.6	100.4		
GIW-08	101.8	108.2	92.9	99.4		
GIW-09	106.6	103.8	91.7	96.4		
GIW-10	101.3	106.9	100.8	102.8		
GIW-11	107.7	104.7	98.9	101		
GIW-12	99.4	101.1	98.1	98		
GIW-13	96.7	106.2	98.1	99.6		
LCS-1D	--	--	--	--		
LCS-2D	--	--	--	--		
LCS-3C	--	--	--	--		
LCS-4B	--	--	--	--		
LCS-5A	95.8	98.7	95.5	96.2		
LCS-6B	96.7	110.2	106.7	114.5		
PGW-60	88.6	78.0	86.7	96		
SEW-002	74.3	93.2	97.1	100		
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	70.0	72.3	81.7	84.9		

-- = Indicates no data available.

ATTACHMENT F

SETTLEMENT FRONT MAP



NOTES

1. EXISTING CONTOURS DEVELOPED FROM SITE AERIAL TOPOGRAPHIC SURVEY BY COOPER AERIAL SURVEYS, CO. ON FEBRUARY 27, 2016.
2. FOR CLARITY, NOT ALL SITE FEATURES MAY BE SHOWN.
3. ELEVATION DIFFERENCE DETERMINED BY SUBTRACTING SPOT ELEVATIONS SURVEYED ON 7-15-16 FROM SPOT ELEVATIONS SURVEYED ON 8-15-16.
4. SURVEY POINTS WERE PERFORMED USING GPS METHODS.
5. SETTLEMENT RANGE SURFACE WAS GENERATED FROM THE SPOT ELEVATION DIFFERENCES.
6. ELEVATION DIFFERENCES THAT ARE SHOWN AS NEGATIVE INDICATE SPOTS OF SETTLEMENT.
7. ANY POINTS THAT ARE NOT A GROUND-TO-GROUND COMPARISON TO THE PREVIOUS MONTH'S POINTS, OR THAT WERE NOT SURVEYED IN THE SAME LOCATION AS THE PREVIOUS MONTH ARE NOT INCLUDED AND WERE NOT USED IN ANY SURFACE GENERATION.

LEGEND

× −0.42	SPOT ELEVATION DIFFERENCE (8-15-16 TO 7-15-16)
———	MINOR ELEVATION CHANGE CONTOUR (0.25 FEET)
———−0.50———	MAJOR ELEVATION CHANGE CONTOUR (0.50 FEET)
———8−15———	SETTLEMENT FRONT CONTOUR FOR AREA WITH 1.35' PER 30 DAYS FOR CURRENT PERIOD OF DAYS (AREA REPRESENTS 1.395' OVER 31 DAYS BASED ON CONVERSION)

ELEVATION CHANGE (FEET)				
Number	Minimum Elev. Change	Maximum Elev. Change	Area (sq.ft.)	Color
1	−5.00	−4.00	0.00	
2	−4.00	−3.00	0.00	
3	−3.00	−2.00	0.00	
4	−2.00	−1.00	19422.89	
5	−1.00	0.00	1386570.90	
6	0.00	1.00	135656.94	

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

SETTLEMENT MAP
JULY 15, 2016 THROUGH AUGUST 15, 2016

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

T:\AutoCAD\Projects\Bridgeton LF\Settlement Maps\2016\08 - August\Working\August Settlement.dwg, 8/22/2016 11:13:34 AM

ATTACHMENT G

SUMMARY OF ODOR COMPLAINTS

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

Name: N/A

Message: Odor logged August 2, 2016, at 8:13 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor at observation points between this location and the Bridgeton Landfill. A distinct garbage/fecal odor was observed at this location within an hour of the time cited of this concern. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 2, 2016, at 8:23 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. A distinct garbage/fecal odor was observed at this location within an hour of the time cited of this concern. This was not a Bridgeton Landfill odor.

Name: Steve Engelhardt

Message: Odor logged August 2, 2016, at 9:34 pm strength of 10

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

Name: N/A

Message: Odor logged August 3, 2016, at 7:38 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. A very weak musty/mulch odor was observed at this location within an hour of the time cited in this concern. The concern location cited was directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Meghan Cousino

Message: Odor logged August 3, 2016, at 6:32 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 16 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: James Reilly

Message: Odor logged August 5, 2016, at 9:28 am strength of 7

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

Name: Kirbi Pemberton

Message: Odor logged August 5, 2016, at 9:17 pm strength of 7

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

Name: Jay Black

Message: Odor logged August 5, 2016, at 10:46 pm strength of 10

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

Name: Donna Sparks

Message: Odor logged August 5, 2016, at 11:22 pm strength of 7

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

Name: Greg and Ellen Wortham

Message: Odor logged August 6, 2016, at 11:35 pm strength of 4

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

Name: Kevin R. Toal

Message: Odor logged August 5, 2016, at 9:24 pm strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported 2 days after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. The concern location provided is in close proximity to another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kevin R. Toal

Message: Odor logged August 6, 2016, at 11:15 pm strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 23 hours after the observation time so real time follow-up was not possible. The concern location provided was directly downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Tom Hrener

Message: Odor logged August 9, 2016, at 7:40 am strength of 10

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

Name: N/A

Message: Odor logged August 9, 2016, at 6:35 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 6 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of an east southeast origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 11, 2016, at 7:50 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 6 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 9, 2016, at 7:41 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported 2 days after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 12, 2016, at 5:20 pm strength of 8

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

Name: Whitney Raidt

Message: Odor logged August 1, 2016, at 8:30 am strength of 2

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported 11 days after the observation time so real time follow-up was not possible. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged August 13, 2016, at 10:38 am strength of 8

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

Name: Matt Thudium

Message: Odor logged August 15, 2016, at 7:08 am strength of 10

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

Name: N/A

Message: Odor logged August 15, 2016, at 6:00 pm strength of 10

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

Name: N/A

Message: Odor logged August 16, 2016, at 7:15 am strength of 8

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

Name: David Kraft

Message: Odor logged August 16, 2016, at 5:4 am strength of 7

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

Name: N/A

Message: Odor logged August 17, 2016, at 6:45 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. The concern location provided was directly downwind of another known odor source with frequent off-site odor emissions. Odor from another off-site source with frequent off-site emissions was observed at Bridgeton Landfill approximately 1 hour prior to the time provided in this complaint. Another unknown odor source was observed in the vicinity of the location provided in this concern. This was not a Bridgeton Landfill odor.

Name: Theresa Thirion

Message: Odor logged August 17, 2016, at 6:39 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An odor patrol performed within an hour of the time cited in this concern did not observe Bridgeton Landfill odor. The concern location provided was directly downwind of another known odor source with frequent off-site odor emissions. Odor from another off-site source with frequent off-site emissions was observed at Bridgeton Landfill prior to the time provided in this complaint. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 18, 2016, at 1:00 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 of this concern. The concern location provided was directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 19, 2016, at 6:40 am strength of 9

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

Name: Kathy Baumann

Message: Odor logged August 20, 2016, at 7:30 pm strength of 7

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

Name: Lisa Sutkus

Message: Odor logged August 20, 2016, at 11:15 pm strength of 4

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

Name: Christen Commuso

Message: Odor logged August 20, 2016, at 10:15 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over an hour after the observation time so real time follow-up was not possible. Bridgeton Landfill staff followed up on multiple odor concerns between this location and the Bridgeton Landfill within an hour of the time cited in in this concern. Odor from another known odor source with frequent off-site odor emissions was observed at one of the other odor concern investigation locations. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. This was not a Bridgeton Landfill odor.

Name: Christen Commuso

Message: Odor logged August 20, 2016, at 11:00 pm strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A cooked food odor was the only odor observed at this location within an hour of the time cited in this concern. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. This was not a Bridgeton Landfill odor.

Name: Emily Jacobi

Message: Odor logged August 21, 2016, at 7:37 am strength of 4

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

Name: Kathy Baumann

Message: Odor logged August 21, 2016, at 7:00 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a west northwest origin placing this location downwind of another known odor source with frequent off-site odor emissions. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Michelle Leslie

Message: Odor logged August 13, 2016, at 8:20 pm strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 8 days after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. Another known odor source with frequent off-site odor emissions is located between the location referenced in this concern and the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 22, 2016, at 2:33 am strength of 10

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

Name: Nathan Eberlin

Message: Odor logged August 22, 2016, at 6:46 am strength of 4

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

Name: N/A

Message: Odor logged August 22, 2016, at 2:00 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 6 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in the concern did not observe Bridgeton Landfill odor. A sewage smell was observed at an odor patrol observation point between the location provided in this concern and the Bridgeton Landfill. Winds were calm at the time cited in this concern and for multiple hours before the time cited in this concern. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Neil Monson

Message: Odor logged August 22, 2016, at 7:15 am strength of 7

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

Name: Erin Seidel

Message: Odor logged August 22, 2016, at 7:15 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 3 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in the concern did not observe Bridgeton Landfill odor. Winds were calm at the time cited in this concern and for multiple hours before the time cited in this concern. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Courtney Brophy

Message: Odor logged August 22, 2016, at 10:51 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed before the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 22, 2016, at 11:24 am strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. An intermittent odor of asphalt paving and engine exhaust was observed at this location within an hour of the time cited in this concern. An odor patrol performed before the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a south southwestern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 22, 2016, at 8:00 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 4 hours after the observation time so real time follow-up was not possible. An odor patrol performed within an hour of the time cited in the concern did not observe Bridgeton Landfill odor. Winds were calm at the time cited in this concern and for multiple hours before the time cited in this concern. This was not a Bridgeton Landfill odor.

Name: Mary Anne Sanderson

Message: Odor logged August 22, 2016, at 3:31 pm strength of 10

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

Name: Glenn Ferrer

Message: Odor logged August 22, 2016, at 9:03 pm strength of 3

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

Name: Glenn Ferrer

Message: Odor logged August 23, 2016, at 6:37 am strength of 3

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

Name: Glenn Ferrer

Message: Odor logged August 23, 2016, at 7:36 am strength of 3

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

Name: Kevin R. Toal

Message: Odor logged August 22, 2016, at 7:51 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 1 day after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in the concern did not observe Bridgeton Landfill odor. Winds were calm at the time cited in this concern and for multiple hours before the time cited in this concern. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 23, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southeastern origin placing this location upwind of the Bridgeton Landfill. This location is in close proximity to another known odor source with frequent off-site emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 23, 2016, at 7:32 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southeastern origin placing this location upwind of the Bridgeton Landfill. This location is in close proximity to another known odor source with frequent off-site emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 23, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 23, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in the concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This location is in close proximity to another known odor source with frequent off-site emissions. This was not a Bridgeton Landfill odor.

Name: Debi Disser

Message: Odor logged August 24, 2016, at 9:30 am strength of 9

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

Name: N/A

Message: Odor logged August 24, 2016, at 7:00 pm strength of 10

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

Name: N/A

Message: Odor logged August 24, 2016, at 7:36 pm strength of 10

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

Name: N/A

Message: Odor logged August 24, 2016, at 10:24 pm strength of 10

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

Name: Kyla Ingram

Message: Odor logged August 23, 2016, at 10:45 am strength of 5

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported 2 days after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a south southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. The concern location referenced is of such distance as to be well in excess of the maximum historical distance of Bridgeton Landfill odor observation. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 24, 2016, at 7:54 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 24 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a south southwestern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 25, 2016, at 6:56 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 2 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southern origin placing this location downwind of another known odor source with frequent off-site odor emissions. 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 August 25, 2016, at 7:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over an hour after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a southern origin placing this location downwind of another known odor source with frequent off-site odor emissions. 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 August 24, 2016, at 8:00 am strength of 10

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

Name: N/A

Message: Odor logged August 25, 2016, at 8:00 pm strength of 10

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

Name: Kirbi Pemberton

Message: Odor logged August 26, 2016, at 10:27 am strength of 10

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

Name: Kirbi Pemberton

Message: Odor logged August 27, 2016, at 7:53 pm strength of 6

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor from another known odor source with frequent off-site odor emissions was later observed at this location. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a northeastern origin placing this location downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Christen Commuso

Message: Odor logged August 28, 2016, at 10:04 am strength of 4

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

Name: Jeanne Derer

Message: Odor logged August 24, 2016, at 9:30 am strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 4 days after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. Bridgeton Landfill staff was in the vicinity of this location throughout the morning and did not observe Bridgeton Landfill odor. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Georgia Leek

Message: Odor logged August 26, 2016, at 8:33 pm strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported 3 days after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a south southeastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Jay Black

Message: Odor logged August 30, 2016, at 7:19 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A faint odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time cited in this concern. An asphalt odor was detected in close proximity to this location while responding to this concern. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Kirbi Pemberton

Message: Odor logged August 30, 2016, at 7:50 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A slight sweet chemically odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of an eastern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Karen Nickel

Message: Odor logged August 30, 2016, at 8:48 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. A grassy odor was observed at this location within an hour of the time cited in this concern. Asphalt and smoky odors were observed in close proximity to the location cited in this concern while responding to this concern. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southwestern origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Kriss Avery

Message: Odor logged August 30, 2016, at 9:00 am strength of 6

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

Name: David Blackwell

Message: Odor logged August 30, 2016, at 9:30 am strength of 4

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over an hour after the observation time so real time follow-up was not possible. A faint intermittent odor from another known odor source with frequent off-site odor emissions was observed at this location within an hour of the time this concern was reported. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were of a southern origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Regina Engelhardt

Message: Odor logged August 30, 2016, at 6:30 am strength of 9

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 9 hours after the observation time so real time follow-up was not possible. Odors from other known odor sources were observed between the location cited in this concern and the Bridgeton Landfill while following up on another odor concern

approximately one hour after the time cited in this concern. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. At the time cited in this concern winds were calm. This was not a Bridgeton Landfill odor.

Name: Liz Spector

Message: Odor logged August 30, 2016, at 4:14 pm strength of 6

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

Name: Becky Kincaid

Message: Odor logged August 30, 2016, at 6:05 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. This was not a Bridgeton Landfill odor.

Name: Steve Engelhardt

Message: Odor logged August 30, 2016, at 4:45 pm strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over an hour after the observation time so real time follow-up was not possible. Odor patrols performed before and after the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a south southwestern origin placing this location upwind of the Bridgeton Landfill. The location cited in this concern is in close proximity to another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: Sharon Copeland

Message: Odor logged August 30, 2016, at 5:15 pm strength of 7

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

Name: Daniel Loewenstein

Message: Odor logged August 30, 2016, at 7:50 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 13 hours after the observation time so real time follow-up was not possible. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a north northwestern origin placing this location upwind of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Emily Jacobi

Message: Odor logged August 31, 2016, at 7:26 am strength of 7

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location outside the downwind pathway of the Bridgeton Landfill. This was not a Bridgeton Landfill odor.

Name: Jay Black

Message: Odor logged August 31, 2016, at 7:50 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. No odor was observed at this location within an hour of the time cited in this concern. A strong odor from another known odor source with frequent off-site odor emissions was observed at multiple points between the location cited in the concern and the Bridgeton Landfill. An odor patrol performed concurrently with the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location directly downwind of another known odor source with frequent off-site odor emissions. This was not a Bridgeton Landfill odor.

Name: N/A

Message: Odor logged August 31, 2016, at 4:30 am strength of 10

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This odor concern was reported over 3 hours after the observation time so real time follow-up was not possible. An odor patrol performed after the time cited in this concern did not observe Bridgeton Landfill odor. Strong odors from another known odor source with frequent off-site odor emissions were observed in the vicinity of this location while responding to another odor concern approximately 3 hours after the time cited in this concern. At the time cited in this

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

Name: N/A

Message: Odor logged August 31, 2016, at 8:37 am strength of 8

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

Name: Kirbi Pemberton

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

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

Name: Rhonda Steelman

Message: Odor logged August 31, 2016, at 8:27 am strength of 8

Follow-up: The following concern has been investigated by Bridgeton Landfill staff. This concern was reported over 6 hours after the observation time so real time follow-up was not possible. An odor patrol performed before the time cited in this concern did not observe Bridgeton Landfill odor. At the time of this concern winds were of a western origin placing this location outside the downwind pathway of the Bridgeton Landfill. There is no evidence to suggest that this was a Bridgeton Landfill odor.

Name: Kathy Luther

Message: Odor logged August 30, 2016, at 7:30 pm strength of 4

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

Name: Jay Black

Message: Odor logged August 31, 2016, at 9:16 pm strength of 10

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

ATTACHMENT H

LIQUID CHARACTERIZATION DATA AND DISCHARGE LOG

Bridgeton Landfill - Leachate PreTreatment Plant

August 2016

Liquid Characterization Data

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

Hauled Disposal to MSD – Bissell Point

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

Direct Discharge to MSD

Date	Waste	Source	Quantity (gal)
8/1/2016	LPTP Permeate	Through Tank AST 97k (MSD Sampling Point 013)	276,224
8/2/2016			265,480
8/3/2016			258,036
8/4/2016			258,604
8/5/2016			256,560
8/6/2016			177,772
8/7/2016			243,804
8/8/2016			257,960
8/9/2016			253,268
8/10/2016			270,968
8/11/2016			267,869
8/12/2016			220,474
8/13/2016			262,799
8/14/2016			264,202
8/15/2016			186,111
8/16/2016			259,631
8/17/2016			246,917
8/18/2016			255,929
8/19/2016			263,295
8/20/2016			268,869
8/21/2016			268,049
8/22/2016			265,442
8/23/2016			263,799
8/24/2016			267,011
8/25/2016			269,049
8/26/2016			271,976
8/27/2016			273,669
8/28/2016			254,359
8/29/2016			254,268
8/30/2016			276,907
8/31/2016			269,140
		Total =	**7,948,441**

ATTACHMENT I

LOW FILL PROJECT AREA

N

0 350'

GRAPHIC SCALE

NOTES

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

LEGEND

BOUNDARY OF FILL AREA FOR 7-15-16 THROUGH 8-15-16

BOUNDARY OF STOCKPILE AREA FOR 7-15-16 THROUGH 8-15-16

REV. NO.	DATE	DESCRIPTION

BRIDGETON LANDFILL

CB&I Environmental & Infrastructure, Inc.

STATE OF ILLINOIS LICENSED DESIGN FIRM #184004093

BRIDGETON LANDFILL
BRIDGETON, MO

LOW FILL AREA BOUNDARY
AUGUST 2016

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